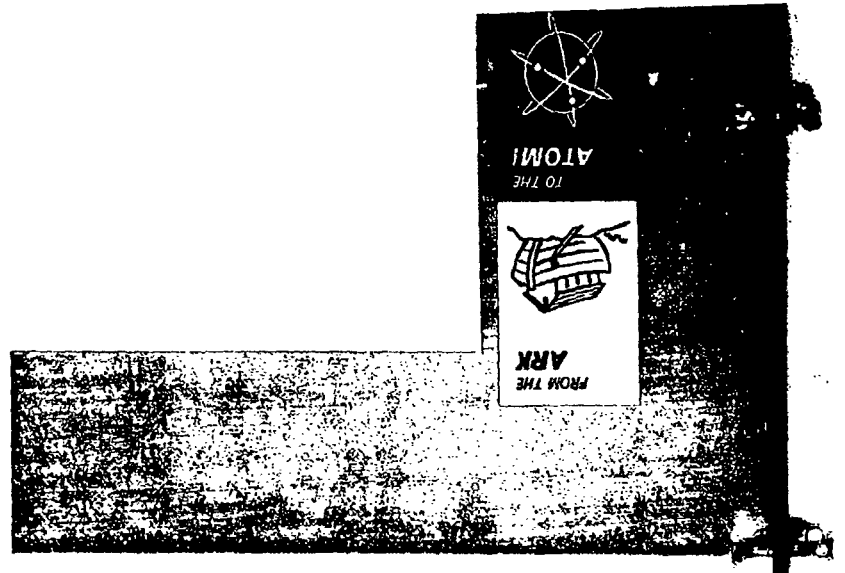
PLAINTIFF'S
EXHIBIT
FK-206



TO OBTAIN MAXIMUM RESULTS FROM PROTECTIVE COATINGS

Probably no other natural substance known to man has all the valuable properties of Asphalt (Bitumen). Well known to the architects and masons of Babylon and Nineveh, used throughout 5,000 years of recorded history, it was certainly the basic protective material of ancient times.

Today, this basic protective substance has achieved the status of a technologically advanced product which Flintkote supplies in many grades suited to the requirements of a modern industrial age.

Asphalt coatings are plastic, resilient, waterproof, stable, easy to apply—enduringly protective. Choose from the products listed in this folder and apply to clean surfaces in the manner prescribed in the data sheet for that product. Write or call The Flintkote Company, Industrial Division, 30 Rockefeller Plaza, New York 20, New York.

FLINTKOTE

MANUFACTURER OF DIVERSIFIED PRODUCTS FOR HOME AND INDUSTRY

MISCELLANEOUS DATA

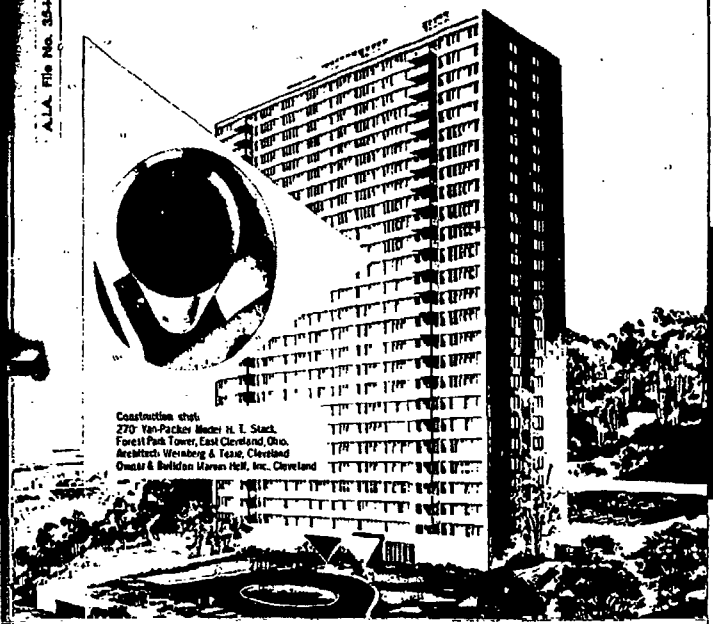
283227

MISCELLANEOUS DATA

VAN-PACKER® STACKS

factory-built

A.I.A. File No. 35-I-24



Construction shot:
270' Van-Packer Model H. T. Stack,
Forest Park Tower, East Cleveland, Ohio.
Architects Weinberg & Teare, Cleveland
Owner & Builder Marvin Hall, Inc., Cleveland

THE VAN-PACKER REFRACTORY
COMMERCIAL — INDUSTRIAL STACK

FOR BOILERS FURNACES
INCINERATORS

FLINTKOTE®

FIRST CHOICE TO LAST

Durability — special refractory material resists corrosion . . . under comparable conditions, lasts three times longer than an ordinary steel stack.

Low Cost — about the same as a comparable lined steel stack, considerably less than a brick stack.

Easy Installation — quickly erected, often in less than a day.

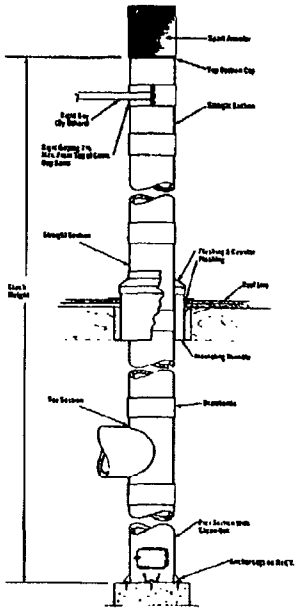
Low Maintenance Cost — aluminized steel jacket needs no painting, virtually eliminates maintenance.

High Draft — Insulating refractory construction prevents heat loss, gives high draft efficiency.

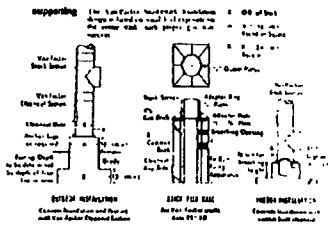
Lower Insurance Premiums — Van-Packer Model HT, listed by the Underwriters' Laboratories, gives many users reduced insurance premiums.

A.I.A. File No. 35-I-24

233228



VAN-PACKER®



VAN-PACKER®

stacks are made with special refractory in 3-foot sections for fast installation

typical specifications

for model HT

Smokestack shall be a prefabricated sectional type listed by Underwriters' Laboratories, Inc. (as manufactured by the Van-Packer Division of The Flintkote Company).

Each stack section shall be 3 feet in length with an insulating refractory wall encased in an aluminized steel jacket. Insulating refractory shall be suitable for high maximum exit temperatures and shall be centrifugally spun into the metal jacket. Stamped or pressed mix is not acceptable on this specification.

Stack sections shall be circular with internal diameter of ( ) inches and external diameter of ( ) inches. Assembly shall be made by joining stack sections with high temperature joint cement and covering joint with aluminized steel drawband. All above material shall be supplied by the stack manufacturer. Total height shall be as shown on drawings, with lateral and/or vertical support as recommended by the stack manufacturer. Installation of the smokestack shall be made in accordance with specifications of Underwriters' Laboratories, Inc. and the manufacturer.

NOTE: (1) For Tee Section specification, see Mechanical Specification Table on page 2 for availability and UL Listing. If the stack will include a Tee Section, the following will apply. "Tee Section shall be ( ) inches in height and shall have a 6-inch refractory projection for the breeching connection." *(2) A Barometric Damper is required for incinerators, and is optional for boilers and furnaces. Where required, the following will apply:* "A Barometric Damper shall be installed as required by the stack manufacturer."

for model BF

Boiler (or furnace) smokestack shall be a prefabricated sectional type as manufactured by the Van-Packer Division of The Flintkote Company.

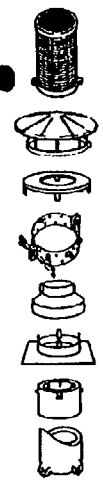
Each stack section shall be 3 feet in length with an insulating refractory wall encased in an aluminized steel jacket. Insulating refractory shall be suitable for nominal boiler (or furnace) flue gas temperatures and shall be centrifugally spun into the metal jacket. Stamped or pressed mix is not acceptable on this specification.

Stack sections shall be circular with internal diameters of ( ) inches and external diameters of ( ) inches. Assembly shall be made by joining stack sections with high temperature joint cement and covering joint with an aluminized steel drawband. All above material shall be supplied by the stack manufacturer. Total height shall be as shown on drawings, with lateral and/or vertical support as recommended by the stack manufacturer.

NOTE: For Tee Section Specifications, see Mechanical Specification Table on page 2 for availability. If the stack will include a Tee Section, the following will apply: "Tee Section shall be ( ) inches in height and shall have a stainless steel sleeve for the breeching connection."

accessories

(Optional at extra cost)



Spark screen of 18% chromium—8% nickel W & M #12 stainless steel wire Oreo mesh per inch.) Made in accordance with N.F.P.A. recommendations.

Rain cap, made of 26-gauge stainless steel, is cone-shaped for rain and snow deflection. Recommended for all Model BF smokestacks.

Top Section Cap made of corrosion resistant metal provides protection for the stack.

Guy bands of ½-inch steel are 8-inches wide.

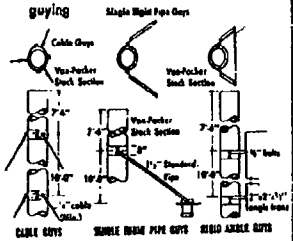
Counter Flashing of galvanized steel.

Flashing of galvanized steel in 22, 24, 26 ga. depending on diameter.

Insulated flashing of insulating material encased in 28 ga. corrosion-resistant metal jacket.

Base anchor lugs have corrosion-resistant coating, firmly secure the stack base.

guying



Note: Guy band available from Van-Packer. All other guying materials to be supplied by others.

Specialized components to meet individual needs can be developed and produced by our engineering and manufacturing departments. Your Flintkote/Van-Packer representative will be glad to discuss specifications with you.

VAN-PACKER®

Underwriters' Laboratories, Inc. INSPECTED Van-Packer Model HT Smokestacks

model HT stack listed by Underwriters' Laboratories

Underwriters' Laboratories, Inc. designates VAN-PACKER model HT stacks as "medium-heat appliance chimneys" and has issued guide card no. 60 H 3.13. It lists medium-heat appliance chimneys as suitable for: low-heat appliances, commercial-industrial incinerators, medium-heat appliances (glass or metal annealing furnaces, charcoal furnaces, steam boilers over 100 cu ft in size and operating at over 50-psi pressure, other furnaces classified as medium-heat appliances in accordance with nationally recognized good practice).

Replace old stacks with a VAN-PACKER stack of same inner diameter and height.

For new stacks, follow manufacturer's recommendations. If stack requirement information is unobtainable, use table below. When exact rated capacity is not given, select stack size for next higher capacity. Table based on natural draft; with forced or induced draft, the VAN-PACKER stack can handle up to 500 hp.

selection guide

dimensions, weights of VAN-PACKER Stack

FLINTKOTE

A.I.A. File No. 35-4-24

VERSATILE VAN-PACKER STACKS
are designed for FAST INSTALLATION

Built to last, rugged Van-Packer Commercial-Industrial Stacks are designed for the quickest, easiest installation possible. A special refractory, which resists the corrosive action of flue gas acids, is cast into self-aligning sections — each only three feet long. The section is protected on the outside by an aluminized steel jacket — or, on special order, by stainless or extra heavy gauge steel jackets.

Fast, Easy Installation

Van-Packer Commercial-Industrial Stacks are quickly erected. Many installations can be completed in less than a day. After scaffolding is erected, the 3-ft sections are stacked one on top of another. The joints are sealed with special cement and aluminized steel drawbands are installed to reinforce the joints. Finally the flashing and guying is attached. With proper installation, the Van-Packer Stack will resist winds up to 100 mph.

Two Types for Unlimited Applications

The Van-Packer Model HT is designed for flue gas temperatures up to 1800°F. under normal firing . . . up to 2000°F. for brief periods of forced firing. It is UL listed for medium-heat appliances, low-heat appliances and commercial-industrial incinerators (see complete details on inside pages). Each Model HT section carries the UL inspection label.

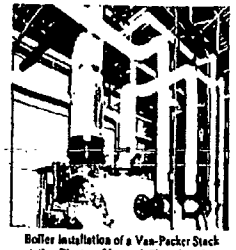
The Van-Packer Model HF Stack, although not UL listed, is designed for boilers and furnaces producing flue gas temperatures up to 1000°F.

Both models can be used for either exterior or interior installation. They are designed to handle almost all types of boiler, furnace and incinerator applications — both commercial and industrial.

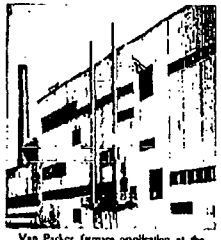
Among the many types of structures in which Van-Packer Stacks are widely used with efficiency and economy are apartment houses, hospitals, office buildings, schools, department stores, theaters, skating rinks, restaurants, churches, and many industrial buildings. The stack can be supported in three basic ways: it can be superimposed on a boiler or incinerator; floor-supported on its own base or on a brick or concrete foundation; or supported by wall brackets. The stack sections are also used for breechings with Van-Packer or other stacks.

Typical applications of these factory-built, UL listed stacks are shown below. Hundreds of engineers and contractors have found that versatile Van-Packer refractory stacks combine top quality, durability, and economy. Costing no more than an ordinary steel stack, they are easy to install, easy to maintain . . . *and* they last an average of three times longer. For your next job, investigate the many benefits of a Van-Packer refractory commercial-industrial stack.

See Bulletin IS-56 for Complete Engineering Details.



Boiler installation of a Van-Packer Stack at the Planters Nut and Chocolate Co., Chicago, Ill.



Van Packer furnace application at the Ford Motor Co., Nashville, Tenn.



Van-Packer sections are installed one atop another, using Van-Packer joint cement to provide a leakproof, seidproof seal.

THE FLINTKOTE COMPANY, INDUSTRIAL DIVISION

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western offices: P.O. Box 2218 Terminal Annex, Los Angeles, California

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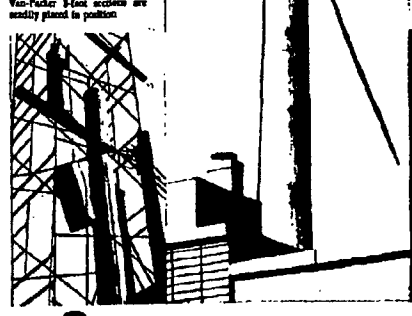
IS-57-63b

A.I.A. File No. 35-I-24



Van-Packer 3-foot sections are readily placed in position

factory-built, UL listed industrial

for boilers/furnaces/incinerators

long life: an average of three times longer than an ordinary steel stack under comparable conditions. low cost: practically the same as lined steel stacks of same inner diameter and height . . . decidedly less than comparable lined steel stacks or brick stacks.

freedom from maintenance: virtually no painting, no maintenance problems. high draft: the same high draft of comparable brick stack . . . substantially greater draft than ordinary steel stack.

reduction in insurance: model HT listed by Underwriters' Laboratories.

A.I.A. File No. 35-I-24

232/32

VAN-PACKER stacks are made with special refractory in 3-foot sections for fast installation

FLINTKOTE **VAN-PACKER** industrial stacks

VAN-PACKER STACKS are ingenious in both their construction and their installation. They are built of a special refractory which resists attack by the highly corrosive acids formed when flue gases condense on cooling. This refractory is centrifugally cast in interlocking sections – each 3 feet long. It is protected by an aluminized steel jacket – or, on order, a steel jacket ⅛ inch or more in thickness.

These VAN PACKER stacks – for either exterior or interior installation – are designed to handle the majority of boiler, furnace and incinerator applications – both commercial and industrial. The stack can be superimposed on the boiler or incinerator. It can be floor-supported on its own base or on brick or concrete foundations. Or it can be supported by wall brackets. The stack sections are also used for breechings with VAN-PACKER or other stacks.

fast, easy assembly

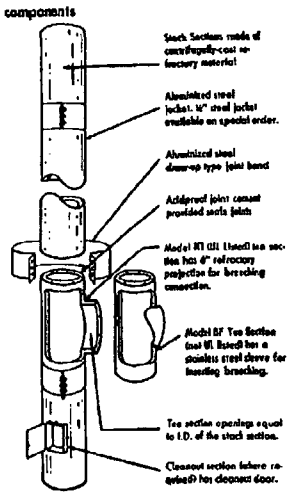
VAN-PACKER stacks are quickly erected, often in less than a day. The sections are stacked one on top of another. The joints are sealed with special cement. Then draw bands are installed around the joints. Then the guying is attached. Underwriters' Laboratories wind test requirements permit 2½ sections above the uppermost lateral support. The accessories shown on the opposite page are listed; however, variation to meet specific requirements is permissible if within U.L. specifications.

two types

model HT: for flue gas temperatures to [illegible]° F for brief periods of forced firing . . . U.L. listed for medium-heat appliances, low-heat appliances and commercial-industrial incinerators (see explanation on back page). Each model HT section carries the U.L. inspection label.

model BF: for boilers and furnaces passing flue gas temperatures to [illegible]° . . . not U.L. listed.

components



Note: A barometric damper must be installed in the breeching of Model BF smokestack when used on incinerators.
It is recommended that a vent cap be used on Model BF smokestacks for boilers and furnaces.

accessories

(Optional at extra cost)



Spark screen of 16% chromium–8% nickel W & M #18 stainless steel wire (two mesh per inch.) Made in accordance with N.F.P.A. recommendations.

Rain cap, made of 26-gauge stainless steel, is cone-shaped for rain and snow deflection. Recommended for all Model BF smokestacks.

Top Section Cap made of corrosion-resistant coated powder protection for the stack.

One bands of ¼-inch steel are 8-inches wide.

Counter flashing of galvanized steel.

Flashing of galvanized steel in 22, 24, 26 ga, depending on diameter.

Insulated thimble of insulating material encased in 28 ga. corrosion-resistant metal jacket.

Base anchor lugs have corrosion-resistant coating, firmly secure the stack base.

typical specifications

for model HT

Smokestack shall be a prefabricated sectional type listed by Underwriters' Laboratories, Inc. (to manufactured by the Van-Packer Division of The Flintkote Company).

Each stack section shall be 3 feet in length with an insulating refractory wall encased in an aluminized steel jacket. Insulating refractory shall be suitable for high incinerator exit temperatures and shall be centrifugally spun into the metal jacket. Stamped or pressed mix is not acceptable on this specification.

Stack sections shall be circular with internal diameter of ( ) inches and external diameter of (...) inches. Assembly shall be made by joining stack sections with high temperature joint cement and covering joint with aluminized steel drawband. All above material shall be supplied by the stack manufacturer. Total height shall be as shown on drawings, with lateral and/or vertical supports as recommended by the stack manufacturer. Installation of the smokestack shall be made in accordance with specifications of Underwriters' Laboratories, Inc. and the manufacturer.

NOTE: (1) For Tee Section specification, see Mechanical Specification Table on page 2 for availability and UL Listing. If the stack will include a Tee Section, the following will apply: "Tee Section shall be ( ) inches in height and shall have a 6-inch refractory projection for the breeching connection." *(2) A Barometric Damper is required for incinerators, and is optional for boilers and furnaces. Where required, the following will apply:* "A Barometric Damper shall be installed as required by the stack manufacturer."

for model BF

Boiler (or furnace) smokestack shall be a prefabricated sectional type (to manufactured by the Van-Packer Division of The Flintkote Company).

Each stack section shall be 3 feet in length with an insulating refractory wall encased in an aluminized steel jacket. Insulating refractory shall be suitable for resistant boiler (or furnace) flue gas temperatures and shall be centrifugally spun into the metal jacket. Stamped or pressed mix is not acceptable on this specification.

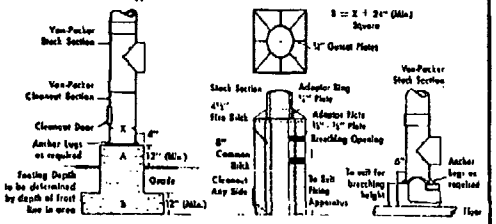
Stack section shall be circular, with internal diameter of ( ) inches and external diameter of ( ) inches. Assembly shall be made by joining stack sections with high temperature joint cement and covering joint with an aluminized steel drawband. All above material shall be supplied by the stack manufacturer. Total height shall be as shown on drawings, with lateral and/or vertical support as recommended by the stack manufacturer.

NOTE: For Tee Section Specification, see Mechanical Specification Table on page 2 for availability. If the stack will include a Tee Section, the following will apply: "Tee Section shall be ( ) inches in height and shall have a stainless steel sleeve for the breeching connection."

supporting

The Van-Packer Smokestack foundation design is based on wind load exposure on the entire stack, with proper guy wire support.

X = O.D. of Stack
A = X + 12" (Min.) Round or Square
B = X + 24" (Min.) Square

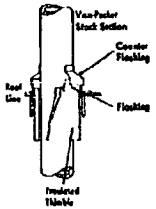


OUTDOOR INSTALLATION
Concrete foundation and footing, with Van-Packer Cleanout Section

BRICK PIER BASE
For Van-Packer stacks over 21" I.D.

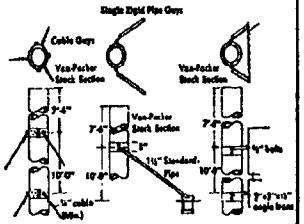
FLOOR INSTALLATION
Concrete foundation with custom-built crossover

flashing



Allow two clearances between roof openings and stack components. Required for UL-listed installation of Model HT stack. Recommended for Model BF stack installation.

guying



CABLE GUYS **SINGLE RIGID PIPE GUYS** **RIGID ANGLE GUYS**

Note: Guy band available from ¼ - to 1½" for other guying materials to be supplied by others.

listed by Underwriters' Laboratories (model HT only)

Underwriters' Laboratories Inc. ® INSPECTED

Underwriters' Laboratories, Inc. designates VAN-PACKER model HT stacks as "medium-heat appliance chimneys" and has issued guide card no. 60 H 3.13. It lists medium-heat appliance chimneys as suitable for: low-heat appliances, commercial-industrial incinerators, medium-heat appliances (glass or metal annealing furnaces, charcoal furnaces, steam boilers over 100 cu ft in size and operating at over 50-psi pressure, other furnaces classified as medium-heat appliances in accordance with nationally recognized good practice).

selection guide

Replace old stacks with a VAN-PACKER stack of same inner diameter and height.

For new stacks, follow manufacturer's recommendations. If stack requirement information is unobtainable, use table below. When exact rated capacity is not given, select stack size for next higher capacity. Table based on natural draft; with forced or induced draft, the VAN-PACKER stack can handle up to 500 hp.

	SBI rating			SBI net rating			firing rate			VAN PACKER STACK			
		sq ft, edr				sq ft, edr						height, ft	
hp	Btuh (1,000)	steam	water	steam lb/hr/212 F	Btuh (1,000)	steam	water	oil gph	gas Btuh (1,000)	coal lb/hr	inner diam in.	Scotch Boilers	other boilers
4.8	160	670	8070	165	132	552	882	2.0	200	27	10	30	30
10.2	340	1420	2270	350	280	1169	1870	4.2	438	57	12	30	35
19.4	650	2710	4330	670	535	2230	3565	8.1	1220	108	15	35	45
32.5	1090	4550	7270	1124	898	3745	5990	13.6	2040	182	18	40	45
61.4	1720	7170	11470	1773	1416	5900	9450	21.5	3230	287	21	40	50
73.5	2458	10250	16400	2535	2025	8440	13500	30.8	4620	410	24	45	55
129.1	4320	18000	28800	4460	3555	14810	23720	54.0	8100	720	30	50	70
214.7	7180	29930	47870	7400	5910	24650	39400	89.8	13480	1250	36	55	85

dimensions, weights of VAN PACKER Stack sections

stack diam. in.		wall thick in.	flue area sq in.	wall area sq ft.	stack section		tee section				clearance section		height, max. ft		base anchor legs
inner	outer				length in.	weight, lb models HT & BF	length in.	weight, lb model HT	weight, lb model BF	length in.	weight, lb models HT & BF	with tee section	without tee section	
10	14	2	78	76	36	160	36	240	155	36	155	120	180	3
12	16	2	113	88	36	180	36	275	180	36	180	90	180	3
15	19½	2⅛	176	122	36	253	36	325	240	36	250	90	180	4
18	23	2⅛	254	160	36	344	36	480	430	36	400	80	165	4
21	26½	2⅝	346	205	36	452	48	700	650	36	500	80	150	4
24	30	3	452	264	36	542	48	800	750	36	600	70	140	5
30	37	3½	706	270	36	780	—	—	—	—	—	—	135	5
36	44	4	1018	499	36	1038	—	—	—	—	—	—	135	6

FLINTKOTE®

THE FLINTKOTE COMPANY, INDUSTRIAL DIVISION

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western offices: P.O. Box 2218 Terminal Annex, Los Angeles, California

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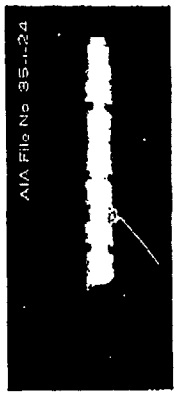
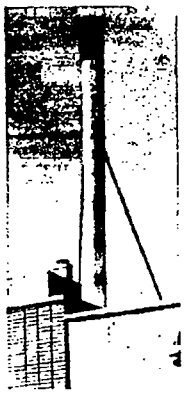




AIA File No. 35-I-24

FLINTKOTE®

BULLETIN IS-56

Van-Packer Industrial Stack Engineering and Application Data

FLINTKOTE® VAN-PACKER® PRODUCTS

The Flintkote Company

30 Rockefeller Plaza, New York 20, N.Y. · PLaza 7-5500

Manufacturers of Diversified Products for Home and Industry

Plant: Buda, Illinois

In the West: Pioneer Division, The Flintkote Company, Box 2216, Terminal Annex, Los Angeles, Calif.

In Toronto, Ontario: The Flintkote Company of Canada, Ltd.

® A TRADEMARK OF THE FLINTKOTE COMPANY

233236

AIA File No. 35-I-24

The Flintkote Company, of which Van-Packer is a division, produces the widest line of building products of any United States manufacturer. Flintkote plants and offices are located throughout the United States and Canada, with additional plants and offices in France, England and the Hawaiian Islands. In addition, agents and distributors for many Flintkote products are located in other major cities throughout the world.

The Van-Packer division of The Flintkote Company specializes in industrial stacks, residential chimneys, and tile-lined gas vents. Thousands are in use today, in every way providing users with the satisfaction they have come to expect in products of The Flintkote Company and its many divisions.

In addition to building materials and a wide line of industrial products, The Flintkote Company also produces automotive products, composition tile products, cement, gypsum and lime products, marine products, paving products, chemical products, railroad products, and paper products.

USE OF THIS INFORMATION

This binder constitutes an information service to architects and engineers and Van-Packer distributor-installers. Statements made in this binder are suggestions only. They are not to be construed as rules of design, installation or operation. Van-Packer stack components illustrated in this binder are not necessarily current, as continuing improvements have resulted in new design of some components and accessories.

Each Van-Packer stack installation presents its own set of circumstances. Therefore, The Flintkote Company can assume responsibility only for the Van-Packer stack material and not for the installation of the stack.

The Flintkote Company
Van-Packer Products
30 Rockefeller Plaza
New York 20, N. Y.

TABLE OF CONTENTS

	PAGE
TYPICAL SPECIFICATIONS	Back Cover
PRODUCT INFORMATION	
Features and advantages	2
Van Packer Model HT Stack	3
Underwriters' Laboratories Listing for Van-Packer Model HT Stack	3
Van-Packer Model BF Stack	3
Components and Accessories	4
Components furnished by others	4
TYPICAL APPLICATIONS	
Application photographs	5-7
DESIGN DATA	
Planning and diagramming stack installation	8
Determining stack size required	8
Stack selection guide table)	8
Mechanical specifications table	9
Stack capacities correction factors for altitudes	9
Special Incinerator Requirements	9
Design Details	
Supporting the Van-Packer Stack	10
Base Anchor Legs	10
Guying the Van Packer Stack	11-12
Flashing the Van-Packer Stack	12
Spark Screen	12
INSTALLATION DATA	
Equipment required	13
Typical Installations	14-16
Installation Limits specified by Underwriters' Laboratories for a UL Listed Van Packer Stack installation	17-18
PERFORMANCE DATA	
Comparison of draft provided by a Van-Packer Stack and equivalent brick stack	18-19
Comparison of draft provided by a Van-Packer stack and equivalent steel stack	19-21
Temperature studies of Van Packer 12" I.D. stack and a 12" x 12" brick stack	21-27
Temperature Curve for Van Packer Model HT Stack	23
TYPICAL SPECIFICATIONS	Back Cover

PRODUCT INFORMATION

Features and Advantages

The Van-Packer Stack is the best answer to the need for a low cost stack, providing long life.

The Van-Packer is a cylindrical, factory-built stack made of refractory material centrifugally cast in 8-foot long sections. The Van-Packer Model HT stack for Incinerators, Boilers and Furnaces is the only UL Listed Medium-Heat Appliance chimney.

Safe—UL Listing of the Van-Packer Model HT stack results in substantial reductions in insurance premiums for many users.

Won't Corrode—Van-Packer Stacks are made of a special refractory mixture that can't corrode. Under comparable conditions, a Van-Packer will outlast a steel stack by three times (average).

Low-cost—A Van-Packer costs about the same as a comparable steel stack, only one-third as much as a brick stack, and only half as much as a tile-lined concrete block stack.

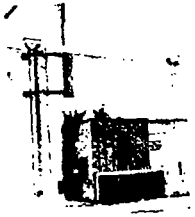
Needs no maintenance—The aluminized steel jacket on Van-Packer Stack sections needs no painting, eliminates maintenance.

High draft—A Van-Packer Stack gives substantially more draft than an ordinary steel stack, and as much draft as a comparable brick or lined steel stack. Insulating refractory construction prevents heat loss, gives high efficiency.

8 Diameters—The Van-Packer Stack is available in 10, 12, 15, 18, 21, 24, 30, and 36 inch inner diameters.

Heavy steel jackets available—Van-Packer Stacks are available with ⅜" or heavier steel jacketed sections on special order. Use of these specially jacketed sections permits substantially greater stack heights and reduces guy requirements.

Model HT UL Listed Stack



Van-Packer Model HT Stack (UL Listed) handles inside or outside incinerators. It withstands flue gas temperatures up to 1800°F. and up to 2000°F. for occasional brief periods of forced firing. It is highly resistant to abrasive conditions found in these applications. It can be superimposed on the incinerator, floor supported on concrete or brick foundations, or supported with wall brackets.

Special advantages: The rapidly expanding incinerator market is creating a growing demand for the Van-Packer Stack. It is highly recommended by incinerator manufacturers. Most codes require a steel incinerator stack to be lined because of the intense heat, considerably raising the cost. This gives a substantial price advantage in using a Van-Packer Stack. Masonry stacks cost substantially more. A comparable medium-heat appliance masonry stack consists of 4" of fire brick and 8" of common brick—far more costly than a Van-Packer. UL Listing of the Van-Packer Model HT Stack often results in reduced insurance costs for many users, too.

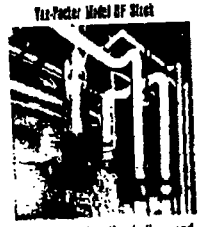
Underwriters' Laboratories, Inc. Listing for Van-Packer Model HT Stack

Van-Packer Model HT Stacks are produced under the Factory Inspection and Label Service Program of Underwriters' Laboratories, Inc. They are designated as Medium-Heat Appliance Chimneys, and a guide card No. 60 H8.13 issued.



When installed in accordance with Underwriters' Laboratories, Inc. specifications the Van-Packer Model HT stack is UL-listed for use with Medium-Heat Appliances, Low Heat Appliances, and Commercial-Industrial-Type Incinerators. Definitions of these terms, plus installation limits specified by Underwriters' Laboratories, Inc. for a UL-Listed Van-Packer Stack installation are provided in detail on pages 17 and 18.

Van-Packer Model BF Stack



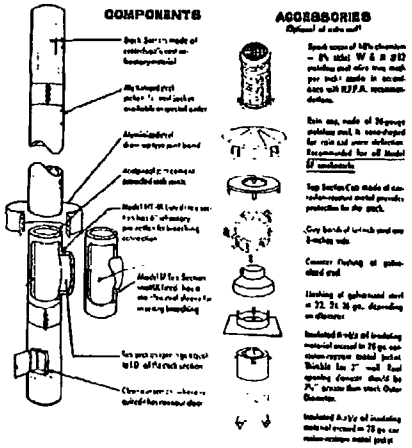
This stack handles boilers and furnaces for commercial and industrial buildings. It withstands flue gas temperatures up to 800°F., and can be superimposed on the boiler, floor-supported on concrete or brick foundations, or supported with wall brackets.

Special advantages: The Van-Packer Model BF Stack offers special advantages with the new rack-fired boilers. The efficiency of these boilers is so great that their exit flue temperature is very low. A "cold stack" condition results, favorable to condensation of flue gas. This produces acids that will quickly corrode a steel stack, but will not affect the Van-Packer refractory stack. Greater efficiency is provided by a Van-Packer Stack because the refractory walls retain heat during "off" periods of the appliance served. This prevents condensation and provides ready draft when the appliance turns on.

Van-Packer Stack Components and Accessories

COMPONENTS

ACCESSORIES



Note: A larger size may be required on the bottom of the Model SS stack when used on some engines. For engines with a larger exhaust pipe size, use Model SSP stack adaptor for better performance.

Van-Packer Stack Components Furnished by Others

Many of the materials required to erect a Van-Packer Stack are readily available locally. Guying materials (except guy bands, which are furnished by Van-Packer) can be obtained most economically from sources such as Mill Supplies, Steel Suppliers, Hardware Suppliers, and Manufacturer's Suppliers. Standard flashing and counter flashing assemblies for each stack size are available from Van-Packer. "Custom" flashing and counter flashing can be made to order by sheet metal shops; other metal fabricators will make heavier metal components such as boiler stack adaptors, special mounting equipment, etc., to specifications. A detailed breakdown of components furnished by others follows.

Guying Materials

1. Guying Cable and Accessories—

⅜ inch, ½ inch, or ⅝ inch diameter, with turnbuckles and clamps. It is recommended that cable be galvanized or copper-clad.

2. Standard Pipe—

Pipe guying is preferable to cable wherever it is practical, generally where stack heights are not over 24 feet, because only two points of contact are required, whereas it takes three contacts to anchor a stack with cable. No maintenance is required with pipe guying. Cable guys must be occasionally checked and turnbuckles adjusted for tension.

1¼ inch standard galvanized iron pipe, with plain ends, in 21 foot lengths will handle most requirements. Longer lengths can be fabricated by inserting a smaller diameter tubing inside a larger diameter, and bolting.

3. Angle Iron—

Random lengths (20 to 33 feet) of 2x2x¼ inch angle iron handle most requirements for angle iron guys.

4. Miscellaneous Guying Materials

Steel Tubing—for making adaptors used to connect adjustable pipe guys to guy band. Inside diameter of 1¼" fits snugly over outer diameter of 1½" guy pipe. (See design drawings).

Black Iron Pipe—1" diameter for making adaptors to connect adjustable pipe guy to roof anchor. (See design drawings.)

Bolts ⅜ inch diameter standard US thread, galvanized bolts will suffice for most installation needs. Two lengths, 1½ inch and 2½ inch, do most jobs.

5. Flashing and Counter Flashing

These components are available from Van-Packer, together with an insulated thimble required for UL listed installation of the Model HT Stack. Where "Custom" flashing and counter flashing may be required, it can be fabricated in your local sheet metal shop.

6. Spark Screen

Spark screens are available from Van Packer.

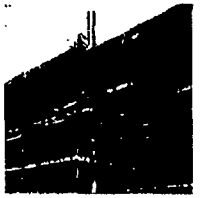
Specify diameter of stack when placing order. National Fire Prevention Association recommendations for spark screens are listed elsewhere in this manual. Check local building codes for specifications before ordering. Van-Packer Spark Screens conform to N.F.P.A. specifications.

222210

TYPICAL APPLICATIONS



Application: Incinerator
Location: Hub Boiler Skating Rink, Inc., Chicago, Ill.



Application: Boiler
Location: Famous & Barr Store, St. Louis, Mo.



Application: Boiler
Location: Kennedy Printing Co., Franklin Park, Ill.



Application: Boiler
Location: Arrow Tool & Stamping Co., Milwaukee, Wis.



Application: Incinerator
Location: Seattle First National Bank, Seattle, Wash.



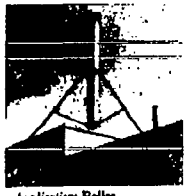
Application: Incinerators
Location: University of Maryland, College Park, Md.



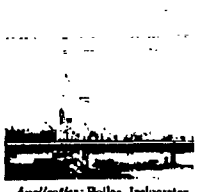
Application: Furnace
Location: Camp Custer, Michigan



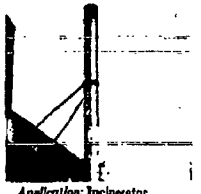
Application: Boiler
Location: Planters Nut & Chocolate Co., Chicago, Ill.



Application: Boiler
Location: M. M. Young & Co., Chicago, Ill.



Application: Boiler, Incinerator
Location: Governor Motel, E. Hazelcrest, Ill.



Application: Incinerator
Location: Drive-In Restaurant, Detroit, Michigan

222210



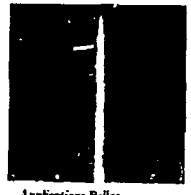
Application: Boiler
Location: Speedway Mfg. Co., LaGrange, Ill.



Application: Boiler
Location: B'nai Brith Temple, Oak Park, Ill.



Application: Breeching
Location: Arnold Home, Detroit, Mich.



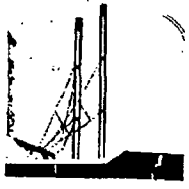
Application: Boiler
Location: Cudahy Packing Co., Chicago, Ill.



Application: Boiler
Location: Singer Sewing Machine Co., Bridgeport, Conn.



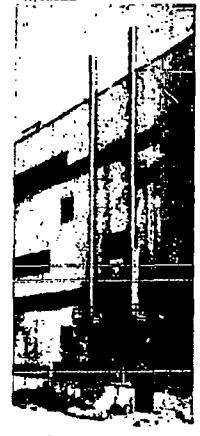
Application: Boiler
Location: Alladin Cleaners, Justice, Illinois



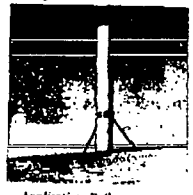
Application: Incinerators
Location: Peter Pan Restaurant Chicago, Ill.



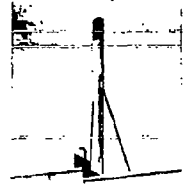
Application: Incinerator
Location: Lincoln School, Rancocanas, New Jersey



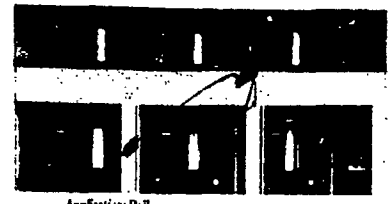
Application: Furnace
Location: Ford Motor Co., Nashville, Tenn.



Application: Boiler
Location: West Highland Savings, Highland Park, Ill.



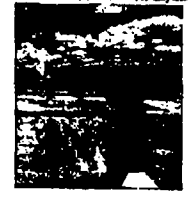
Application: Incinerator
Location: Globe Glue Company, Chicago, Illinois



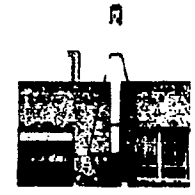
Application: Boilers
Location: West Leyden High School, Northlake, Ill.



Application: Incinerator
Location: Eastman Kodak Co., Chicago, Ill.



Application: Boiler
Location: International Harvester Co., Ft. Wayne, Ind.



Application: Incinerator
Location: Winthrop Laboratories, Evanston, Ill.



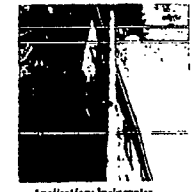
Application: Three Services.
Location: Elementary School, Circleville, Pa.



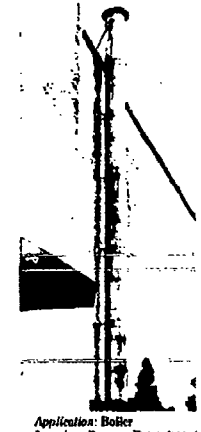
Application: Incinerator
Location: Revere Electric Mfg. Co., Niles, Illinois



Application: Boiler
Location: Purdue University, Lafayette, Ind.



Application: Incinerator
Location: Veterans' Hospital, Des Moines, Iowa



Application: Boiler
Location: Bearce Department Store, Louisville, Ky.

DESIGN DATA

How to Plan a Van-Packer Stack Installation

One of the first steps in designing a Van-Packer installation is to make an accurate working diagram of the stack site for use in planning piping, height, etc. This will help you not only when you actually engineer the installation, but will be of value in determining costs and in explaining the job.

The following information should appear on the diagram. Using ruled paper with ¼" squares makes it possible to scale your sketch fairly accurately using a nominal ratio such as ¼-inch to 1 foot. Two diagrams are needed:

Plan-view diagram of stack and adjacent buildings:

Diagram to indicate estimates of: 1) Location of stack with respect to building; 2) Distance from stack to nearest wall; 3) Distance to "adjacent" building or buildings; 4) Distance to nearest taller building or buildings; 5) Additional height of "adjacent" taller building or buildings.

Side-view diagram of stack and adjacent buildings:

Diagram to indicate estimates of: 1) Location of stack with respect to building; 2) Total length of stack; 3) Number of stories through which stack passes; 4) Distances to "adjacent" and taller buildings; 5) Additional heights of taller buildings.

Determining Size of a Van-Packer Stack for Boilers, Furnaces, and Incinerators

Most manufacturers of boilers, furnaces, or incinerators provide information with their equipment showing the proper size stack for most efficient operation. Consult the manufacturer, or refer to his literature for recommendations on the proper size stack for use with his equipment in every case where this information can be so obtained.

If an existing stack is to be replaced with a new Van-Packer stack, and the old stack gave satisfactory performance, merely replace the old stack with a Van-Packer of the same size I.D. and height.

For single steel boilers, where information concerning stack requirements is missing (or if there is an existing boiler where something is known about capacity), the following selection guide can be used. It was determined from a study of catalogs of several prominent boiler manufacturers.

The information given in say column under SBI Rating, SBI Net Rating, or Firing Rate will enable you to determine the proper stack diameter and height. For example: Select 32.5 horsepower—read across and you will find an 18-inch I.D. stack required. Select Gallons per hour (GPH) 8.1—read across and you will find a 15-inch I.D. stack. If the exact rated capacity of the boiler is not given in the column, read down to the next larger figure and select the Van-Packer designed to handle the larger capacity.

NOTE: This table is based on natural draft. If forced or induced draft is used the Van-Packer Stack can handle up to 500 hp. Check the boiler or furnace manufacturer's recommendations.

Stack Selection Data

	*Stack Inner Diam., Inches	Stack Height, Ft. For Scotch Type Boilers	Stack Height, Ft. For Other Types	SBI Rating Horse Power	SBI Rating Thousand Btu/h	SBI Rating Sq. Ft. Htg. Surface Steam	SBI Rating Sq. Ft. Htg. Surface Water	SBI Rating Steam Lb. per Hr. of 212° F.	SBI Net Rating Thousand Btu/h	SBI Net Rating Sq. Ft. Htg. Surface Steam	SBI Net Rating Sq. Ft. Htg. Surface Water	Firing Rate Oil Gph	Firing Rate Gas Thous. Btu/h	Firing Rate Lbs. Coal Per Hour
V.P.	10	30	30	4.8	160	670	3670	165	135	555	3095	1.0	130	17
	11	30	35	7.5	250	1040	5670	258	205	856	4779	1.5	205	25
V.P.	12	30	35	10.5	340	1420	7770	350	280	1169	6570	2.0	280	35
	13	30	40	12.9	430	1790	9870	443	354	1473	8264	2.6	355	44
	14	30	40	16.1	540	2250	12400	557	445	1851	10400	3.2	445	56
V.P.	15	35	45	19.4	650	2710	14900	670	535	2230	12500	3.8	535	67
	16	35	45	22.5	750	3130	17200	774	620	2583	14500	4.4	620	77
	17	40	45	27.5	920	3840	21100	948	758	3160	17700	5.4	760	95
V.P.	18	40	45	32.5	1090	4550	25000	1124	898	3745	21000	6.4	900	112
	19	40	50	38.5	1290	5380	29600	1330	1063	4430	24900	7.6	1065	133
	20	40	50	44.8	1500	6250	34400	1545	1235	5145	28900	8.8	1235	155
V.P.	21	40	50	51.4	1720	7170	39470	1772	1416	5900	33150	10.1	1415	177
	22	40	55	58.8	1970	8210	45200	2030	1622	6760	38010	11.6	1625	203
	23	40	55	65.7	2200	9170	50460	2268	1811	7550	42470	13.0	1815	227
V.P.	24	45	55	72.5	2460	10250	56400	2535	2023	8440	47500	14.5	2030	254
	25	45	60	81.0	2710	11300	62170	2792	2230	9300	52300	16.0	2235	280
	26	45	60	89.6	3000	12500	68800	3090	2470	10300	57900	17.7	2470	309
	27	45	60	98.4	3300	13750	75600	3400	2717	11320	63700	19.4	2720	340
	28	50	65	108.2	3620	15090	83140	3738	2980	12420	69900	21.3	2985	373
	29	50	65	118.0	3950	16470	90700	4078	3255	13560	76300	23.2	3255	407
V.P.	30	50	70	129.1	4320	18000	99200	4460	3563	14850	83500	25.4	3560	446
	31	50	70	140.8	4720	19670	108400	4870	3887	16190	91000	27.7	3885	486
	32	55	75	153.8	5150	21530	118100	5320	4245	17670	99300	30.2	4240	530
	33	55	75	166.5	5575	23300	128400	5749	4585	19100	107400	32.7	4585	574
	34	55	80	181.7	6085	25330	139600	6279	5033	20960	117800	35.7	5030	630
	35	55	80	197.8	6620	27600	151400	6850	5490	22870	128500	38.8	5485	687
V.P.	36	55	85	214.7	7180	29930	164700	7400	5940	24750	139100	42.0	5940	744

*Van-Packer Stack is available in sizes indicated in black numbers.

222211

Mechanical Specifications

PHYSICAL DATA		Inside Stack Diameter, Inches							
		10	12	14	16	18	20	24	30
STACK SECTION DIMENSIONS BOTH MODELS	Outside stack diameter (inches)	14	16	19½	23	25½	30	37	44
	Section wall thickness (inches)	2	2	2¾	2¾	2¾	3	3½	4
	Length of stack section (inches)	36	36	36	36	36	36	36	36
	Length of base section (inches)	36	36	36	36	36	36	36	36
	Length of adjacent section (inches)	36	36	36	36	36	36	...	...
STACK SECTION WEIGHTS (Approx.) Model HT (Wt. Based)	Weight of stack section (pounds)	100	130	232	344	432	543	739	1033
	Weight of base section (pounds)	240	278	325	488	700	889	...	...
	Weight of adjacent section (pounds)	135	180	290	480	600	800	...	...
Model HP (not UL Listed)	Weight of stack section (pounds)	100	130	230	344	432	543	739	1033
	Weight of base section (pounds)	135	180	240	430	630	789	...	...
	Weight of adjacent section (pounds)	135	180	290	480	600	800	...	...
OTHER DATA BOTH MODELS	Flue area (square inches)	78	113	176	254	346	457	706	1018
	Wall area (square inches)	76	88	122	160	206	254	370	499
	Max. Ht. with two sections Safety factor 4x*	120	90	90	80	80	70	...	...
	Max. Ht. without two sections Safety factor 4x*	100	100	100	140	130	100	135	125
	Number of base anchor lugs supplied	3	3	4	4	4	5	6	8

*Use of ½" or heavier steel jacketed sections available permits substantially increased height and less guying.

STACK CAPACITIES

Corrective Factors for Altitudes

Altitude (in ft. above sea level)	Ratio increase in stack height	Ratio increase in stack diameter
0	1.000	1.000
1,000	1.079	1.015
2,000	1.164	1.030
3,000	1.257	1.047
4,000	1.356	1.063
5,000	1.464	1.079
6,000	1.580	1.096
7,000	1.706	1.113
8,000	1.841	1.130
9,000	1.988	1.147
10,000	2.144	1.165

To insure proper combustion, a constant weight of air is required for a given boiler output. As altitude increases, density decreases, and gas velocity must be increased. Mean velocity for a constant weight of gas and a given boiler output will be inversely proportional to the barometric pressure; and the velocity head measured in column of external air, will be inversely proportional to the square of the barometric pressure. Added frictional loss due to added gas velocity and added height is compensated by an increase in stack diameter.

SPECIAL INCINERATOR REQUIREMENTS

Use Van-Packer Model HT Stack Only

Van-Packer Model HT Stack Sections are specially made to withstand the extremely high stack temperatures developed by incinerators. Use only the Van-Packer Model HT Stack to vent an incinerator.

Use a Barometric Damper in the Breeching

A barometric damper *must* be installed in the breeching when a Van-Packer Stack is used with an incinerator. This keeps stack temperatures within safe limits, protecting both the breeching and the stack. The barometric damper should be about the same size as the inside diameter of the stack. Barometric Dampers are not furnished by Van-Packer.

Spark Screen

Most building codes require incinerator stacks to be equipped with a spark screen. Check your local building code for spark arrester requirements. Usually they will be similar to those specified in the NFPA Handbook of Fire Protection. Spark screens conforming to N.F.P.A. recommendations may be obtained from Van-Packer.

Clearances

Van-Packer Model HT Stacks should not be enclosed within combustible construction. An unenclosed Model HT stack may be placed adjacent to walls of combustible material with the following minimum clearances:

STACK I.D.	CLEARANCE
10"	16"
12"	16"
15"	16"
18"	18"
21"	18"
24"	20"
30"	22"
36"	22"

Clearances to non-combustible construction should be not less than four inches for all sizes. (See Paragraph E on page 17.)

Passage through roof

Where the Van-Packer Model HT Stack passes through a roof of combustible material it should be installed with the Van-Packer Model HT Insulated thimble and Van-Packer Model HT flashing. The insulated thimble may be installed at zero inches clearance to combustibles.

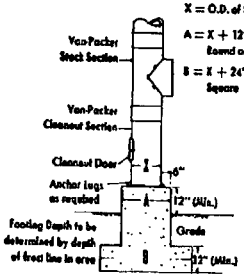
222211

Supporting the Van-Packer Stack

The Van-Packer Smokestack foundation design is based on wind load exposure on the entire stack, with proper guy wire support.

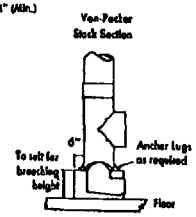
OUTDOOR INSTALLATION

Concrete foundation and footing, with Van-Packer Cleanout Section



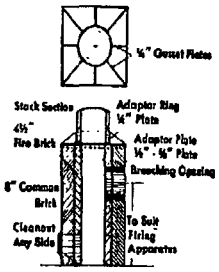
INDOOR INSTALLATION

Concrete foundation with custom-built cleanout



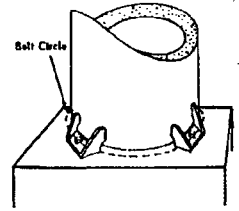
BRICK PIER BASE

For Van-Packer stacks over 21" I.D.



Base Anchor Lugs

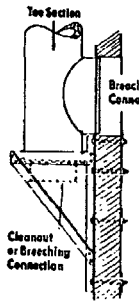
Selection and Placement of Base Anchor Lugs



Stack Diameter I.D.	Stack Diameter O.D.	Bolt Circle Diameter	No. of Lugs Required
10"	14"	16 1/2"	3
12	16	18 3/4	3
15	19½	22 1/2	4
18	23	26	4
21	26½	29 1/2	4
24	30	33 1/2	5
30	37	40 1/4	6
36	44	47 1/	8

The appropriate number of base anchor lugs for any given stack size should be bolted down over ½" bolts placed in the concrete base and spaced evenly around the bolt circle indicated for the stack size.

Typical Wall Mounting Bracket for supporting a Van-Packer Stack

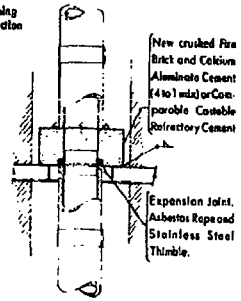


Should be designed by architectural engineer for specific job to meet all conditions of load imposed

Intermittent Supports for Interminable Stacks

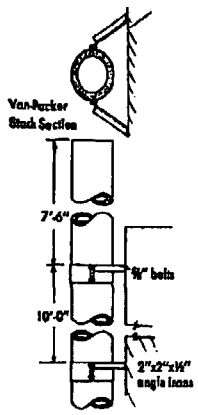
All materials except stack sections and draw bands furnished by others

Use of these supports at proper intervals permits unlimited stack heights through building interiors

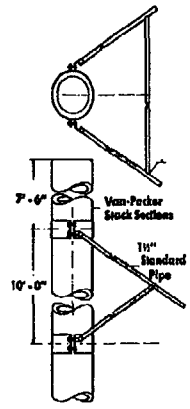


Guying the Van-Packer Stack*

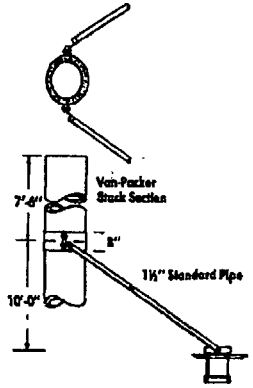
Rigid Angle Guys



Multiple Rigid Pipe Guys

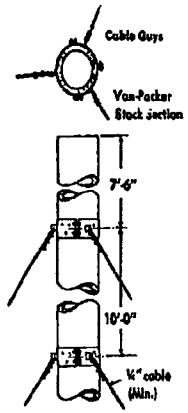


Single Rigid Pipe Guys

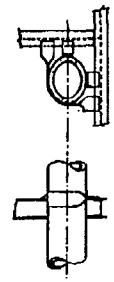


NOTE: When using ½" steel jackets, guying may be reduced to 17 ft. between guys and to 10 ft. from top of stack.

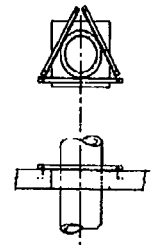
Cable Guys



Corner Guys

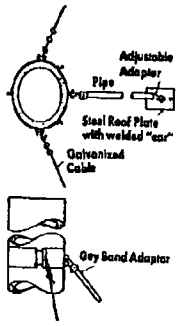


Floor Guys

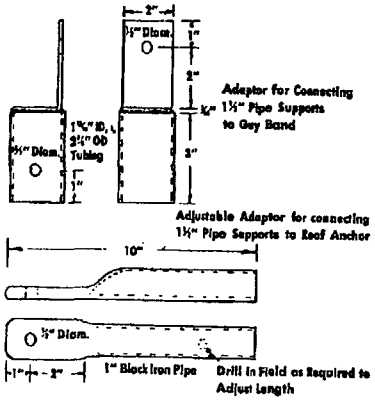


*Guying requirements are substantially reduced if "U" or heavier steel jackets (available on special order) are used.

Adjustable Rigid Pipe Guys

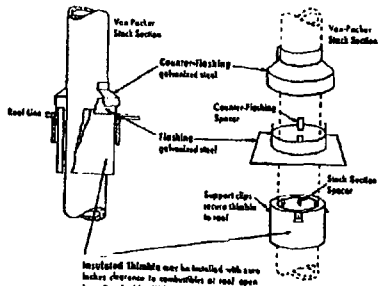


Details of Adjustable Pipe Guy Adaptors



Flashing and Insulated Thimble

Cross-section diagram of components in place

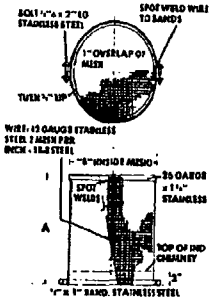


Insulated thimbles may be installed with zero inches clearance to combustible roof open ings. Required for UL-listed installation of Model HT Stack. Recommended for Model HF Stack installation. Thimble has 3" wall. Roof opening diameter should be 7½" greater than stack Outer Diameter.

Where the Van-Packer Model HT Stack passes through a roof of combustible material it shall be installed with the Van-Packer Model HF in sulated thimble and Van-Packer Model HT flashing

Spark Screen

Designed in accordance with N. F. P. A. recommendations and specifications



SCHEDULE OF DIMENS

CYLIN. SIZE, I.D.	DIMEN. "A"	DIMEN. "B"
10"	15"	14"
12"	17"	16"
15"	21½"	19½"
18"	25½"	23"
21"	29½"	26½"
24"	33½"	30"
30"	41"	37"
36"	49"	44"

INSTALLATION DATA

Equipment Needed for Erecting a Van-Packer Stack

Naturally, there are no rigid requirements for the type of equipment necessary to put up a Van-Packer. However, based on experience, certain recommendations can be made which may prove helpful. In addition to ordinary tools such as electric drills, saws, wrenches, etc., some special equipment is required. Some suggestions:

A one and one-half ton stake truck, preferably with a power operated tail gate.

Scaffolding—5x7 foot portable steel scaffolding is satisfactory for erecting a Van-Packer. The height required should be about twenty feet more than the height of the stack to be erected. Such scaffolding can be rented quite economically in most localities, or can be purchased outright.

A 4" I-beam seven feet long is necessary at the top of the scaffold for mounting a hoist or other stack section lifting device, which is clamped to the scaffold. A 4-wheel trolley can be used on the beam for moving sections over the stack. A block and tackle can be used for hoisting stack sections up to 18 inches I.D. A lightweight electric hoist will handle heavier sections. A one-half ton hoist with link chain has been found to handle stack sections most satisfactorily. Roller chain is not recommended.

A portable welding machine with a power take off, or a portable power generator is required to run the electric hoist where another source of electric power is not readily available. This is often the case in new construction.

A guy band tightened around a stack section can be used as a clamp for securing the lifting chain during erection. Or, a special stack section lifting device may be used for hoisting sections, as shown in installation photo No. 10 on p. 14.

For moving stack sections on the ground, a (two-wheel dolly with approximately 10-inch *rubber* wheels is required. DO NOT BARREL ROLL SECTIONS.



Typical shop with equipment for fabricating stack accessories.



Builder's scaffolding in corner uses minimum space. Flashing and counter flashing sections suspend from ceiling.



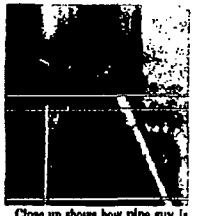
Pipe guys are easily adjusted to exact size required when "adjustable" units like these are used. Anchor lug is welded vertically to steel plate which is bolted to roof-top. See design drawings in this manual for construction details.



Guy bands to fit each Van-Packer Stack diameter are available from Van-Packer.



All parts, plus welding equipment, scaffolding and other supplies needed for the installation of this Van-Packer Stack are easily carried on one truck.



Close up shows how pipe guy is anchored to guy band. Angle is drilled to fit on guy band "ear." The completed fitting is placed over the pipe guy, drilled, and bolted.

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Typical Installation of a Van-Packer Stack

This series of photos shows the important steps in a recent Van-Packer Stack installation. Although the requirements for each installation will vary, these photos show how installation techniques can be adapted to meet the needs of a particular job.



1—A plumb line is used to locate the center position of the stack in the roof. In this case, a nail was driven through the roof so that the stack center could be located from the rooftop.



2—The offset transition used here was designed to eliminate the necessity of cutting through the roof beams. The adapter is permanently bolted into position. Van-Packer joint cement was used to seal joint. Adaptors can be made by a metal fabricating shop. Thickness of the steel plate used should equal that of boiler flange. Adaptor has built-in ring to secure base. For most installations, Van-Packer base anchor lugs are used to secure the base.



3—An opening of the proper diameter is cut through the rooftop.



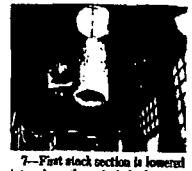
4—An "I-beam" is welded into place on two pipes bolted into the concrete floor. This special brace offers additional support for the stack. Braces like this are required only when the stack is superimposed on the boiler and the boiler is not designed to withstand the stack weight.



5—An electric winch is used to hoist stack sections to roof from truck. Lightweight magnesium I-beam track is mounted on standard builders' scaffold.



6—Workers adjust winch after scaffolding is assembled to proper height for constructing the stack.



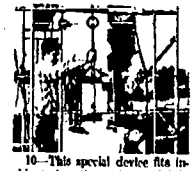
7—First stack section is lowered into place through hole in roof. When necessary, stack sections are turned slightly to assure perfect alignment.



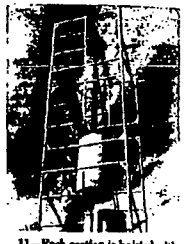
8—Succeeding sections are placed one atop another, sealed with acidproof joint cement provided, then reinforced with aluminized steel drawbands. Three bolts pull drawbands tight.



9—Van-Packer joint cement comes in convenient plastic bags, is easily applied as shown. Flashing and counter flashing have been placed in position.



10—This special device fits inside stack section and grips tightly when lifting action is applied, making it easy to lift sections.



11—Each section is hoisted with the winch, then guided into position



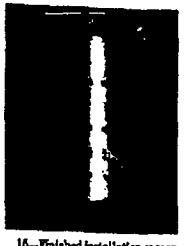
12—Drawbands are secured by tightening bolts.



13—Guy band is bolted in place.



14—Special adjustable pipe guy is cut to approximate length required, then is drilled and bolted after exact fit is determined by extending sleeve. Guy is anchored to roof by means of ½-inch steel plate with welded "ear."



15—Finished installation as seen from ground is neat appearing, requires no painting, tuck pointing or other maintenance.

Installing Stack Directly on Concrete Chimney Base



1. Checking level of built-on-job concrete clean-out base.



2. Setting cut-down section for correct breeching height.



3. Applying joint cement.



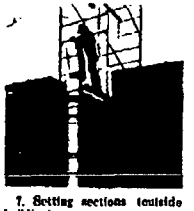
4. Setting tee section.



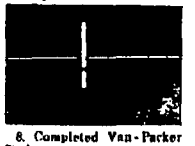
5. Setting sections (inside building).



6. Installing guy bands.

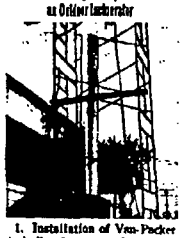


7. Setting sections (outside building).



8. Completed Van-Packer Stack.

Installing Directly on an Outdoor Incinerator



1. Installation of Van-Packer stack directly over outdoor incinerator is rapid, simple.



2. Workman hoists prefabricated, refractory sections easily using mechanical hoist.

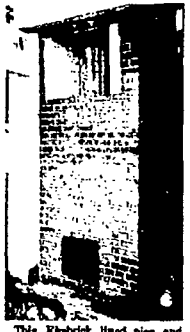


3. Second workman applies acid-proof joint cement, sets section, secures drawband.



4. Completed installation of 21-foot Van-Packer stack, including guying, took just 3 hours.

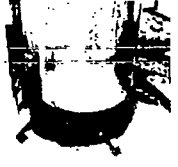
Typical Installation in a Multi-Story Building



This Firebrick lined pier and cleanout was constructed to serve a 30" I.D. Van-Packer Stack installed within a multi-story building. Breeching (not visible from this view) was made with a Van-Packer Stack section, also 30" I.D.



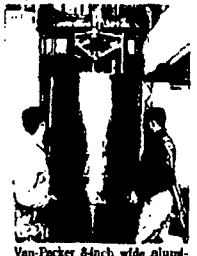
Close-up shows adaptor atop the brick pier foundation shown above. Adaptor ring, plate, and gussets are made of ½" steel plate.



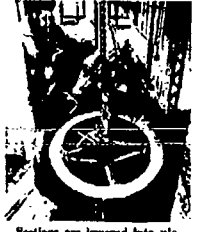
Lateral support is provided where the stack passes through floors by means of metal brackets bolted to floor and to "ears" of a Van-Packer guy band.



Sections are installed one atop another using Van-Packer joint cement to provide a leakproof, acidproof seal.



Van-Packer 8-inch wide aluminized steel draw-up type joint bands are installed and bolted tightly to further secure joint.



Sections are lowered into place by means of winch and special section lifting device which grips stack section when lifting action is applied. Other installation details are similar to those of other types of installations shown on these pages.

Installation Limits Specified by Underwriters' Laboratories, Inc. for a UL-Listed Van-Packer Stack Installation

These are not regular installation instructions, these are limits of installation.

A product of this kind can be installed in many different ways and by different kinds of equipment, and requires considerable preliminary planning. Therefore, *it has to be presumed* that all such planning and preparation work has been done by the time you are *ready to erect* this material.

This product is listed under Label Service by Underwriters' Laboratories, Inc. as a Medium-Heat Appliance Chimney. It may be connected to low-heat appliances, medium-heat appliances, and commercial industrial-type incinerators. The following information is given to assure the installation is made in accordance with the listing.

1. Base:

The chimney should be supported on a foundation of masonry or reinforced concrete or other non-combustible material having a fire-resistance rating of not less than three hours. When installed on an appliance, the chimney should be so supported as to not place excessive stress upon the appliance. The base of the chimney should be secured to prevent movement of the chimney and Van-Packer anchor lugs should be used for this purpose wherever possible.

	Bolt Circle Diameter
10" I.D.—Use 3 Lugs	16¼"
12" I.D.—Use 3 Lugs	18½"
15" I.D.—Use 4 Lugs	23½"
18" I.D.—Use 4 Lugs	29"
21" I.D.—Use 4 Lugs	29½"
24" I.D.—Use 5 Lugs	33½"
30" I.D.—Use 6 Lugs	40¼"
36" I.D.—Use 8 Lugs	47½"

2. Assembly:

Care must be exercised when erecting the chimney to make sure the sections are properly aligned. The joint between the sections should be sealed with Van-Packer joint cement, and the sections must be secured one to another by Van-Packer Model HT drawbands.

3. Clean-Out Section:

A clean-out section may be used in the chimney assembly but must not be used above the chimney inlet.

4. Clearances:

A. Chimneys of the medium-heat appliance or commercial-industrial incinerator type are not intended to be enclosed in walls of combustible materials, but should be placed in fire resistive or non-combustible shafts where these chimneys extend through any story of a building above that in which the connected appliances is located.

Consult local codes or building authorities for their requirements.

B. An unenclosed Van-Packer Model HT chimney may be placed adjacent to walls of combustible material with the following minimum clearances:

10" I.D.	10" Clearance
12" I.D.	12" Clearance
15" I.D.	15" Clearance
18" I.D.	18" Clearance
21" I.D.	18" Clearance
24" I.D.	20" Clearance
30" I.D.	22" Clearance
36" I.D.	22" Clearance

C. These clearances may be further reduced through protection of combustibles with radiation shields, etc., such as suggested in NFPU Standard No. 31.

D. Clearances to non-combustible construction shall be 4 inches for all sizes.

E. When the Van-Packer Model HT chimney is used with low-heat appliances (producing flue gas temperatures *NOT* in excess of 1000° F.) and is installed as described above, the clearances to combustibles may be 6 inches for all sizes.

5. Passage Through Roof:

Where the Van-Packer Model HT chimney passes through a roof of combustible material it shall be installed with the Van-Packer Model HT insulated thimble and Van-Packer Model HT flashing. This insulated thimble may be installed at zero inch clearance to combustibles.

6. Chimney Heights:

Chimney Size	Above T's	Above Masonry Piers
10" I.D.	120 ft.	150 ft.
12" I.D.	90 ft.	135 ft.
15" I.D.	80 ft.	130 ft.
18" I.D.	80 ft.	125 ft.
21" I.D.	80 ft.	150 ft.
24" I.D.	70 ft.	140 ft.
30" I.D.	—	135 ft.
36" I.D.	—	135 ft.

7. Guys:

Each chimney must be guyed at least once above its fixed base if its height is more than 7-½ ft.

The distance between guys should not exceed 10 ft. Free standing sections above the top guy band should not exceed 7½ ft.

Special guy bands for use in guying the chimneys are available from the Van-Packer Company and should be used.

(See note page 11 for guy spacing when using ½" steel jackets.)

8. Termination of Chimney:

A. Chimneys Connected to Commercial and Industrial Incinerators—The chimney should extend at least four feet above the highest point where it passes through a sloping roof and at least eight feet above a flat roof. In either case, the chimney should extend at least two feet higher than any portion of a building within 25 feet.

If the incinerator is to be used for the burning of rubbish or other readily combustible solid waste material and does not include effective means for arresting sparks and fly particles, such as expansion chamber, baffle walls, etc., the chimney should be provided with a suitable spark arrester having openings not greater than ¾ inches. (Such a spark arrester is available from Van-Packer.)

B. Chimneys Connected to Medium-Heat Appliances—The chimney should extend at least ten feet higher than any portion of any building within 25 feet.

C. Chimneys Connected to Low-Heat Appliances—The chimney should extend at least three feet above the highest point where it passes through the roof and two feet higher than any ridge within ten feet.

DEFINITIONS

Appliances Classed as Medium-Heat Appliances

An industrial appliance developing a temperature between 600°F. and 1500°F. in portions where substances or materials are heated, such as an annealing furnace (glass or metal), charcoal furnace, galvanizing furnace, or a boiler operating at over 50 pounds per square inch gage pressure. An appliance otherwise classed as a high-heat appliance may be considered as a medium-heat appliance if not larger than 100 cubic feet in size.

Appliances Classed as Low-Heat Appliances

An industrial appliance developing temperatures below 600°F. in portions where substances or materials are heated, such as a commercial cooking appliance, bakery oven, candy furnace, coffee roaster, cure oven, lead-melting furnace, rendering furnace, sterotype furnace, drying and curing appliance or a boiler operating at not over 50 pounds per square inch gage pressure. An appliance otherwise classed as a medium-heat appliance may be considered as a low-heat appliance if not larger than 100 cubic feet in size.

Incinerator "Break-In" Instructions

Before firing incinerator be sure a barometric damper has been installed in the breeching. It should be approximately the same diameter as the breeching.

Then open all clean-out doors and dampers to stack. Start gas burner in the incinerator only and allow it to run for eight hours. After this cycle, build a small wood fire in the incinerator and continue to increase size of the wood fire to full load at the end of four hours. The stack will then be ready for normal use.

For medium heat appliances other than incinerators, some convenient low temperature "BREAK-IN" procedure should also be followed.

PERFORMANCE DATA

Comparison of Draft Provided by a Van-Packer Stack and Equivalent Brick Stack

Based on Calculations by H. D. Barrither.

Analysis checked by S. Konzo.

A. Objectives

The results contained herein are not based upon actual tests, which would be difficult to make under a wide variety of conditions. The results are, however, based upon a theoretical analysis in which the best available data were used.

Where so many variables exist, a large number of different combinations could have been chosen, some of which could be considered as more practical than the ones finally selected.

The comparison is shown between a 15-in. internal diameter Van-Packer Industrial Stack and a 14-in. x 14-in. internal size, rectangular brick chimney with 8-in. brick walls.

B. Selection of Variables

For the purpose of these calculations the following values were selected:

a) Stack Diameter. The Van-Packer stack which was selected was a 16-in. internal diameter industrial stack, with 2½-in. thick walls. The internal cross sectional area was 1.225 sq. ft.

b) Chimney Height. Heights up to 60 feet were considered.

c) Outdoor Air Temperature. A value of 40 F. was selected as being an average outdoor temperature.

d) Entering Flue Gas Temperature. Entering flue gas temperatures of 500 F. as well as 600 F. were selected as representative of normal practice.

e) Flue Gas Velocity. A flue gas velocity of 8.7 ft. per second was selected for the square brick stack, based upon values in Harding-Willard, vol. I, page 163, Fig. 6. This corresponded to a mass flow rate of 1755 lb. per hour.

Using the same flow rate for the round stack, the corresponding velocity was determined as 9.8 ft. per second. Both of the velocity values can be considered to be about 25 per cent of the theoretical maximum values.

f) Inner Film Coefficient. The values selected were obtained from *ASHVE Guide*, Chap. 6, page 176, 1933 Edition and corresponded to a wind velocity of about 6 m.p.h. The film coefficient for the brick chimney (with liner liner) was 3.3 Btuh per sq. ft. per F. and that for the round chimney was 3.4 Btuh per sq. ft. per F.

g) Outer Film Coefficient. A value of 6.0 Btuh per sq. ft. per F was selected from the same source and corresponded to a wind velocity of 15 mph.

h) Conductance of Brick. The conductance of 4-in. thick brick was considered to be 1.25 Btuh per sq. ft. per F (Common brick), based upon values in the *ASHVE Guide*. The conductivity of the liner was taken as 12.5 Btuh per sq. ft. per F per inch of thickness.

The overall conductivity of the brick wall was determined as 0.47 Btuh per sq. ft. per F.

i) Surface Area of Chimney. The external area of the brick chimney was 10.26 sq. ft. for each foot of chimney height. However, for purposes of determining the heat transfer, a corrected value of 5 16 sq. ft. for each foot was used as recommended on page 26 of McAdam's book.

j) Conductivity of Van-Packer Chimney. The thermal conductivity was taken as 1.28 Btuh per inch of thickness.

k) Heat Loss Equations. In the case of the Van-Packer chimney the heat loss equation was based on the log of the diameter ratios. For a four-ft. sectional stack the heat loss equation reduced to the simple form of:

$$Q = 7.85\,(t_1 - t_2)$$

In the case of the brick chimney, the equation proposed in McAdams, page 28, was used. This form reduced to the following:

$$Q = 9.7\,(t_1 - t_2)$$

l) Pressure and Density. Standard barometric pressure of 29.92 in. of mercury was selected. The densities were based upon this barometric pressure and the appropriate temperature.

B. Procedure

The procedure in making the extensive calculations was as follows:

a) The initial enthalpy of the flue gases was determined above an arbitrary base temperature of 0 F. The enthalpy equation was of the form:

$$h = W c_p t$$

in which,
W = weight of flow of flue gas, in lb. per hr.
c_p = specific heat, assumed as 0.24 Btu per lb. F
t = flue gas temperature.

b) The weight flow was determined as 1755 lb. per hour for each chimney, and was based on the velocities and areas previously described.

c) The heat loss for each four-foot section was determined from the preceding equations, which took into account the overall coefficient of heat transfer, as well as the surface areas of the stack. The temperature difference was that between the entering flue-gas temperature and the outdoor temperature.

d) By subtracting the heat loss for the four-foot section from the initial enthalpy, the value of the final enthalpy could be determined for the upper end of the four-foot segment. The process was repeated again and again as the four-foot segments were separately considered.

C. Plotted Results (Fig. 1)

The results obtained from the calculation procedure are shown by the flue gas temperatures existing at different stack heights. The difference between the results for the masonry chimney and the Van-Packer chimney was exceedingly small. For example, the flue-gas temperature at the 40-ft. level was 405 F for the masonry chimney and 419 F for the Van-Packer chimney for entering flue-gas temperatures of 500 F for both cases.

The next step in the procedure was the calculation of the effective draft, which was determined by:

a) First determining the theoretical draft, and

b) Secondly, determining the reduction for the frictional loss due to the flow of gases in the stack. The data used were from Marks (p.1121), which in turn was a modification of the well-known Darcy equation of flow.

A coefficient of friction of 0.0017 was used for both stacks. The values for theoretical draft, as well as the correction for the frictional resistance, were found to be practically the same for the masonry chimney and the Van-Packer chimney. The final result for the two chimneys is shown by a single curve in Fig. 2.

For all practical purposes, therefore, it may be concluded that the available draft for the 14-in. square masonry flue should be of the same order of magnitude as that for the 15-in. Van-Packer Industrial Stack, for comparable conditions of flue gas at the entry of the chimneys.

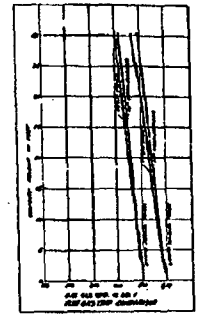


FIG. 1

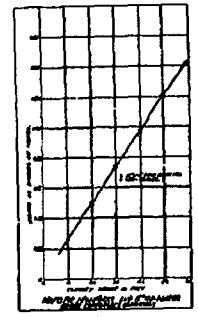


FIG. 2

Comparison of Draft Provided by a Van-Packer Stack and Equivalent Steel Stack

A. Objective

The purpose of this study was to find the height of a Van-Packer Industrial Stack that would give the same draft as a metal unlined stack, when both stacks were of the same diameter and were handling the weight of flue gases and at the same inlet temperature.

The calculations were based on a number of assumptions. However, since the same assumptions were made for both the metal stack as well as the insulated refractory stack, the fact that the values selected were not exact would not be too serious. For example, the calculations were based upon an outdoor air temperature of 40 F. If an outdoor air temperature of 0F or 60 F had been selected the numerical values would have been different from those obtained, but the trends would have been the same. However, since the 40 F temperature was used for both of the stacks there was no bias shown one way or the other.

It is obvious where there are so many variables that a large number of different combinations could have been chosen, some of which may be considered to be more practical than the ones finally selected.

If a large number of comparisons and combinations are to be shown, it is only a matter of time and effort to get the results.

B. Selection of Variables

For the purpose of these calculations the following values were selected:

a) Stack Diameter of 18 inches. This diameter was considered to be about midway between the 16 in. and the 24 in. diameters that are available. Furthermore, the thickness of the walls of 2½ in. was about midway between the 2 in. for the small stack and the 3 in. for the large stack.

b) Chimney Height — Heights up to 60 ft. were considered in these calculations.

c) Outdoor Air Temperature of 40 F was selected as being average temperature.

d) Entering Flue Gas Temperature of 500 F was selected. This is

slightly on the low side and would tend to show less difference between the steel stack and the V-P stack.

e) Flue Gas Velocity of 8.7 ft. per second was selected, based upon values shown in Harding-Willard, vol. I, page 163, Fig. 6. The velocities were about 25% of the theoretical maximum and were on the low side. If a higher flue gas velocity were selected for both stacks, the flue gas temperature drops would be smaller for both, and the results would probably favor the steel stack.

f) Inner Film Coefficient of 3.3 Btuh per sq. ft. per F was obtained from the ASHVE Guide, Chap 9, p. 175, 1955 edition, and corresponds to a wind velocity of about 6 mph.

g) Outer Film Coefficient of 6.0 Btuh per sq. ft. per F was obtained from the same source and corresponded to a 15 mph wind velocity.

If a higher flue gas velocity had been selected the inner film coefficient would have been higher, and the heat transfer through the stack would have been larger. Such a change would have had a relatively larger effect on the steel stack than on the insulated stack, as far as the overall heat transfer coefficient is concerned.

The use of a surface film coefficient of 6.0 on the outside is in accordance with conventional practice in the heating industry. Any increase in this coefficient would have affected the heat transfer for the steel stack relatively more than for the insulated stack.

h) The Thickness of the Steel Stack was assumed as 0.25 in. and the conductivity was assumed as equal to 313 Btuh per inch of thickness (based on data in Kent's Handbook, 10 ed., p. 602). The resistance of the metal wall was practically negligible, and the thermal resistance was largely due to the film resistances.

i) The Thickness of the V-P stack was taken as 2½ in. and the thermal conductivity was taken as 1.26 Btuh per inch of thickness. The thermal resistance of the V-P stack was largely due to the insulating concrete and only partly to the film resistance.

j) The Heat Loss Surface was considered to be the outer surface of each stack. Hence for the 18-in diameter steel stack, the external surface was considered to be 4.71 sq. ft. for each foot of height, whereas for the 23-inch external diameter of the V-P stack, the external surface was considered to be 6.02 sq. ft. for each foot of height of stack. This tends to favor the steel stack since precise calculations would use the log term for area.

k) The Density of the flue gas was considered to be for normal sea-level barometric pressure of 29.91 in. of mercury and for the temperature of the flue gas, as determined.

The specific heat of the flue gas was considered to be 0.24 Btu per lb.

C. Procedure

The procedure in making the extensive calculations was as follows:

a) The initial enthalpy of the flue gases was determined above an arbitrary base temperature of 0 F. The enthalpy equation was of the form:

$$h = W c_p t$$

in which W was the weight flow per hour of flue gas, c_p was the specific heat of constant pressure, t was the flue gas temperature.

b) In the determination of W, the assumed flue-gas velocity was used, and the internal diameter of the stack was assumed as 18 in.

c) The overall heat transfer coefficient was calculated, based upon resistances of the films and the stack material. The overall coefficients, as thus determined were 2.12 Btuh per sq. ft. for the steel stack and 0.407 for the V-P stack.

d) The stacks were assumed to be broken up into segments each 4 ft. in length for the step-by-step calculation procedure and the heat loss for each 4-ft. segment was calculated, based upon the temperature difference between the entering flue-gas temperature and the outdoor air temperature for each section.

e) By subtracting the heat loss from the initial enthalpy, the value for the final enthalpy could be determined for the upper end of the 4-ft. segment. Dividing this final enthalpy by the product (W c_p) enabled us to determine the leaving flue gas temperature for the 4-ft. section.

f) This process was repeated again and again as the 4-ft. segments were separately considered.

D. Plotted Results

The results obtained from the extensive calculation procedure were plotted, as shown in Fig. 1. These curves indicate that

a) the flue gases in the steel stack cooled rapidly as the chimney height increased. For example, the temperatures dropped from 500°F. to 450°F. in 6 ft. of steel stack height, whereas the same 50°F. drop took place in 26 ft. of height of V-P stack.

b) the temperature drop of the flue gases was almost linear with stack height in the case of the V-P stack.

Flue gas temperatures in themselves are interesting, but not conclusive as regards the comparative performances of the two stacks. The next important step in the calculations was to obtain average flue gas temperatures for each stack for various heights. These average temperatures are shown in Fig. 1. For example, for a 50 ft. steel stack the average flue-gas temperature would be 340 F, whereas for the V-P stack the average temperature was 452 F. The differences were large for the higher stack heights and smaller for lower stack heights. For example, for a 20-ft. high stack, the flue gas temperature was only 425 F for the steel stack and 480 F for the V-P stack, a difference of only 55 F.

The next step in the procedure was the calculation of the effective draft. The calculations were in two steps:

a) Calculation of the theoretical draft, and

b) the reduction for the frictional loss due to flow of gases in the stack. The data used were from Harding-Willard, which in turn, was a modification of the well-known Darcy equation of flow.

A friction coefficient of f = 0.0044 for the steel stack and f = 0.0050 for the V-P stack was assumed.

The net drafts are shown in Fig. 2 for both stacks. It may be observed that for a given height of stack, the V-P stack gave a higher draft. Furthermore, the difference between the two curves was more noticeable at higher stack heights. As a matter of interest the relation of draft to chimney height was practically linear for the V-P stack only.

The final comparison was based upon the results shown in Fig. 2. By replotting the data it was possible to obtain Fig. 3 which shows the height of the V-P stack which would give the same draft as the steel stack. The straight line drawn at 45 degrees represents the line of numerical equivalency; that is, where a given height of the V-P stack would be shown as the same height of a steel stack.

The actual calculated results are shown by the upper curve. The following equivalencies were read from the curves:

Height of Steel Stack	Height of V-P Stack to Obtain the Same Draft Ft.	Percent Reduction in Height
10	9.0	10%
15	13.5	10%
20	18.0	10%
25	22.6	10%
30	27.0	10%
35	31.0	11%
40	35.0	12%
45	38.5	14%
50	42.0	16%
56	45.0	18%
60	48.0	20%
65	51.0	21%

In other words, for shorter stacks, the V-P stacks need be only 90 per cent as tall as a steel stack in order to give the same effective draft, whereas for higher stack, the discrepancy becomes larger. In fact, the effectiveness of the insulation shows up more in the higher stacks.

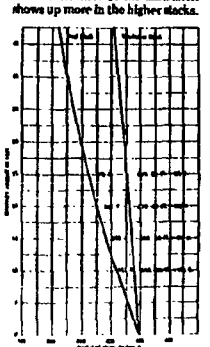


FIG. 1

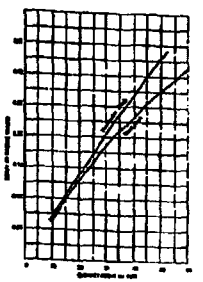


FIG. 2

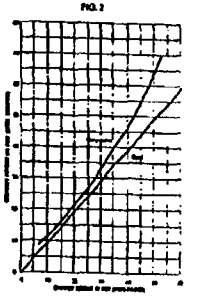


FIG. 3

Temperature Studies of Van-Packer 12" I.D. Stack and Equivalent 12"x12" Brick Stack

Tests conducted in February 1950 at Carbon Cliff, Illinois, by P. C. Hodson, Jr., J. H. Schmidt, and S. Konzo.

Summary

Four separate tests were conducted during these studies, one on 12" x 12" masonry brick chimney and three tests on a 12" diameter Van-Packer Industrial stack. A large number (27) of the thermocouples were used to obtain temperatures at different positions in the stack. Only those temperatures of special significance have been indicated in the attached charts. A large temperature drop was obtained in the Van-Packer stack through the walls. The V-P stack showed a much shorter warm-up period.

Description of 12"x12" Brick Chimney (Fig. 1)

In every respect the brick chimney was built in accordance with best commercial practice, as follows:

Tile liner	½" thick
Air space	½" thick
Brick, 4" thick	4"
Mortar	½" thick
Brick, 4" thick	4"
Total Wall Thickness	9-½" thick

The internal dimensions of the tile liner were 11½" x 11½", which gave a cross-sectional area of 132.2 sq. in. or 0.92 sq. ft.

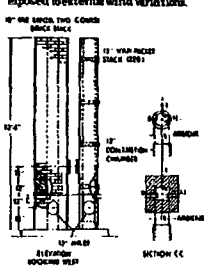
Description of 12" Diameter Van-Packer Industrial Stack (Fig. 1)

The 12-in. V-P Industrial Stack was built near the brick chimney from parts taken from stock. The wall construction consisted of the following:

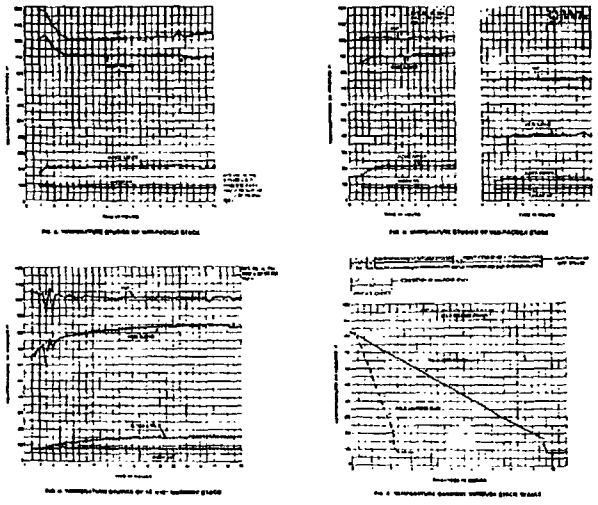
Refractory lining	2" thick
Aluminized steel	0.008" thick

The internal dimension of the stack was 12" diameter, corresponding to a cross-sectional area of 131.1 sq. in. or 0.785 sq. ft. In comparison with the brick chimney, therefore, the thickness was about one-fourth, and the cross-sectional area was about 0.86 that of the brick chimney.

Both stacks were located inside of the test building and exposed to an ambient temperature of the order of 80 F. Neither chimney was exposed to external wind variations.



INDUSTRIAL STACK COMPARISON TEST
FIG. 1



Temperature-Time Curves for V-P Industrial Stack (Figs. 2 and 3)

The temperatures plotted in Figs. 2, 3, and 4 were those at the hottest spots in the stack and near the entry of the hot gases from the horizontal tube connected with the stack. Two significant features can be observed from the graphs:

1) Approximately three hours' time were required before steady-state temperature conditions were attained.

2) The temperatures in the stack were influenced more by the inlet flue-gas temperature rather than by the rate of fuel input. In this connection it should be noted that even with a fixed rate of fuel input the temperature of the flue gas could be controlled to some extent by varying the amount of excess air that accompanied the flue gas. In other words, the temperatures in the stack were not affected too much by the differences in the weight rate of flow of flue gases.

Temperature-Time Curves for 12"x12" Brick Chimney (Fig. 4)

The temperature measurements were made at corresponding spots in the rectangular chimney that were used in the round stack. The significant evidence in Fig. 4 was that:

1) Approximately 14 hours' time were required before steady-state temperature conditions were attained from a cold start. This was approximately 4½ times as long as that required for the round stack of smaller wall thickness.

Comparative Temperature Gradients through Walls (Fig. 5)

The two curves in Fig. 5 show the temperature gradients through the two walls, on a comparable scale of thickness and temperature. A steeper curve indicates a greater resistance to heat transfer through a given thickness.

The significant temperatures for the two stacks are as follows:

	12" V-P Stack	12"x12" Brick
Inlet flue gas	1040°F.	1010°F.
Inside surface of stack	890°F.	856°F.
Outside surface of stack	215°F.	165°F.
Ambient air	85°F.	80°F.

Since the temperature drops through any material are proportional to the resistance of that material, it is possible to determine the part which the material itself played in serving as a thermal barrier. For example, the 675°F. temperature drop through the V-P wall of 2" thickness represented 70.7% of the total resistance to heat flow, and the 670°F. temperature drop through the 9½" brick wall represented 72.1% of the total resistance to heat flow.

These values were surprisingly similar. For exactly comparable results it appears that a thickness slightly greater than 2½" of vermiculite concrete would give a resistance comparable to that for a 9½" brick wall.

Temperature Gradients at Other Firing Rates (Fig. 6)

Three sets of temperature gradients are shown in Fig. 6; the left-hand gradient being reproduced again for sake of comparison. The middle gradient is for a rate of fuel input only 75% as great as that used in the curve for Fig. 5. However, by adjustment of the excess air supply to the burner it was possible to reduce the excess air and still maintain the same inlet temperature as was used in the original test. The result was that the gradient was practically the same in the two cases. For the reduction in flue gas volume, therefore, no marked effect on surface temperatures was obtained.

The gradient shown in the right-hand portion of Fig. 6 is for the same rate of fuel input as in the basic test shown in Fig. 5. In this case, a marked reduction in the inlet flue-gas temperature was obtained and the data are at considerable variance with those for the other tests. The inner film resistance is more than half the total resistance, and can be accounted for only by a marked reduction in the flue gas velocity at the measuring station.

Drafts Measured at Station 20" Above Inlet

The measured drafts were as follows:

For Fig. 2, conditions .....0.080 in. of water

For Fig. 3, reduced input .....0.083 in. of water

For Fig. 3, reduced temperature .....0.070 in. of water

The data for the 12"x12" brick chimney, as measured at a station 12 in. from the top were essentially the same as those for the V-P industrial stack.

A comparison of the measured data, based as they are on only three specific conditions, with the calculated values given in the calculations of H. D. Bareither show no essential deviations.

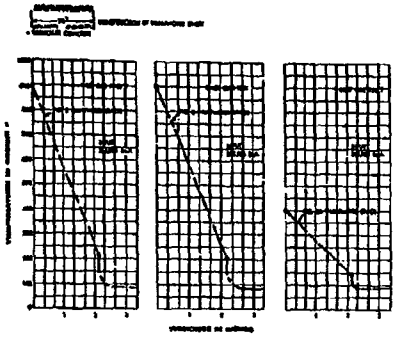
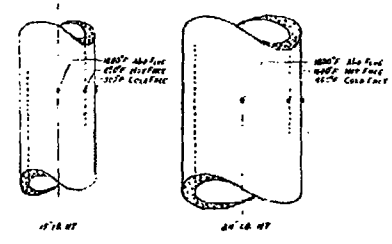


FIG. 6. TEMPERATURE GRADIENT THROUGH STACK WALLS

TEMPERATURE STUDIES FOR VAN-PACKER 15" I.D. AND 24" I.D. MODEL HT STACK



APPROXIMATE TEMPERATURES AT EQUILIBRIUM

TYPICAL SPECIFICATIONS

Typical Specification for a Van-Packer Model HT (UL Listed) Stack for Incinerators, Boilers, Furnaces

Smokestack shall be a prefabricated sectional type listed by Underwriters' Laboratories, Inc. (as manufactured by the Van-Packer Division of The Flintkote Company).

Each stack section shall be 3 feet in length with an insulating refractory wall encased in an aluminized steel jacket. Insulating refractory shall be suitable for high incinerator exit temperatures and shall be centrifugally spun into the metal jacket. Slumped or poured mix is not acceptable on this specification.

Stack sections shall be circular with internal diameter of (.....) inches and external diameter of (.....) inches. Assembly shall be made by joining stack sections with high temperature joint cement and covering joint with aluminized steel drawband. All above material shall be supplied by the stack manufacturer. Total height shall be as shown on drawings with lateral and or vertical support as recommended by the stack manufacturer. Installation of the smokestack shall be made in accordance with specifications of Underwriters' Laboratories, Inc. and the manufacturer.

NOTE: (1) For Tee Section specification, see Mechanical Specification Table for availability and UL Listing. If the stack will include a Tee Section, the following will apply: "Tee Section shall be (.....) inches in height and shall have a 6-inch refractory projection for the breeching connection." (2) *A Barometric Damper is required for incinerators, and is optional for boilers and furnaces. Where required, the following will apply:* "A Barometric Damper shall be installed as required by the stack manufacturer." (3) *Where the stack passes through roof of combustible material, the following will apply:* "An insulated thimble supplied by the stack manufacturer shall be installed wherever the stack passes through roof of combustible material."

Typical Specification for a Van-Packer Model BF (Not UL Listed) Stack for Boilers and Furnaces

Boiler (or furnace) smokestack shall be a prefabricated sectional type (as manufactured by the Van-Packer Division of The Flintkote Company).

Each stack section shall be 3 feet in length with an insulating refractory wall encased in an aluminized steel jacket. Insulating refractory shall be suitable for nominal boiler (or furnace) flue gas temperatures and shall be centrifugally spun into the metal jacket. Slumped or poured mix is not acceptable on this specification.

Stack sections shall be circular with internal diameter of (.....) inches and external diameter of (.....) inches. Assembly shall be made by joining stack sections with high temperature joint cement and covering joint with aluminized steel drawband. All above material shall be supplied by the stack manufacturer. Total height shall be as shown on drawings, with lateral and/or vertical support as recommended by the stack manufacturer.

NOTE: For Tee Section specification, see Mechanical Specification Table for availability. If the stack will include a Tee Section, the following will apply: "Tee Section shall be (.....) inches in height and shall have a stainless steel sleeve for the breeching connection."

BULLETIN IS-56

VAN-PACKER® PRODUCTS

The Flintkote Company

30 Rockefeller Plaza, New York 20, N.Y. · PLaza 7-5500

Manufacturers of Diversified Products for Home and Industry

Plant: Buda, Illinois

In the West: Pioneer Division, The Flintkote Company, Box 2218, Terminal Annex, Los Angeles, Calif.

In Toronto, Ontario: The Flintkote Company of Canada, Ltd.

IS 56 62

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Printed in U.S.A.

Issued: March 2, 1964 — Number 1

Effective: March 2, 1964 — Cancels: All Previous Prices

Emulsions	Distributor Truckload	Distributor Less Truckload	Suggested Resale Price Truckload	Suggested Resale Price Less Truckload
C-13-HPC	$.39	$.44	$.50	$.78
C-13-B**	.41	.46	.53	.82
C-13-C4**	.41	.46	.53	.82
C-13-LA*	.41	.46	.53	.82
C-13-A**	.47	.52	.61	.94
Premix Mastic*	.60	.65	.72	1.00
Special Sanded Premix #5*	.60	.65	.72	1.00
#16 Underbody Coating*	.40	.45	.60	.85
#54 Insulation Coating**	.60	.65	.77	.95
C-13-AL**	2.00	2.25	2.75	3.00

Prices Net Per Gallon. Prices based on 55-gallon drums (except Premix Mastic and Special Sanded Premix #5, which base price applies to 30-gallon drums.) Add the following differentials for other container sizes....30-gal. drum, $.05 per gal.; 5-gal. pail, $.08 per gal.; 1-Gal. can, $.20 per gal. (30-gallon drums available from Rutherford, New Jersey only.)

NO ORDERS ACCEPTED FOR LESS THAN 250 GALLONS
EXCEPT PREMIX MASTIC AND SPECIAL SANDED PREMIX #5

Note: (1) Items marked * F.O.B. Rutherford, N. J. only.
(2) Items marked ** F.O.B. Rutherford, N. J. & Chicago Heights, Ill. only.
(3) All other items F.O.B. Rutherford, N. J., Chicago Heights, Ill. and in mixed truckload and truckload lots only, F.O.B. Detroit, Michigan.

Thermalkote	Truckload	Less Truckload	Truckload	Less Truckload
55 Gal. Drum (per gal)	.43	.48	.55	.61
5 Gal. Pail (per gal)	.51	.56	.64	.71

Add 5¢ per gallon for Winter Grade material.
Prices Net F.O.B. Rutherford, N. J. and Chicago Heights, Ill.

TERMS OF PAYMENT: 2% 10th Prox. - Net 30th Prox.
All prices and terms of sale are subject to change without notice.

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

Issued: March 2, 1964 Number: 2

Effective: March 2, 1964 Cancels: All Previous Prices

Flooring Products	Distributor Truckload	Distributor Less Truckload	Suggested Resale Price Truckload	Suggested Resale Price Less Truckload
N-13-HPC	$.41	$.46	$.53	$.62
N-13-F	.50	.55	.65	1.00
#85**	.31	.36	.41	.62
#88***	.31	.36	.41	.62
Oil Resistant Floor Sealer*				
55-gallon drum	.55	.65	.90	1.15
5-gallon pail	.80	.90	1.15	1.40

Prices Net Per Gallon. Prices based on 55-gallon drums (except where indicated.)
Add the following differentials for other container sizes:
30-gallon drum, $.05 per gallon; 5-gallon pail, $.08 per gallon;
1-gallon can, $.20 per gallon.
(30-gallon drums available from Rutherford, N. J. only.)

NO ORDERS ACCEPTED FOR LESS THAN 250 GALLONS

Note (1) Items marked * F.O.B. Whippany, N. J. only.
(2) Items marked ** F.O.B. Rutherford, N. J. & Chicago Heights, Ill.
(3) Items marked *** F.O.B. Chicago Heights, Ill. only.
(4) All other prices F.O.B. Rutherford, N. J., Chicago Heights, Ill. and in mixed truckload and truckload lots only, F.O.B. Detroit, Michigan.

TERMS OF PAYMENT: 2% 10th Prox. - Net 30th Prox.
All prices and terms of sale are subject to change without notice.

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

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Issued: February 15, 1963 Number: 3

Effective: February 15, 1963 Cancels: All Previous Prices

Cutbacks	Distributor Truckload	Distributor Less Truckload	Suggested Resale Price Truckload	Suggested Resale Price Less Truckload
Asphalt Primer (#269)	.35	.40	.45	.70
Asphalt Primer (#6800)	.35	.40	.45	.70
Cutback Dampproofing #211	.35	.40	.45	.70
#267	.40	.45	.55	.80
Semi Mastic #214	.37	.42	.50	.74
Trowel Mastic (#201)(#232)	.42	.47	.55	.84
#224 Cutback Adhesive	.42	.47	.55	.84
#202 Cutback Adhesive	.60	.65	.80	1.20
C-19(Vapor Barrier Coating)	.50	.55	.70	1.00
#252 Binderseal*	.70	.75	.90	1.35
#213 Underbody Coating	.45	.50	.65	.90
#227 Underbody Coating	.70	.75	.90	1.25
#69 Insulation Coating	.60	.65	.77	.95
#265 Pipe Coating*	.50	.55	.60	.90
Aluminum Paint	2.25	2.35	2.90	3.50
Flintdek*				
5-gallon pail:	$3.50		4.05	6.25
1-gallon can:(4 X 1/case)	3.65		4.20	6.40

Prices Net Per Gallon. Prices based on 55-gallon drum (except where indicated.) Add the following differentials for other container sizes:

30-gallon drum, $.05 per gallon; 5-gallon pail, $.08 per gallon; 1-gallon can, $.20 per gallon (30-gallon drums available from Rutherford only.)

NO ORDERS ACCEPTED FOR LESS THAN 250 GALLONS EXCEPT FLINTDEK (which is sold in 5-gallon pails and 4 X 1 gallon cases minimum orders.)

Note: Items marked *F.O.B. Rutherford, N. J. only. All other prices F.O.B. Rutherford, N. J. and Chicago Heights, Ill.

TERMS OF PAYMENT: 2% 10th Prox. Net 30th Prox.
All prices and terms of sale are subject to change without notice

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

222262

Issued: February 15, 1963 Number: 4

Effective: February 15, 1963 Cancels: All previous prices

Adhesives		DISTRIBUTOR Truckload	DISTRIBUTOR Less Truckload	SUGGESTED RESALE PRICE Truckload	SUGGESTED RESALE PRICE Less Truckload
#49 Adhesive*		$.39	$.44	$.55	$.85
#70 Adhesive**		.36	.41	.50	.75
#82BY Adhesive*		.41	.46	.58	.90
#746 Adhesive***		1.25	1.35	1.60	1.95
#747 Adhesive		1.35	1.45	1.80	2.25
#749 Adhesive		1.35	1.45	1.80	2.25
#974		3.25	3.50	4.00	5.00
#979	5-gallon pail	3.95	4.20	5.60	6.25
	1-gallon can	4.15	4.40	5.80	6.45
#979-A	5-gallon pail	2.95	3.20	4.00	4.75
	1-gallon can	3.15	3.40	4.20	4.95
#75**	5-gallon pail	1.10	1.15	1.40	1.45
	1-gallon can	1.35	1.40	1.65	1.70
#2004A***	5-gallon pail	.95	1.00	1.25	1.30
	1-gallon can (4 X 1/case)	1.10	1.15	1.40	1.65

Prices Net Per Gallon. Prices based on 55-gallon drums (except where otherwise indicated.)

Add the following differentials for other container sizes:

5-gallon pail, $.20 per gallon - except #49, #70, #82BY and #746, add $.08 per gallon.

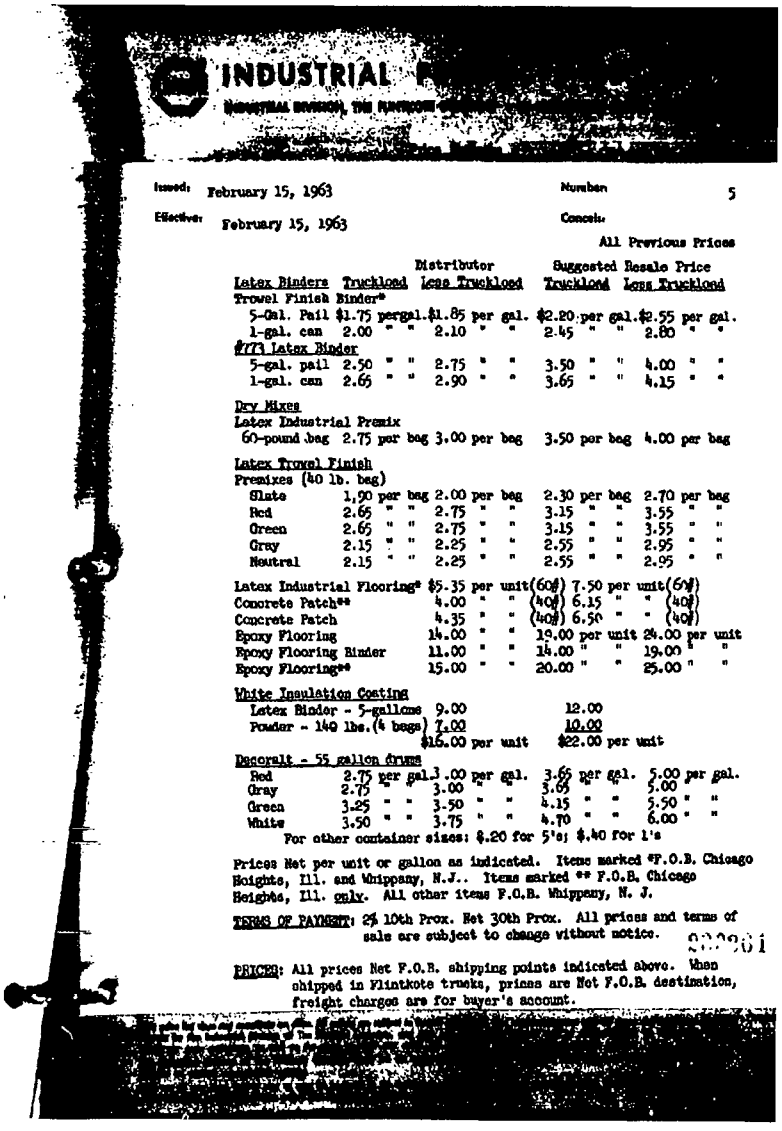
1-gallon can, $.40 per gallon, except #49, #70, #82BY and #746, add $.20 per gallon.

1-quart cans, $1.50 per gallon.

Note: (1) Items marked * F.O.B. Rutherford, N.J. & Chicago Heights, Ill.
(2) Items marked ** F.O.B. Philadelphia, Pa.
(3) Items marked *** F.O.B. Rutherford, N. J., Chicago Heights, Ill. and New Orleans, La.
(4) All other prices F.O.B. Wappeny, N. J.

TERMS OF PAYMENT: 2% 10th Prox. Net 30th Prox.
All prices and terms of sale are subject to change without notice.

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.



INDUSTRIAL [illegible]

INDUSTRIAL DIVISION, THE FLINTKOTE [illegible]

Issued: February 15, 1963 Number 5

Effective: February 15, 1963 Cancels:

All Previous Prices

	Distributor Truckload	Distributor Less Truckload	Suggested Resale Price Truckload	Suggested Resale Price Less Truckload
Latex Binders				
Trowel Finish Binder*				
5-Gal. Pail	$1.75 per gal.	$1.85 per gal.	$2.20 per gal.	$2.55 per gal.
1-gal. can	2.00 " "	2.10 " "	2.45 " "	2.80 " "
#773 Latex Binder				
5-gal. pail	2.50 " "	2.75 " "	3.50 " "	4.00 " "
1-gal. can	2.65 " "	2.90 " "	3.65 " "	4.15 " "
Dry Mixes				
Latex Industrial Premix				
60-pound bag	2.75 per bag	3.00 per bag	3.50 per bag	4.00 per bag
Latex Trowel Finish				
Premixes (40 lb. bag)				
Slate	1.90 per bag	2.00 per bag	2.30 per bag	2.70 per bag
Red	2.65 " "	2.75 " "	3.15 " "	3.55 " "
Green	2.65 " "	2.75 " "	3.15 " "	3.55 " "
Gray	2.15 " "	2.25 " "	2.55 " "	2.95 " "
Neutral	2.15 " "	2.25 " "	2.55 " "	2.95 " "
Latex Industrial Flooring*	$5.35 per unit (60#)		7.50 per unit (60#)	
Concrete Patch**	4.00 " " (40#)		6.15 " " (40#)	
Concrete Patch	4.35 " " (40#)		6.50 " " (40#)	
Epoxy Flooring	14.00 " "		19.00 per unit	24.00 per unit
Epoxy Flooring Binder	11.00 " "		14.00 " "	19.00 " "
Epoxy Flooring**	15.00 " "		20.00 " "	25.00 " "
White Insulation Coating				
Latex Binder - 5-gallons	9.00		12.00	
Powder - 140 lbs. (4 bags)	7.00		10.00	
	$16.00 per unit		$22.00 per unit	
Decoralt - 55 gallon drums				
Red	2.75 per gal.	3.00 per gal.	3.65 per gal.	5.00 per gal.
Gray	2.75 " "	3.00 " "	3.65 " "	5.00 " "
Green	3.25 " "	3.50 " "	4.15 " "	5.50 " "
White	3.50 " "	3.75 " "	4.70 " "	6.00 " "

For other container sizes: $.20 for 5's; $.40 for 1's

Prices Net per unit or gallon as indicated. Items marked *F.O.B. Chicago Heights, Ill. and Whippany, N.J.. Items marked ** F.O.B. Chicago Heights, Ill. only. All other items F.O.B. Whippany, N. J.

TERMS OF PAYMENT: 2% 10th Prox. Net 30th Prox. All prices and terms of sale are subject to change without notice.

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

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S 1642

'A TRADEMARK OF THE FLINTKOTE COMPANY

Issued: March 1, 1963

Number: 7

Effective: Immediately

Cancels:
Price Sheet #7
issued November 30,1962

YELLOW JACKET
(20 X 10 Mesh)

ROLL SIZE	PACKAGING	F.O.B. Our Plants & Whse (1)	Direct Shipments (2)
48" x 150'	Avg. Approx. Wgt./Carton - 119 lbs. /Roll - 8 lbs. Sq. Ft./Roll - 600 Sq. Yds./Roll - 66-2/3 Rolls/Carton - 12	Per Roll $12.40	 $11.40
36" x 150'	Avg. Approx.Wgt./Carton - 86 lbs. /Roll - 6 lbs. Sq. Ft./Roll - 450 Sq. yds./Roll - 50 Rolls/Carton - 12	Per Roll 9.65	 8.65
12" x 150'	3 - 12" Roll/Unit Avg. Approx. Wgt./Carton - 86 lbs. /36" unit -6 lbs. (3 - 12" Rolls) Sq. Ft./Rolls - 150 Sq. Yds./Roll - 16-2/3 Rolls/Carton - 36 - 12" Rolls	Per Unit 9.85	 8.95
6" x 150'	6 - 6" Rolls/Unit Avg. Approx. Wgt./Carton - 86 lbs. /36" Unit- 6 lbs. (6 - 6" Rolls) Sq. Ft./Roll - 75 Sq. Yds./Roll - 8-1/3 Rolls/Carton - 72 - 6" Rolls	Per Unit 10.05	 9.05

(1) Minimum quantity 50 sq. yds. (450 ft.)
(2) Minimum quantity 4 cartons. Each carton must contain only one size roll. Full freight will be allowed to any destination in area serviced by Industrial Products Division.

On shipments from our plants and warehouses, YELLOW JACKET may be included with other of our products for weight. Full freight to destination will be charged to the customer.

TERMS OF PAYMENT: 2% 10th Prox. - Net 30th Prox.
All prices and terms of sale are subject to change without notice.

222265

Flintkote

Dartmouth: 431-2900
Res. (203) 237-4338

THE FLINTKOTE COMPANY
INDUSTRIAL PRODUCTS
TAR-PAPER PRODUCTS

PAUL E. GALLMORE
SALES REPRESENTATIVE

SOMERSET PARK ROAD
WESTON, CONN.

Issued: April 25, 1966

Effective: April 25, 1966

All Previous Prices

Emulsions	Distributor Truckload	Distributor Less Truckload	Suggested Resale Price Truckload	Suggested Resale Price Less Truckload
C-13-HPC	$.39	$.44	$.50	$.78
C-13-E**	.41	.46	.53	.82
C-13-CA**	.41	.46	.53	.82
C-13-LA*	.41	.46	.53	.82
C-13-A**	.47	.52	.61	.94
Premix Mastic*	.60	.65	.72	1.00
Special Sanded Premix #5*	.60	.65	.72	1.00
#16 Underbody Coating*	.40	.45	.60	.85
#54 Insulation Coating**	.60	.65	.77	.95
C-13-AL**	2.00	2.25	2.75	3.00
Rexglas***	.57	.62	.75	.96

Prices Net Per Gallon. Prices based on 55-gallon drums (except Premix Mastic and Special Sanded Premix #5, which base price applies to 30-gallon drums.) Add the following differentials for other container sizes...30-gal. drum, $.05 per gal.; 5-gal. pail, $.06 per gal.; 1-gal. can, $.20 per gal. (30-gallon drums available from Rutherford, New Jersey only.)

NO ORDERS ACCEPTED FOR LESS THAN 250 GALLONS
EXCEPT PREMIX MASTIC AND SPECIAL SANDED PREMIX #5

Note: (1) Items marked * F.O.B. Rutherford, N. J. only.
(2) Items marked ** F.O.B. Rutherford, N.J. & Chicago Heights, Ill. only.
(3) Items marked *** F.O.B. Chicago Heights only.
(4) All Other items F.O.B. Rutherford, N. J., Chicago Heights, Ill. and in mixed truckload and truckload lots only, F.O.B. Detroit, Michigan.

Thermalkote	Truckload	Less Truckload	Truckload	Less Truckload
55 Gal. Drum (per gal)	.43	.48	.55	.61
5 Gal. Pail (per gal)	.51	.56	.64	.71

Add 5¢ per gallon for Winter Grade material.
Prices Net F.O.B. Rutherford, N. J. and Chicago Heights, Ill.

TERMS OF PAYMENT: 2% 10th Prox. - Net 30th Prox.
All prices and terms of sale are subject to change without notice.

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

510511

AIR CONDITIONING
COLD STORAGE
EQUIPMENT & PIPING INSULATION ACCESSORIES
INDUSTRIAL ADHESIVES
INDUSTRIAL FLOORINGS

Issued: April 25, 1966 — 2 Numbers

Effective: April 25, 1966 — All Omnibus Prices

Flooring Products	Distributor Truckload	Distributor Less Truckload	Suggested Resale Price Truckload	Suggested Resale Price Less Truckload
N-13-HPC	$.41	$.46	$.53	$.62
N-13-F	.50	.55	.65	1.00
#85**	.31	.36	.41	.62
#88***	.31	.36	.41	.62
Oil Resistant Floor Sealer*				
55-gallon drum	.55	.65	.90	1.15
5-gallon pail	.80	.90	1.15	1.40

Prices Net Per Gallon. Prices based on 55-gallon drums (except where indicated.)
Add the following differentials for other container sizes:
30-gallon drum, $.05 per gallon; 5-gallon pail, $.08 per gallon;
1-gallon can, $.20 per gallon.
(30-gallon drums available from Rutherford, N. J. only.)

NO ORDERS ACCEPTED FOR LESS THAN 250 GALLONS

Note (1) Items marked * F.O.B. Whippany, N. J. only.
(2) Items marked ** F.O.B. Rutherford, N. J. & Chicago Heights, Ill.
(3) Items marked *** F.O.B. Chicago Heights, Ill. only.
(4) All other prices F.O.B. Rutherford, N. J., Chicago Heights, Ill. and in mixed truckload and truckload lots only, F.O.B. Detroit, Michigan.

TERMS OF PAYMENT: 2% 10th Prox. - Net 30th Prox.
All prices and terms of sale are subject to change without notice.

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

510512

Issued: April 25, 1966
Effective: April 25, 1966

Number: 3
All Previous Prices Cancels

Cutbacks	Distributor Truckload	Distributor Less Truckload	Suggested Resale Price Truckload	Suggested Resale Price Less Truckload
Asphalt Primer (#269)	.35	.40	.45	.70
Asphalt Primer (#6800)	.35	.40	.45	.70
Cutback Dampproofing #211	.35	.40	.45	.70
#267	.40	.45	.55	.80
Seal Mastic #214	.37	.42	.50	.74
Trowel Mastic (#201) (#232)	.42	.47	.55	.84
#224 Cutback Adhesive	.42	.47	.55	.84
#202 Cutback Adhesive	.60	.65	.80	1.20
C-19(Vapor Barrier Coating)	.50	.55	.70	1.00
#252 Binderseal*	.70	.75	.90	1.35
#213 Underbody Coating	.45	.50	.65	.90
#227 Underbody Coating	.70	.75	.90	1.25
#69 Insulation Coating	.60	.65	.77	.95
#265 Pipe Coating*	.50	.55	.60	.90
Aluminum Paint	2.25	2.35	2.90	3.50
Flintdek*				
5-gallon pail:	$3.50		4.05	6.25
1-gallon can: (4 x 1/case)	3.65		4.20	6.40

Prices Net Per Gallon. Prices based on 55-gallon drum (except where indicated.) Add the following differentials for other container sizes:
30-gallon drum, $.05 per gallon; 5-gallon pail, $.08 per gallon; 1-gallon can, $.20 per gallon (30-gallon drums available from Rutherford only.)

NO ORDERS ACCEPTED FOR LESS THAN 250 GALLONS EXCEPT FLINTDEK (which is sold in 5-gallon pails and 4 x 1 gallon cases minimum orders.)

Note: Items marked *F.O.B. Rutherford, N. J. only. All other prices F.O.B. Rutherford, N. J. and Chicago Heights, Ill.

TERMS OF PAYMENT: 2% 10th Prox. Net 30th Prox.
All prices and terms of sale are subject to change without notice.

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

510513

Issued: April 25, 1966 Number 4

Effective: April 25, 1966 Supersedes previous price

Adhesives	DISTRIBUTOR Truckload	DISTRIBUTOR Less Truckload	SUGGESTED RESALE PRICE Truckload	SUGGESTED RESALE PRICE Less Truckload
#49 Adhesive*	$.39	$.44	$.55	$.85
#70 Adhesive**	.36	.41	.50	.75
#82BY Adhesive*	.41	.46	.58	.90
#746 Adhesive***	1.25	1.35	1.60	1.95
#747 Adhesive	1.35	1.45	1.80	2.25
#749 Adhesive	1.35	1.45	1.80	2.25
#974	3.25	3.50	4.00	5.00
#979 5-gallon pail	3.95	4.20	5.60	6.25
1-gallon can	4.15	4.40	5.80	6.45
#979-A 5-gallon pail	2.95	3.20	4.00	4.75
1-gallon can	3.15	3.40	4.20	4.95
#75** 5-gallon pail	1.10	1.35	1.40	1.45
1-gallon can	1.35	1.40	1.65	1.70
#200A** 5-gallon pail	.95	1.00	1.25	1.50
1-gallon can (4 x 1/case)	1.10	1.15	1.40	1.65

Prices Net Per Gallon. Prices based on 55-gallon drums (except where otherwise indicated.)

Add the following differentials for other container sizes:

5-gallon pail, $.20 per gallon - except #49, #70, #82BY and #746, add $.08 per gallon.

1-gallon can, $.40 per gallon, except #49, #70, #82BY and #746, add $.20 per gallon.

1-quart cans, $1.50 per gallon.

Note: (1) Items marked * F.O.B. Rutherford, N.J. & Chicago Heights, Ill.
(2) Items marked ** F.O.B. Philadelphia, Pa.
(3) Items marked *** F.O.B. Rutherford, N. J., Chicago Heights, Ill. and New Orleans, La.
(4) All other prices F.O.B. Whippany, N. J.

TERMS OF PAYMENT: 2% 10th Prox. Net 30th Prox.
All prices and terms of sale are subject to change without notice.

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

510514

AIR CONDITIONING COLD STORAGE INSULATION ACCESSORIES INDUSTRIAL FLOORINGS

Issued: April 25, 1966 — 4A Number

Effective: April 25, 1966 — Previous Prices Cancelled

DISTRIBUTOR PRICE LIST
INSULATION SPECIALTIES

	Carload/Truckload Per Gallon			Less Carload/Less Truckload Per Gallon		
	55 Gal. Drums	5 Gal. Pail	1 Gal. Can	55 Gal. Drum	5 Gal. Pail	1 Gal. Can
Lagging Adhesive (Type I) Standard	$2.05	$2.15	$2.30	$2.15	$2.25	$2.40
Lagging Adhesive (Type II) Fire Resistive	2.40	2.50	2.65	2.50	2.60	2.75
Lagging Coating	2.30	2.40	2.55	2.40	2.50	2.65
Colorcoat	3.40	3.50	3.65	3.60	3.70	3.85
#231 Adhesive	3.70	3.80	3.95	3.90	4.00	4.15
#R-11 Adhesive	3.30	3.40	3.55	3.50	3.60	3.75
#716 Adhesive						
F.O.B. Whippany, N.J.	1.60	1.65	1.85	1.75	1.85	2.05
F.O.B. Chicago Hghts., Ill. & New Orleans, La.	1.80	1.85	2.05	1.95	2.05	2.25
#717 Adhesive						
F.O.B. Whippany, N.J.	1.40	1.55	1.80	1.55	1.70	1.95
F.O.B. Chicago Hghts., Ill. & New Orleans, La.	1.60	1.75	2.00	1.75	1.90	2.15
#718 Adhesive						
F.O.B. Whippany, N.J.	3.65	3.70	3.90	4.00	4.10	4.30
F.O.B. Chicago Hghts., Ill. & New Orleans, La.	3.85	3.90	4.10	4.20	4.30	4.50
FR-200 S/T						
F.O.B. New Orleans, La.	2.50	2.60	2.70	2.60	2.70	2.80
FR-100						
F.O.B. Philadelphia, Pa.	3.40	3.50	3.65	3.50	3.60	3.75

Above prices are net per gallon.
1 gallon cans packaged 4 x 1 carton only.

Prices indicated F.O.B. Chicago Heights, Ill. and New Orleans, La. are subject to stocks available.

TERMS OF PAYMENT: 2% 10th Prox. Net 30th Prox. All prices and terms of sale are subject to change without notice.

PRICES: All prices are Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges for buyer's account.

510515

Issued: April 25, 1966 Number 5

Effective: April 25, 1966 Cash All Previous Prices

	Distributor		Suggested Resale Price	
Latex Binders	Truckload	Less Truckload	Truckload	Less Truckload
Trowel Finish Binder*				
5-Gal. Pail	$1.75 per gal.	$1.85 per gal.	$2.20 per gal.	$2.55 per gal.
1-Gal. can	2.00 " "	2.10 " "	2.45 " "	2.80 " "
#773 Latex Binder				
5-Gal. pail	2.50 " "	2.75 " "	3.50 " "	4.00 " "
1-Gal. can	2.65 " "	2.90 " "	3.65 " "	4.15 " "
Dry Mixes				
Latex Industrial Premix				
60-pound bag	2.75 per bag	3.00 per bag	3.50 per bag	4.00 per bag
Latex Trowel Finish				
Premixes (40 lb. bag)				
Slate	1.90 per bag	2.00 per bag	2.30 per bag	2.70 per bag
Gray	2.15 " "	2.25 " "	2.55 " "	2.95 " "
Latex Industrial Flooring*		5.35 per unit (60#)	7.50 per unit (60#)	
Concrete Patch**		4.00 " " (40#)	6.15 " " (40#)	
Concrete Patch		4.35 " " (40#)	6.50 " " (40#)	
Epoxy Flooring		14.00 " "	19.00 " "	24.00 per unit
Epoxy Flooring Binder		11.00 " "	14.00 " "	19.00 " "
Epoxy Flooring **		15.00 " "	20.00 " "	25.00 " "
Insulation Adhesive				
(Morter type) 40# Bag		1.15 Bag	1.50 Bag	
White Insulation Coating				
Latex Binder - 5-gallons		9.00	12.00	
Powder - 140 lbs.(4 bags)		7.00	10.00	
		$16.00 per unit	$22.00 per unit	
Decorelt - 55 gallon drums				
Red	2.75 per gal.	3.00 per gal.	3.65 per gal.	5.00 per gal.
Gray	2.75 " "	3.00 " "	3.65 " "	5.00 " "
Green	3.25 " "	3.50 " "	4.35 " "	5.50 " "
White	3.50 " "	3.75 " "	4.70 " "	6.00 " "

For other container sizes: $.20 for 5's; $.40 for 1's

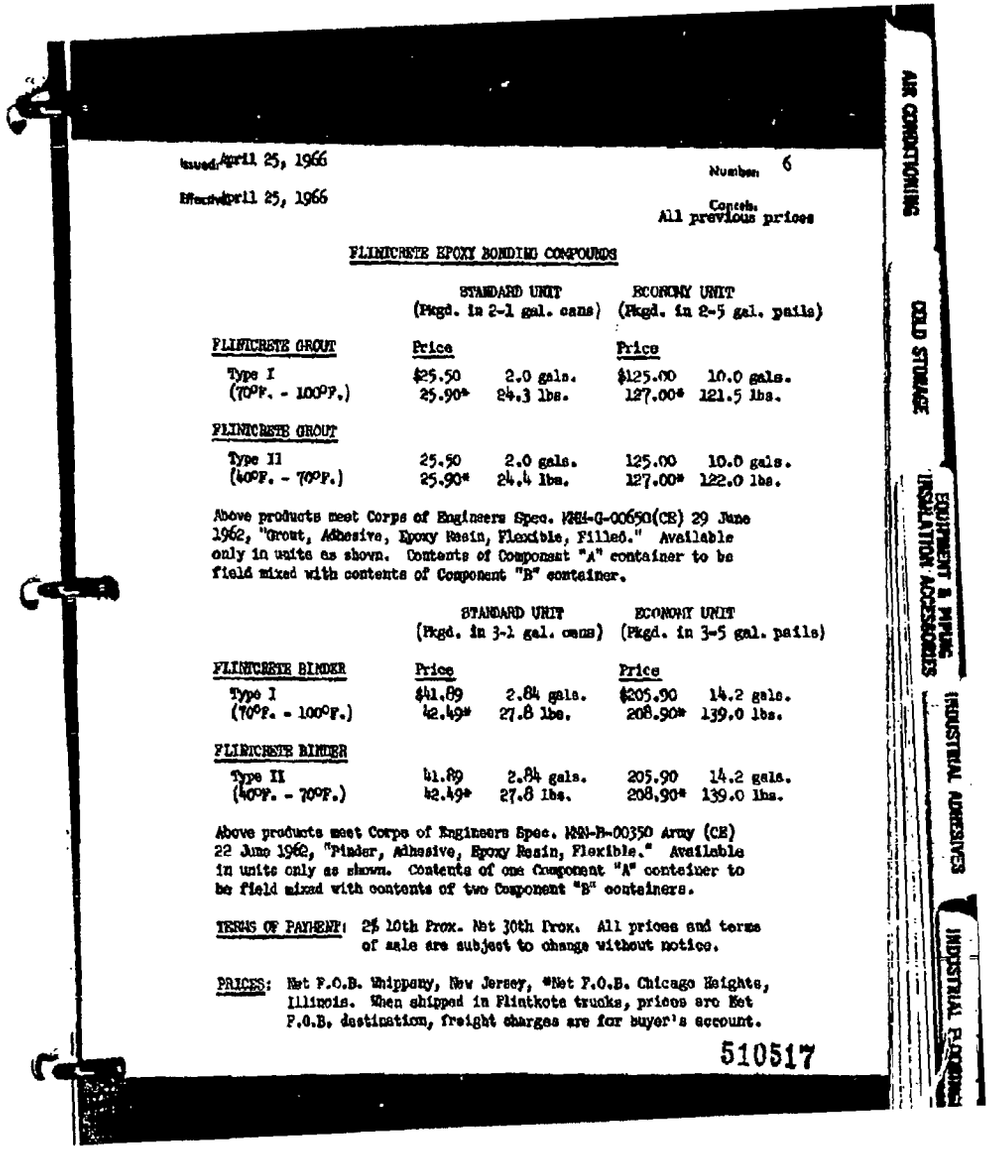
Prices Net per unit or gallon as indicated. Items marked *F.O.B. Chicago Heights, Ill. and Whippany, N.J. Items marked ** F.O.B. Chicago Heights, Ill. only. All other items F.O.B. Whippany, N. J.

TERMS OF PAYMENT: 2% 10th Prox. Net 30th Prox. All prices and terms of sale are subject to change without notice.

PRICES: All prices Net F.O.B. shipping points indicated above. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

510516

AIR CONDITIONING COLD STORAGE INSULATION ACCESSORIES INDUSTRIAL FLOORING



Issued April 25, 1966 Number 6

Effective April 25, 1966 Cancels All previous prices

AIR CONDITIONING
COLD STORAGE
EQUIPMENT & PIPING INSULATION ACCESSORIES
INDUSTRIAL ADHESIVES
INDUSTRIAL FLOORING

FLINTCRETE EPOXY BONDING COMPOUNDS

	STANDARD UNIT (Pkgd. in 2-1 gal. cans)		ECONOMY UNIT (Pkgd. in 2-5 gal. pails)	
FLINTCRETE GROUT	Price		Price	
Type I (70°F. - 100°F.)	$25.50	2.0 gals.	$125.00	10.0 gals.
	25.90*	24.3 lbs.	127.00*	121.5 lbs.
FLINTCRETE GROUT				
Type II (40°F. - 70°F.)	25.50	2.0 gals.	125.00	10.0 gals.
	25.90*	24.4 lbs.	127.00*	122.0 lbs.

Above products meet Corps of Engineers Spec. NAN-G-00650(CE) 29 June 1962, "Grout, Adhesive, Epoxy Resin, Flexible, Filled." Available only in units as shown. Contents of Component "A" container to be field mixed with contents of Component "B" container.

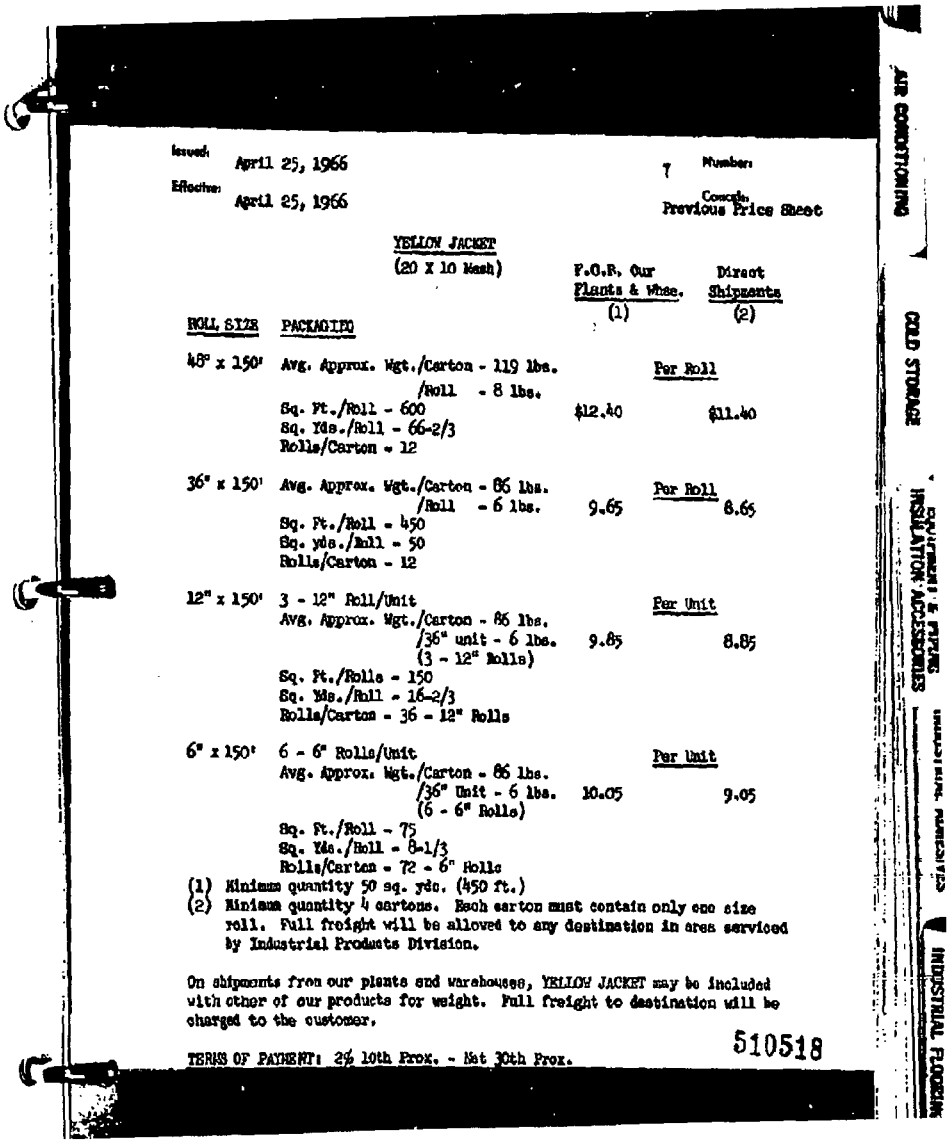
	STANDARD UNIT (Pkgd. in 3-1 gal. cans)		ECONOMY UNIT (Pkgd. in 3-5 gal. pails)	
FLINTCRETE BINDER	Price		Price	
Type I (70°F. - 100°F.)	$41.89	2.84 gals.	$205.90	14.2 gals.
	42.49*	27.8 lbs.	208.90*	139.0 lbs.
FLINTCRETE BINDER				
Type II (40°F. - 70°F.)	41.89	2.84 gals.	205.90	14.2 gals.
	42.49*	27.8 lbs.	208.90*	139.0 lbs.

Above products meet Corps of Engineers Spec. NAN-B-00350 Army (CE) 22 June 1962, "Binder, Adhesive, Epoxy Resin, Flexible." Available in units only as shown. Contents of one Component "A" container to be field mixed with contents of two Component "B" containers.

TERMS OF PAYMENT: 2% 10th Prox. Net 30th Prox. All prices and terms of sale are subject to change without notice.

PRICES: Net F.O.B. Whippany, New Jersey, *Net F.O.B. Chicago Heights, Illinois. When shipped in Flintkote trucks, prices are Net F.O.B. destination, freight charges are for buyer's account.

510517



Issued: April 25, 1966 — Number: 7

Effective: April 25, 1966 — Cancels: Previous Price Sheet

YELLOW JACKET
(20 X 10 Mesh)

ROLL SIZE	PACKAGED	F.O.B. Our Plants & Whse. (1)	Direct Shipments (2)
48" x 150'	Avg. Approx. Wgt./Carton - 119 lbs. /Roll - 8 lbs. Sq. Ft./Roll - 600 Sq. Yds./Roll - 66-2/3 Rolls/Carton - 12	$12.40	Per Roll $11.40
36" x 150'	Avg. Approx. Wgt./Carton - 86 lbs. /Roll - 6 lbs. Sq. Ft./Roll - 450 Sq. yds./Roll - 50 Rolls/Carton - 12	9.65	Per Roll 8.65
12" x 150'	3 - 12" Roll/Unit Avg. Approx. Wgt./Carton - 86 lbs. /36" unit - 6 lbs. (3 - 12" Rolls) Sq. Ft./Rolls - 150 Sq. Yds./Roll - 16-2/3 Rolls/Carton - 36 - 12" Rolls	9.85	Per Unit 8.85
6" x 150'	6 - 6" Rolls/Unit Avg. Approx. Wgt./Carton - 86 lbs. /36" Unit - 6 lbs. (6 - 6" Rolls) Sq. Ft./Roll - 75 Sq. Yds./Roll - 8-1/3 Rolls/Carton - 72 - 6" Rolls	10.05	Per Unit 9.05

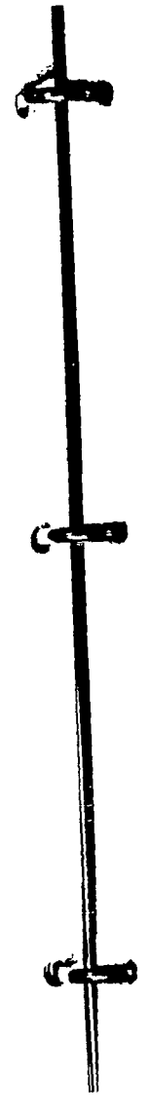
(1) Minimum quantity 50 sq. yds. (450 ft.)
(2) Minimum quantity 4 cartons. Each carton must contain only one size roll. Full freight will be allowed to any destination in area serviced by Industrial Products Division.

On shipments from our plants and warehouses, YELLOW JACKET may be included with other of our products for weight. Full freight to destination will be charged to the customer.

TERMS OF PAYMENT: 2% 10th Prox. - Net 30th Prox.

510518

AIR CONDITIONING | COLD STORAGE | EQUIPMENT & PIPING | INSULATION ACCESSORIES | INDUSTRIAL FLOORING



AIR CONDITIONING

Product	Data Sheet	Applicable Specification	Description
No. 716	294		Clear rubber cement for bonding insulation to duct surfaces.
No. 717	289		Reddish brown rubber cement for adhering air conditioning duct liners.
No. 718	295		Fire resistive clear rubber cement.
Atlas Insulation Adhesives	292		Heavy bodied resin adhesives for erecting rigid insulations. High initial strength eliminates need for shoring.
No. 974	290		High strength neoprene adhesive for bonding and joint cementing flexible foamed pipe insulation.
Lagging Adhesives Std. and FR.	293	MIL-A-3316-A Type II	Standard and Fire resistive grades of resin latex adhesives for insulation laggings.
Lagging Coating	288	MIL-A-3316-A Type I	Fire resistive heavy bodied adhesive and coating for insulation. Provides clean, damage free surface.
Colorcoat	296		Pigmented heavy bodied fire resistive coating for decorative finishes.

510519

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 289
ISSUE 64-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE NO. 717

General purpose rubber and resin solvent cement - used for bonding insulation duct liners to air conditioning ducts - also a wide variety of lightweight materials to metal, wood, masonry, glass, rubber and many plastics.

GENERAL

Flintkote No. 717 is a versatile reddish brown reclaim rubber-resin solvent vehicle adhesive which provides excellent bonding properties for a variety of light weight combining operations. It is rapid drying and is easily applied by spray, brush or roll coater. It stores satisfactorily without deterioration or harm from freezing temperatures.

This rubber base adhesive is fortified with resins to provide increased strength and relatively flexible bonds having good resistance to impact, heat and water.

Flintkote No. 717 is widely used by the air conditioning and sheet metal trades to adhere insulation duct liners to metal duct work. The strong flexible bond which it develops permits the application of insulation to flat metal sheets before forming into ducts for maximum economy of fabrication. It is also used to bond deadening felts to metal surfaces of appliance and equipment cabinets as well as many other manufacturing operations where unlike materials must be bonded firmly and quickly without costly techniques and equipment.

The nature of the surfaces involved in the combining operation governs the best method of application and rate of coverage, also whether the adhesive is to be applied to only one or to both surfaces.

Exercise caution for flammability and use in well ventilated areas.

CHARACTERISTICS

Application:
Brush. Surfaces must be clean and dry, free from oil and grease.

Application Temperature:
Apply at room temperature if possible. Satisfactory working range from about 45°F. and up. Avoid high temperatures because of flammability.

Viscosity - Dilution:
About 300 cps. (Brookfield 77°F). Medium paste consistency. Recommended for use without dilution. If necessary for workability, use small amount of textile spirits or benzene and allow for slower drying rate.

Coverage:
Depends on surfaces to be bonded. Usually about 1 gallon is required per 150 to 200 sq. ft. of coated surface.

Working period:
Combine while surfaces are tacky - usually in about 10 to 25 minutes after application.

Color dried film:
Reddish brown.

CAUTION:
Flammable mixture. Do not use near open flame. Store away from heat and provide adequate ventilation during use.

Storage stability:
Rotate inventory of adhesive so that product is used as soon as possible after receipt. Stock on "First Out" basis. Store in cool place whenever possible. For best results this product is recommended for use within six months.

Net Weight per Gallon:
Approximately 6.7 pounds.

Containers:
55 gallons, 5 gallons, 1 gallon.

510520

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 290
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE NO. 974 ADHESIVE

A multi-purpose, synthetic rubber-resin solvent cement for use with a wide range of materials, including those having impervious surfaces. Develops high ultimate strength with flexibility of film.

Flintkote No. 974 is a Neoprene base solvent cement suitable for application by brush, roll coater or spreader bar. It has a good initial grab and can be used successfully to eliminate sewing and stapling in many combining operations. It dries to a flexible film which is neutral in color and semi-transparent.

This adhesive has good aging characteristics and also has a high degree of oil resistance, but it is not strictly an oilproof type. Flintkote No. 974 is suitable for bonding many types of materials such as steel, rubber, wood, leather, fabric, Bakelite, etc., to themselves or each other. It is not recommended for bonding vinyl materials containing migrating plasticizers.

Flintkote No. 974 is an air curing type of cement, requiring no accelerator addition by the user. It has good storage stability in the container and excellent heat resistance of the adhesive film up to 250°F.

Methods of Combining

In the use of Flintkote No. 974, three possible methods of combining are suggested: Cold Bonding, Hot Bonding and Solvent Reactivation Bonding. The choice will depend upon the materials to be combined and handling conditions determined by production requirements. For especially porous materials, it may be advisable to apply more than one coat per surface to obtain sufficient cement at the glue line.

Cold Bonding

Flintkote No. 974 is applied to each of the surfaces to be joined and allowed to dry 5 to 20 minutes, depending upon atmospheric conditions. When the film is aggressively tacky, the surfaces are joined and hand or mechanical pressure is applied.

Hot Bonding

Flintkote No. 974 is applied to each of the surfaces to be joined and allowed to dry until substantially tack free. A forced drying system may be employed to hasten solvent release. The two surfaces are then brought together in suitable equipment, the temperature at the adhesive line raised to about 250°F. for 30 seconds under an applied pressure of about 200 lbs. per sq. in.

Solvent Reactivation Bonding

A method used principally when delayed bonding is a factor in operations. Flintkote No. 974 is applied to each of the surfaces to be joined and allowed to dry thoroughly, either normally by air or by force drying. Later, when the surfaces are to be bonded, they are wiped with Solvenzo No. 1 and immediately combined.

Flintkote No. 974 is to be applied only on surfaces that are dry, clean and free from dirt, grease, rust, loose paint and other foreign matter. This product is flammable; keep away from flames and apply in well ventilated areas. For best results apply at temperatures above 50°F.

(Over)

510521

NOTICE. The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is not under our control, we do not guarantee the results to be obtained.

CHARACTERISTICS OF FLINTKOTE NO. 974 ADHESIVE

Application: Brush, roll coater, spreader bar.

Dilution: Recommended for use without dilution. However, if necessary, use toluol in small amounts and stir well.

Coverage: Approximately 200 to 300 sq. ft. per surface per coat depending on nature of surfaces.

Application Conditions: Surfaces should be clean and dry. Roughen to improve adhesion. Use at room temperature whenever possible.

Viscosity: About 1,350 cps. (Brookfield, 77°F.); syrup consistency.

Color Dried Film: Semi-transparent, light tan.

Finished Properties: Very durable over wide range of atmospheric temperatures and conditions. Good resistance to water and to lower solvents such as V.M. & P. Naphtha, mineral spirits etc. Poor resistance to higher solvents such as ketones and esters.

Special Precautions: Flammable while wet. Keep away from flame. Avoid breathing fumes. Store below 80°F.

Storage Stability: Rotate inventory of adhesive so that product is used on "first in—first out" basis. Store in cool place wherever practicable. For best results, this product is recommended for use within 6 months.

Net Weight Per Gallon: About 7.4 pounds.

Container Sizes: 55 gallons, 5 gallons, 1 gallon.

ADHESIVE STRENGTH – Tested in shear with Scott Tensile Tester at 1 ft./min.*

*Results are average of 5 tests.

VALUES IN LBS./SQ. IN.	(1) COLD BONDING	(2) HOT BONDING	(3) SOLVENT REACTIVATION BONDING
Plywood to Steel	305	619	123
Canvas to Plywood	235	235	Canvas failed
Rubber matting to Steel	227	–	150
Steel to Steel	–	1,000	57
Aluminum to Aluminum	–	889	113
Bakelite Board to same	–	457	80
Plywood to Plywood	510	–	–

(1) Both surfaces brush coated, allowed to dry 15 mi. at room temp. Bond dried 24 hours before testing.

(2) Brush coated, dried 24 hrs. at room temp. Bonded at 250°F. temp. at 200 p.s.i. for 2 min. Cooled and tested immediately.

(3) Brush coated, dried 24 hours at room temp. Film reactivated with Solvesso No. 1 and air dried 24 hours before testing.

510522

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 292
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

ATLAS INSULATION ADHESIVES

Solvent type, waterproof, resin base compounds for fastening light and medium weight insulation. Available in putty knife, trowel and brush consistencies.

PRODUCT DESIGNATIONS:
No. 16 - Putty Knife Consistency
No. 75 - Trowel Consistency
No. 20 - Brush Consistency

GENERAL

Atlas Insulation Adhesives are especially prepared for fastening such insulation materials as fibrous glass and cork boards up to 2 inches thick without need for shoring or banding. These adhesives have strong, immediate bond.

Atlas Insulation Adhesives are applied with notched spreader to the back surface of the insulation or, in some cases, brushed on the base surface. The insulation is then pressed firmly into position without flexing the base in case it is thin metal.

All surfaces must be dry, clean and free from oil, grease and dust.

CHARACTERISTICS

Type:
Waterproof, resin-base adhesive.

Consistency:
Short and buttery.

Coverage:
Depends on nature of surfaces.

Color:
Tan

Odor:
Mild

Flammability - Wet:
Combustible - use red label.

Working Period:
15 to 20 minutes.

Drying Time:
Approximately 24 hours-sets hard but not brittle.

Service Temperature:
Up to 140°F. after adhesive has gained its set

Water Resistance:
Good

Method of Application:
Spreader or trowel.

Alkali Resistance:
Resistant to soap and mild cleaning compounds but not strong alkalies.

Weight Per Gallon:
11 pounds.

Container Sizes:
5 gallons, 1 gallon.

510523

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 293
ISSUE A-61

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 350 GENERAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE LAGGING ADHESIVE

A white latex adhesive for bonding various laggings to insulation. Available in standard and fire resistive grades.

FIRE RESISTIVE GRADE COMPLIES WITH MIL-A-3316 TYPE II
MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 00126 (COM-NBS).

GENERAL

Flintkote Lagging Adhesive is a white compounded latex adhesive of medium paint consistency suitable for adhering lagging fabrics and papers to pipe insulations. Its quick setting properties allow rapid installations with a wide variety of materials. Since Flintkote Lagging Adhesive is a water vehicle compound, clean-up is easily accomplished with clean water before the adhesive dries.

RECOMMENDED USES

Plant installations where cleanliness is essential, such as breweries, food processing plants, dairies and dairy products plants, also, steam generating and utilities installations require an adhesive and coating such as Flintkote Lagging Adhesive. The dried coating can be washed to remove grease, oil and dirt accumulations and can also be used as a sizing base for further painting.

Lagging adhesive is used extensively for adhering cotton fabrics, canvas, asbestos, glass fabrics and other coverings over pipe insulation. The permanent, non-yellowing white coating makes a smooth, jointless finish which is easy to keep clean with a minimum of maintenance.

Application can be made directly by brush or spray, or by dipping the lagging fabric in the adhesive prior to installation on the insulation. One or more coats applied over the adhered membrane makes an excellent base for further painting or can be left as a finished white coating.

Flintkote Lagging Adhesive is non-toxic and non-flammable when wet. See table below for fire resistive properties of dried film. Do not apply at temperatures below 40° F.

PHYSICAL PROPERTIES OF FLINTKOTE LAGGING ADHESIVE

Type	Standard	Fire Resistive
Color	White	White
Volatile Vehicle	Water	Water
Consistency	Medium Paint	Medium Paint
% Solids	55%	38%
Weight per gallon	10.6	9.5
Average Coverage Sq. Ft./Gal.	100	80
Drying Time + 77° F		
Bonding Time	0 - 10 Minutes	0 - 10 Minutes
Thorough Dry	3 - 4 Hours	3 - 4 Hours
Service Temperature	-50°F/175°F	-50°F/175°F
Application	Brush, Dip, Spray	Brush, Dip, Spray
Flammability		
Wet Film	Non-flammable	Non-flammable
Dry Film	Burns	Fire Resistive (Meets fire resistance requirements of MIL-A-3316A, Type II
Clean-up		
Wet Film	Water	Water
Dried Film	Toluene or Xylene	Toluene or Xylene
Container Sizes	1, 5, 55 gallons	(3 gal. Special Order)

510524

NOTICE. The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since surfaces is beyond our control, we do not guarantee the results to be obtained.

COLD STORAGE
INSULATION ACCESSORIES
INDUSTRIAL PRODUCTS

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 294
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE NO. 716

General purpose rubber cement - dried film is clear - used for bonding insulation to air conditioning ducts - also bonds wide variety of light weight materials.

GENERAL.

Flintkote No. 716 is a brush consistency synthetic rubber cement which is amber in the wet state but dries to a clear translucent film. It provides excellent bonding properties for a wide variety of light weight materials. It is rapid drying for fast combining operations and retains a strong surface tack for delayed bonding.

The bond is clear, permanently flexible, water resistant and has excellent aging properties. Flintkote No. 716 is water resistant and is sufficiently strong to hold even heavy insulation without mechanical fasteners.

Flintkote No. 716 is particularly recommended for the air conditioning and sheet metal trades to bond insulation duct liners to metal duct work. The strong flexible bond permits application of the insulation to flat metal sheets before forming into ducts. No. 716 can also be used for bonding insulation sheets and blankets to the exterior of duct work.

The nature of the surfaces involved in the combining operation governs the best method of application and rate of coverage, also whether the adhesive is to be applied to one or both surfaces.

Exercise caution for flammability and use in well ventilated areas.

PHYSICAL PROPERTIES.

Base -	Synthetic Rubber.
Solids -	20% approx.
Color -	Amber; dries clear
Weight/gallon -	6.2# approx.
Consistency -	Medium brush or spray
Application -	Brush, roller, or spray. Surfaces must be clean and dry, free from oil and grease.
Coverage -	Brush: approx. 200 sq. ft. per gal. Roller: approx. 250 sq. ft. per gal.
Working Period -	Combine while surfaces are tacky. Develops suction bond in 10 - 15 seconds - retains surface tack for periods up to one hour.
Application Temperature -	Apply at room temperature if possible. Satisfactory working range from 45°F and up. Avoid high temperatures because of flammability.
Service temperature -	20°F to 180°F.
Dilution -	Recommended for use without dilution. If necessary for workability, use small amount of low boiling naphtha such as textile spirits or white gasoline.
Caution -	Flammable mixture. Do not use near open flame. Store away from heat and provide adequate ventilation during use.
Storage Stability -	Rotate inventory of adhesive so that product is used as soon as possible after receipt. Stock on "first in-first out" basis. For best results this product is recommended for use within six months.

CONTAINERS.

55-gallon, 5-gallon, 1-gallon.

510525

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 295
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE NO. 718

Fire resistive rubber cement - dried film is clear - used for bonding insulation to air conditioning ducts where maximum fire resistance is required.

MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 00136 (COM-NBS).

GENERAL

Flintkote No. 718 is a brush consistency synthetic rubber cement which is light tan colored *in the wet state but dries* to a light translucent film. The adhesive is non-flammable in the wet state and the dried film is highly fire resistive. It provides excellent bonding for a wide variety of light weight materials. Flintkote No. 718 is fast drying and will develop a suction bond in a very short time, sufficient to hold most sections in place until adhesive dries. It maintains a surface tack for periods of up to one hour.

Flintkote No. 718 is recommended for the air conditioning and sheet metal trades to bond insulation duct liners to metal duct work. The fire resistive dried film provides the maximum protection against flame propagation in finished duct assemblies.

Due to the presence of chlorinated solvents, Flintkote No. 718 should be used in open or well ventilated areas.

PHYSICAL PROPERTIES.

Base -	Synthetic Rubber.
Solvent -	Chlorinated Solvent.
Solids -	32% approx.
Color -	Light tan - dries translucent.
Weight per gal.	11.5 # approx.
Consistency -	Medium brush.
Application -	Brush or roller. Surfaces must be clean and dry, free from oil and grease.
Coverage -	brush: 150 - 200 sq. ft. per gal. roller: 200 - 250 sq. ft. per gal.
Working period -	Combine while surfaces are tacky. Develops suction bond in a few minutes - retains surface tack for periods up to one hour.
Application -	Apply at room temperature if possible.
Temperatures -	Avoid high temperatures because of chlorinated solvent vapors.
Service temperatures -	Minus 20°F to 200°F.
Dilution and Clean Up -	Recommended for use without dilution. For clean up use Trichloroethane or Toluene *(If no fire hazard present).*

CAUTION.

Use in well ventilated areas. Avoid prolonged or repeated contact with skin.

510526

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

COLD STORAGE
INSULATION ACCESSORIES
INDUSTRIAL

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 296
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE COLORCOAT

Decorative and Protective Coating for Thermal Insulation lagging fabrics and asphalt weathercoats.

MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH DITERM FEDERAL STD. NO. 601(6 (COM-NBS).

Flintkote Colorcoat is a durable yet flexible protective coating for thermal insulations. The dried film is fire resistant and provides a highly decorative finish which resists dirt, oils, grease and many corrosive chemicals. It can be used as an adhesive for cementing lightweight lagging fabrics or as a finish coating over laggings which previously have been installed with a conventional lagging adhesive.

Colorcoat is supplied in a ready-to-use brush consistency for maximum ease in application. Since it is a synthetic resin latex composition, only water is needed for clean up of brushes and equipment and spills may be removed, before drying, with a dampened cloth.

Flintkote Colorcoat may also be used as a finish over most asphalt weathercoats after they are thoroughly dried (note; cutback type mastic coatings require drying periods of up to 30-60 days before applying colorcoat.)

PHYSICAL PROPERTIES

Consistency	Brushing	Service Temperature	-50 - 180°F
Wgt. Per Gallon	10.5 - 11.0	Solvent for clean up	Water
Solids % by wgt.	48.0 - 51.0	Permeability	3.0 perms
Drying Time		Flammability	
Banding Time	0 - 15 mins.	Wet	Non Flammable
Touch	1 Hour	Dry	Fire Resistive
Through	4 Hours		

APPLICATION NOTES:

1. *Apply only to clean surfaces.*
2. Do not apply at temperatures below 40°F.
3. Condition brushes by soaking in clean water before applying Colorcoat.
4. Insulating cements and mastic coatings should be thoroughly dry before applying Colorcoat.
5. Coverage will vary according to surface and use conditions.

A. 50-60 sq. ft. per gallon over insulation without membrane.

B. 80-100 sq. ft. over lagging fabrics and membranes.

C. 100-125 sq. ft. over non-absorptive surfaces such as mastic weathercoat.

COLORS: White is standard, other colors available on special order.

CAUTION: Flintkote Colorcoat is a water vehicle material, - Keep From Freezing.

CONTAINERS: 55 gallon, 5 Gallon, 1 Gallon

* 6 per case.

510527

PRINTED IN U.S.A.

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NUMBER 298
ISSUE 62-A

FLINTKOTE
INDUSTRIAL PRODUCTS

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.



FLINTKOTE LAGGING COATING

A Light Colored Heavy Bodied Coating For Thermal Insulation

MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 00136 (COM-NBS).

Flintkote Lagging Coating is a heavy bodied latex coating formulated to produce a tough puncture resistant white protective finish on thermal insulation. The dried film is fire resistive and when combined with lagging fabric produces a surfacing with excellent resistance to physical damage.

Lagging Coating may be used with or without fabric, as an adhesive or coating, has good resistance to oils and greases, and may be washed to remove accumulated dirt. It also serves as an excellent base for further decorative finishes such as paints or Flintkote Colorcoat.

PHYSICAL PROPERTIES

Type	Synthetic Resin Latex
Color	White
Vehicle	Water
Consistency	Heavy Brush
% Solids	50%
Weight per gallon, lbs.	10.6
Coverage	40-100 sq. ft./gallon
Drying Time Touch Through	 2 hours 12 hours
Service Temperature	0 - 180°F.
Application	brush, spray, roller coat.
Flammability Wet Dry	 non-flammable fire-resistive
Vapor Permeability	1.0
Clean-up wet film dried film	 water Toluene or Xylene
Precautions	Keep from freezing in storage. Do not apply at temperatures below 40°F. and protect from freezing temperatures until dry.
Container Sizes	1, 5, 55 gallons.

510528

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

COLD STORAGE
INSULATION ACCESSORIES



COLD STORAGE

ADHESIVES

Product	Data Sheet	Applicable Specification	Description
No. 70	283		Heavy bodied chemical asphalt emulsion for bonding vapor barrier membranes and light weight insulations.
Asphalt Emulsions	281		Mineral colloid asphalt emulsion adhesives for erecting insulations on porous substrates.
No. 746	285		High solids rubber-asphalt emulsion adhesive for bonding vapor barriers and erecting insulations.
Lagging Adhesives Std. and FR.	293	MIL-A-3316-A Type II	Standard and fire resistive grades of resin latex adhesives for insulation laggings

FINISHES

C-11-A	205		Heavily fibrated asphalt emulsion for trowel finish over insulation.
Sanded Premix Emulsion	209		Sand filled asphalt emulsion for damage resistant trowel applied finish.
White Insulation Coating	306		White latex modified plaster finish for cold room interiors.
Lagging Coating	298	MIL-A-3316-A Type I	Fire resistive heavy bodied adhesive and coating for providing clean, damage free finish on insulations.
Colorcoat	296		Pigmented heavy bodied latex coating for decorative finish on insulation. Fire resistive.

SPECIALTIES

Yellowjacket	313	HH-C-466b	Glass fabric reinforcing membrane. Prevents cracking of coatings due to structural stresses.
Flintmastic	251		Cold applied asphalt mastic floor topping for heavy duty wearing surfaces.

510529

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 20.6
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE, EAST RUTHERFORD N. J.

FLINTKOTE C-13-A EMULSION

Fibrated with asbestos, cold-applied coating for thick film protection

GENERAL

Flintkote C-13-A Emulsion is a basic mineral colloid asphalt emulsion fibrated with selected asbestos. It is produced in a suitable consistency for easy trowel application of thick films having high resistance to weather, water, corrosion and abrasion. The dried film, when used as a protective coating for insulation, is permeable to water vapor but does not permit the passage of free water. As with other mineral colloid emulsions produced by Flintkote, C-13-A is made of soft ductile steam refined asphalts yet does not flow at high temperatures. Its resistance to oxidation due to weather is not equalled by other forms of bituminous coatings.

CHARACTERISTICS

Flintkote C-13-A emulsion is used whenever a heavy duty protective coating is required. It permits a greater film thickness than non-fibrated or lightly fibrated coatings. The mineral colloid clay structure, which surrounds the asphalt particles in the dried film, permits an unusual stability to both high and low temperatures. Since this emulsion dries from the "bottom-up", residual moisture cannot be trapped in the film. The dried film is sufficiently permeable to water vapor to be classed as a breathing membrane but does not permit the ingress of free water such as rain, splash or spillage.

This coating is applied cold to either dry or slightly damp surfaces. If a priming coat is required for excessively porous or dusty surfaces either Flintkote C-13-HPC Emulsion (non-fibrated) or Flintkote Asphalt Primer (a cutback) should be used. Allow adequate drying of a cutback primer before applying C-13-A Emulsion.

Flintkote emulsion protective coatings are non-hazardous, both for application and in use. The dried coatings will not support combustion. In addition, mineral colloid emulsions contain no solvents, are odor free, non-flammable and non-toxic.

PROPERTIES AND PERFORMANCE CHART

Type	Mineral colloid asphalt Emulsion fibrated with asbestos
Volatile Vehicle	Water
Weight, pounds per gallon at 77°F	8.7/9.0
Consistency	Trowel or heavy brush
Solids content, % by weight minimum	45
Coverage, sq. ft. per gallon of coating per 1/16" dry film	12
Build	1/4" wet films on vertical surface show no slump or sag
Drying Time of 1/8" wet film, 60% R. H., 77°F To touch	8 hours
Firm Dry	24 hours
Flash Point	Non-flammable*
Outdoor weathering performance	Excellent
Flow of cured film at 300°F	None
Water vapor permeability at 90°F, perms, 1/16" dry film, initial before weathering	0.5 to 1.0
After 60 days outdoor weathering	0.2 to 0.5
Resistance to oils, greases, solvents	Not resistant
Resistance to dilute acids and to mild alkalies	Excellent
Resistance to abrasion by sand blast	Excellent. On fifty sandblasting passes, 90 psi, [illegible] less than 10% [illegible]

510530

NOTICE: The recommendations for use of Flintkote products contained herein are believed reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

COVERAGE AND FILM THICKNESS FOR FLINTKOTE C-13-A APPLICATION

Wet Film Thickness, Inches	Gallons Per 100 Sq. Ft.	Square Feet Per Gallon
1/16	4	25
1/8	8	13
3/16	12	8.5
1/4	16	6.4

RECOMMENDED USES

Performance properties of C-13-A Emulsion films are such that this coating is especially suited for application over thermal insulations when the surface temperature of the vessel, line or tank is above ambient. Then the moisture vapor flow will be outward through the insulation. Blistering and disbonding of the protecting film over the insulation under such conditions can be avoided by the use of C-13-A Emulsion since the film after curing is a breathing type. Liquid water is prevented from entering the insulation by the C-13-A film. The breathing property combined with the unexcelled weatherability and over-all durability of the film results in a long-life, of service and trouble-free installation. Of interest, the permeability of the film decreases with age: a perm value of 0.25 to 0.5 perms is found for a 1/16" dry film after 60 days outdoor weathering, the barrier effect thus becomes improved so that in periods of shutdown moisture vapor movement into the insulation is retarded, but with sufficient breathing property being retained to prevent blistering.

Application of Flintkote Aluminum Paint over a cured film of C-13-A Emulsion reduces the water vapor transmission rating to a value of 0.2 perms, or after weathering to the very low value of 0.03 perms, based again on 1/16" dry film. The vapor transmission measurements were made on films with the paint applications at the rate of 350 sq. ft. per gallon to give a highly reflective finish.

In cold rooms, Flintkote C-13-A Emulsion is ideal for coating and sealing insulation against air and moisture particularly because of its non-toxicity and freedom from odor. In this field, it is common practice for applicators to mix 1 or 2 pounds of clean, fine sand per gallon of the coating to give a harder surface whenever it may be subject to bumping or other abrasive action.

Flintkote C-13-A Emulsion is extremely effective when used as an adhesive for bonding insulation blocks and bats onto masonry structures which require thick films due to base surface irregularities. Generally, the film has sufficient wet strength grab as to eliminate the need for shoring the insulation during the drying period.

APPLICATION

Preparation of Surfaces: All surfaces should be cleaned thoroughly of dirt, oil, grease and loose particles prior to application of the priming coat.

Priming: (Insulation Materials) Porous materials should be adequately covered with one coat of Flintkote C-13-HPC Emulsion (non-fibrated), thinned to satisfactory application consistency of brush or spray with up to 15% with cool, clean water.

(Masonry): Cement plaster or masonry that is porous or dusty should be primed with Flintkote Asphalt Primer or Flintkote C-13-HPC (thinned up to 15% with clean cool water). Allow complete drying of cutback primer.

(Metal): Surface may be primed with either Flintkote C-13-HPC Emulsion or with Flintkote Asphalt Primer Cutback. For wire held insulation, prime over the wire.

Application: (by Trowel) Apply Flintkote C-13-A Emulsion over the primed surface to a wet thickness of not less than 1/8 inch. The coverage at this rate will approximate 8 gallons per 100 sq. ft. The dry thickness will be proportionately less upon evaporation of the liquid present in the product. For a dry coating thickness of 1/8 inch, apply approximately 12 to 14 gallons per 100 sq. ft. Heavier coats over insulation on sloping or vertical surfaces should be applied over wire for a strong mechanical key.

Drying: Asphalt emulsion coatings have a drying time depending on temperature, humidity and the thickness of coating applied. Poorly ventilated areas or interior spaces will take longer and it is desirable to provide a sufficient volume of moving air for drying.

Care of Tools: Use only clean containers. Brushes, trowels and other equipment should be soaked in water before using and immersed in water while not in use. At the end of the work, clean away all dried material by the use of kerosene, white gasoline or other petroleum solvent. Allow to dry and rinse in water before using again for asphalt emulsion coating.

CAUTION:

Flintkote C-13-A Emulsion (fibrated) and C-13-HPC Emulsion (non-fibrated) are water vehicle asphalt emulsions and must be protected from freezing in shipping and storage. Likewise, they should not be applied in freezing weather and must be protected from rain until dry. Water, freezing weather, ice or snow will not affect the dried coating.

Containers: 55 gallons, 30 gallons, 5 gallons.

510531

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 209
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

SANDED PREMIX EMULSION

Cold-applied, Protective Finish for Insulation, Ready-to-use, Not-flammable, Odorless, Applied by Trowel.

GENERAL

The protective coating over insulation in refrigerator rooms is a component part of the installation. Moisture penetration seriously impairs the efficiency of some insulations.

Hence, for effective operation it must be finished on the exposed surface with a material having the highest possible moisture resistant properties together with suitable application characteristics. In case odor contamination is a factor, and it usually is as in the case of foods, furs and many other items, the coating must be, in addition, completely free from odor-bearing solvents or vehicles.

CHARACTERISTICS

Flintkote Sanded Premix Emulsion is especially designed for the finish coat over insulation in refrigerator rooms. It is a water base emulsion of selected 100 penetration steam refined asphalt thoroughly mixed with long fiber asbestos and special sand. The emulsifier is a mineral colloid and like other "clay emulsions" it will not crack or become brittle at low temperatures, nor sag or flow at elevated temperatures. It is not affected by weather or by moisture that condenses on the surface as when a refrigerated space is defrosted. *Flintkote Sanded Premix Emulsion* is unquestionably one of the finest materials that can be used for insulation protection.

In addition, this product, has excellent abrasion resistance to normal wear and bump. In most instances the necessity of installing plank sheathing or other fenders to prevent holes from being punched in the coating is eliminated when *Flintkote Sanded Premix* is used.

RECOMMENDED APPLICATION

Preparation of Surfaces: Insulation should be laid tight and firm, adequately fastened with skewers or other devices and present a reasonably smooth surface which is clean and free from dust or grease.

Priming: Apply a priming coat of unfibrated *Flintkote C-13-HPC Emulsion* over the surface at the rate of approximately 2 gallons per 100 sq. ft. This serves to seal the surface of the insulation as well as fill any irregularities and joint seams. It is common practice to apply this primer by trowel, but it also may be brushed.

Finish Coating: After the priming coat is dry it will be only slightly tacky. Remix the *Flintkote Sanded Premix Emulsion* by stirring in the container to assure uniform distribution of the fillers and provide smooth trowelling consistency. It is usually handled from a hand mortar or plasterer's board.

Flintkote Sanded Premix Emulsion is trowelled on the primed surface at a coverage of 8 to 10 gallons per 100 sq. ft., giving a coating of approximately 1/8 to 3/16 inch thickness while wet, slightly less when dry. Superior protection will be obtained by applying two coats to a total thickness of 1/4 inch requiring about 14 to 16 gallons per 100 sq. ft. The first coat will serve to fill all depressions and joints, giving an ultimate finish of maximum smoothness and the best appearance.

An alternate finish for thicker, harder surface and bump resistance, is to staple wire mesh over the insulation (as for a wainscot) and apply a mastic mixture of *Flintkote Sanded Premix Emulsion* to which has been added 15% (by volume) of portland

510532

NOTICE: The Recommendations for use of *Flintkote Products* are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

EQUIPMENT & PIPING INSULATION ACCESSORIES | INDUSTRIAL ADHESIVES | INDUSTRIAL FLOORING

cement. In using this mastic, it is gaged with a very small amount of clean, cold water to desired consistency. Mix only such quantities as will be applied within one hour as it cannot be re-tempered.

Drying. Asphalt emulsion coatings have a drying time dependent on temperature, humidity and the thickness of the coat applied. Unventilated, inside areas will take longer, and it is often necessary to provide fans as an aid to drying. No fire hazard is encountered as the asphalt emulsion products are not-flammable.

Care of Tools: Soak tools in water before using and rinse as often as necessary to prevent gumming.

Dried material can be removed by the use of kerosene, white gasoline or other petroleum solvent.

Caution: The asphalt emulsions described herein must be protected from freezing both in storage and during application. After drying, water or cold will not affect them. Stir container contents before use wherever possible. Use *Flintkote Sanded Premix Emulsion* as soon as practicable after receipt since prolonged storage promotes settling and decrease workability.

Containers: 55 gallons, 30 gallons, 5 gallons.

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 251
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD N. J.

"FLINTMASTIC" FLOORING

Cold applied surfacing using binder of asphalt base clay emulsion—for heavy duty industrial floor resurfacing, patching, underlayment for tile or wearing surface—old or new construction.

FLINTMASTIC[1] - is the trade name for cold-laid asphalt mastic which is made by mixing cements, graded sand and stone chips with a binder of Flintkote asphalt base clay emulsion. The mix is handled in the same manner as concrete for spreading and finishing. It has the advantage, however, of being a *resilient* and malleable material because of its asphalt binder and can be readily applied to thin base surfaces in relatively thin sections.

Properly applied, FLINTMASTIC will provide a floor surfacing that is non-slip and dustless, insulating and comfortable under foot, tough and shockproof. It is capable of carrying heavy traffic without rutting or shoving, and for the operating plant, may be installed with little or no delay in work schedules. The millions of square feet in service offer proof of the virtual maintenance-free properties of these floors which actually improve in smoothness, toughness and density with continued heavy duty service.

The use of FLINTMASTIC is not confined to the wearing surface of newly built floors. It is the ideal resurfacing material for worn or damaged floors of almost any type provided they are structurally sound. Further, FLINTMASTIC makes a superior levelling course for smoothing-up surfaces and serving as an underlayment for decorative tile or other coverings. It is also the most effective patching material for work floors that is known.

Two types of Flintkote asphalt base clay emulsion are available as the binder for FLINTMASTIC floors. One, called Flintkote N-13-F, contains a reinforcing fiber to give tensile strength and toughness to surfacing put down with hand tools; while Flintkote N-13-HPC contains no fibre and is used interchangeably with N-13-F, but is preferred for surfacing put down with power floating and compacting machines.

All FLINTMASTIC flooring work requires the use of an asphalt base clay emulsion for priming. This serves to bond the mastic properly to the base over which it is laid. The product recommended for priming is Flintkote C-13-HPC Emulsion, an non-fibrated emulsion which is made from softer asphalt than binder emulsions.



Heavy trucking in modern industry demands floors that absorb shock and are comfortable, warm and durable under foot traffic.

The mix proportions given here are typical of those which have been used by asphalt mastic flooring specialists for approximately forty years. Changes in the amounts of dry ingredients are occasionally made to adjust for locally available aggregates or unusual floor service conditions. Adherence without deviation or substitution of the asphaltic constituent should be maintained to assure that the mastic floor will meet the requirements and quality of a FLINTMASTIC floor. To protect himself, the buyer should state in his specification: "Emulsions shall comprise asphalt dispersed in water by means of a mineral colloid."

SUGGESTED SPECIFICATIONS

(NOTE: On the basis that the largest size aggregate used shall not exceed 60% nor be less than 40% of the thickness of the mastic laid, the thinner the wearing surface the finer the aggregate. This is the same principle followed in portland cement concrete and asphaltic concrete construction. In levelling courses and patching where the FLINTMASTIC must be carried out to feather-edge to meet existing floor levels, obviously only fine aggregate can be used.

510534

NOTICE. The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

Measurement in the proportions below are for dry sand. Where sand is damp, an adjustment of about 20% increase should be made. Sand should be clean, washed and of sharp angular particles and properly graded as for concrete work. Either gravel or crushed rock may be used for the coarse aggregate portion with the understanding that while gravel produces a more easily placed mix, crushed rock with its angular particles produces a floor of greater resistance to displacement under load.)

FLINTMASTIC MIX FOR HAND APPLICATION

A. Thickness of ½ inch or over – 1:2:3:4 mix

1 volume cement (1 bag) ..... 1 cu. ft. (7-1/2 gal.)
2 volumes Flintkote N-13-F (or N-13-HPC) Emulsion ..... 2 cu. ft. (15 gal.)
2 volumes well graded sand ..... 2 cu. ft. (15 gal.)
4 volumes crushed stone or gravel . 4 cu. ft. (30 gal.)

This total quantity will yield at the following thicknesses: 1/2 inch – 130-140 sq. ft; 3/4 inch – 90-100 sq. ft; 1 inch – 65-70 sq. ft.

B. Thickness of less than 1/2 inch – 1:2:4 sand mix.

1 volume cement (1 bag) ..... 1 cu. ft. (7-1/2 gal.)
2 volumes Flintkote N-13-F (or N-13-HPC) Emulsion ..... 2 cu. ft. (15 gal.)
4 volumes well graded sand ..... 4 cu. ft. (30 gal.)

This total quantity will yield at the following thicknesses: 1/2 inch – 100-110 sq. ft.; 1/4 inch – 200-220 sq. ft.

FLINTMASTIC MIX FOR POWER FLOAT APPLICATION

(Not a recommended method for thickness of less than 1/2 inch)

3/4 volume cement (3/4 bag) ..... 3/4 cu. ft. (5-1/2 gal.)
2 volumes Flintkote N-13-HPC Emulsion ..... 2 cu. ft. (15 gal.)
2 volumes well graded sand ..... 2 cu. ft. (15 gal.)
6 volumes crushed stone or gravel 6 cu. ft. (45 gal.)

This total quantity will yield at the following thicknesses: 1/2 inch – 160-170 sq. ft.; 3/4 inch – 120-130 sq. ft.; 1 inch – 80-85 sq. ft.

NOTE: WEIGHT OF "FLINTMASTIC" FLOORS–Flintmastic floors, when dry, weigh approximately 5 lbs. per sq. ft. per 1/2 inch of thickness. Actual weights of specific formulas will vary of course with aggregate selected and compacted density of the floor.

MIXING AND PLACING SPECIFICATION

Preparation of Base: The base surface shall be relatively uniform in line and grade (If not, patch with concrete or Flintmastic) and cleaned of all grease, oil, dirt or other foreign matter. Wash with water.

The cleaned base may be damp (no puddles) when primed with Flintkote C-13-HPC asphalt base clay emulsion applied at a rate of 1½ gallons per 100 sq. ft. For ease of application the priming coat may be diluted up to 15% with cool, clean water. Where floors have dusted severely, or are very porous, they should be primed with an asphalt cutback (such as Flintkote No. 267) and allowed to dry, after which the bond coat of Flintkote C-13-HPC Emulsion is applied as above.

Preparation of Mastic: A rotating blade plaster mixer is the preferred method of mechanically mixing the mastic - rotating drum mixers are not recommended since they do not permit the proper mixing of the heavy bodied consistencies required for correct installation. Hand mixing in a mortar box is permissible if care is taken to assure complete mixing.

Mix measured quantities of the cement and aggregates with only sufficient water to make a stiff mixture. Then add the measured quantity of Flintkote Flooring Emulsion (N-13-F or N-13-HPC) and continue mixing until mastic is of uniform color and homogeneous throughout. Use water sparingly for workable consistency - excessive use of water may cause shrinkage cracking on curing. As a guide to mastic water requirements, it has been found that a 1:2:2:4 mix made with dry aggregates requires approximately 1 volume of water for proper consistency.

The amount of mastic mixed at one time should be only a quantity that will be placed within an hour as it cannot be retempered.

Placing and Finishing: Depth guide forms or screed strips should be spaced about 10 ft. apart. After the mixed mastic is deposited on the floor, it is raked to proper level and troweled up with tamping or strikeboard. It is straightedged and floated to contour either by hand or rotary disc machine. Drier mixes are required for machine finish than for hand finishing. Good compaction is essential for best performance of the finished flooring.

Final steel trowel finishing is preferably delayed until the initial set has taken place which may vary an hour or so with the type of cement used. Kneeling boards are used to prevent marring the surface.

Curing: It is extremely important that adequate measures be taken against rapid drying out of newly laid "Flintmastic" as a guard against surface checking from shrinkage. As soon as the surface is hard enough to resist marring, it should be covered with suitable curing paper or other means to retard moisture evaporation. After about 12 hours the surface may be kept wet by fog spray sprinkling. Under normal conditions, the wearing surface may be opened to traffic in 24 to 48 hours as determined by inspection.

PRECAUTIONS

The Flintkote Asphalt Emulsions referred to in this specification are water base and must be protected from freezing, both in storage and during application.

Flintmastic flooring is not recommended for areas subjected to deposits of grease, oil, dairy products, sugar products or petroleum solvents. When Flintmastic is used as underlayment for decorative floor coverings, care must be used in the selection of the cementing medium used to adhere the covering in order to avoid solvent types that will soften the asphalt binder component of the Flintmastic.

The cement referred to in these specifications may be Lumnite or regular Portland Cement. Lumnite provides a more rapid rate of setting. Also, the quantities of cement and aggregates may require slight adjustment depending on the characteristics and grading of local materials.

† A Trademark of The Flintkote Company

510535

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 281
ISSUE 61-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

ASPHALT EMULSION ADHESIVES

Low cost, non-flammable for bonding lightweight materials

GENERAL

Flintkote C-13-HPC and N-13-HPC are heavy paint consistency emulsions of selected steam-refined asphalts which have been emulsified by means of colloidal clay. These emulsions, which differ only in the degree of the hardness of the asphalt bases, serve as excellent general purpose adhesives for many water and weather resistant bonding and cementing operations with lightweight materials. Flintkote C-13-HPC Emulsion - 100 penetration asphalt. Flintkote N-13-HPC Emulsion - 50 penetration asphalt. The adhesives are low in cost, odor free, non-flammable to use and are applied without heating to many clean, dry or damp surfaces. No toxicity is involved when using these products in confined areas.

RECOMMENDED USES

Flintkote C-13-HPC Emulsion retains a slight tackiness when dry, making it eminently suitable for low strength bonding of such materials as wallboard, gypsum board, cork insulation, fibrous sheets and felts. These may be bonded to one another or to other base surfaces under normal temperature provided the water vehicle of the emulsion can escape from the film.

Flintkote N-13-HPC Emulsion is less tacky than C-13-HPC when dry and because of its firmer film can be used for somewhat stronger bonds and higher service temperatures. It is recommended for bonding insulation blocks and bats to absorptive surfaces such as lightweight concrete, masonry and gypsum board. Since no petroleum or aromatic solvents are present in these emulsions, the adhesive does not attack expanded polystyrene insulations.

CHARACTERISTICS OF FLINTKOTE C-13-HPC AND N-13-HPC EMULSION ADHESIVES

Surface Preparation:

Must be clean and free from oil, grease, rust, scale and dust. The surface may be slightly damp but not wet.

Application:

By trowel or brush, usually to one surface only.

Viscosity:

Heavy paint, smooth and buttery.

Dilution:

Generally used as received. If product is stiff or if more fluidity is required, dilute with cool, clean water, usually not exceeding 10 or 15 percent by volume.

Coverage:

50 to 100 sq. ft. per gallon depending on condition and nature of the base surface.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

INSULATION ACCESSORIES

Application Temperature:

Above 40°F. Apply at room temperature whenever possible for best workability.

Dried Film:

Semi-dull black, slightly tacky, free from checks and cracks. Good resistance to moisture and weather.

Finished Properties:

Exposed film is durable over a wide range of atmospheric temperatures; however, if water contact is excessive, the use of a cutback is recommended.

Special Limitations:

Not recommended for surfaces which do not permit evaporation of the water vehicle, such as plastics, laminated vinyls, metals, composition roofing membranes. Combine immediately while tacky.

Special Instructions:

Protect from freezing in container and until applied film is completely dry.

Net Weight Per Gallon:	Container Sizes:
About 8.3 pounds.	1, 5, 55 gallons.

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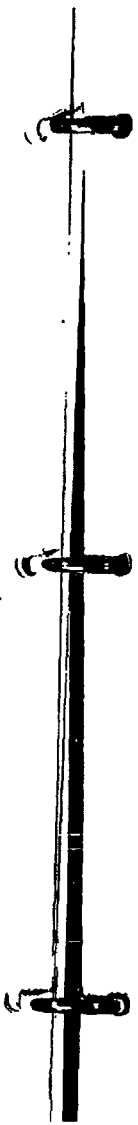

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 283
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 280 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE No. 70 ADHESIVE

Asphalt emulsion type-non-flammable for bonding insulation materials in cold rooms.

GENERAL

Flintkote No. 70 Adhesive is made from 180 penetration asphalt. It remains tacky and flexible at low atmospheric temperatures. Excellent bonds are provided at operating temperatures below 100°F. It is used cold as supplied with a working range in application from 45°F. to 100°F.

RECOMMENDED USES

Specifically, Flintkote No. 70 Adhesive is used to bond *insulation materials* such as cork, fibrous boards, Styrofoam, Foamglas, etc. to wood or masonry in cold-room application. It is likewise effective as an economical adhesive for bonding paper and paperboard, crepe, asphalt saturated felt and membrane, jute, canvas, burlap and similar materials where low temperature operating conditions are the rule. It is specially recommended for bonding vapor barrier paper or foil against masonry surfaces in cold room construction.

Flintkote No. 70 Adhesive presents no fire hazard. It contains no petroleum solvents which would affect adversely certain insulating compositions and asphalt impregnated or saturated materials.

DIRECTIONS FOR APPLICATION

Flintkote No. 70 Adhesive may be applied to one or both surfaces, depending on the materials involved and the strength of bond required. Application can be by brush, trowel, spray or, as in bonding cork to cork, by face dipping. Average applications require one to three gallons per 100 sq. ft. governed by the porosity of the materials and the method of applying. It is recommended that a small area be tested for the best method.

As most of these materials are sufficiently porous to permit the ready evaporation of the water vehicle, wet combining is possible. On the other hand, the film remains tacky for delayed bonding where desired up to 24 hours.

To spray Flintkote No. 70 Adhesive, a standard pressure pot, or pumps such as Alemite Model 7804-E, 5½ to 1 ratio or Graco Hogul, 8 to 1 ratio, (or equal) are reported satisfactory with DeVilbiss MBC-510 Spray Gun with type MBC-422 removable spray head (1/8 inch air cap and fluid tip) and having a 1/8 inch orifice and 1/2 inch feed diameter.

CHARACTERISTICS OF FLINTKOTE NO. 70 ADHESIVE

Application: Brush, trowel, spray or dipping.

Viscosity: Heavy paint consistency.

Dilution: Recommended for use as supplied, however, if necessary, use small amount of cool, soapy water (containing up to 1/2% soap).

Coverage: Depends on surfaces, usually one to three gallons per 100 sq. ft.

Working Period: Has long open range - combine immediately to 24 hours.

Application Temperature: Between 45°F. and 100°F. However, apply at room temperature wherever possible.

Dried Film: Glossy black.

Moisture Vapor Transmission-less than oil paints (4 gal./100 sq. ft.)

Temperature Susceptibility After Application: Thick films will flow at high temperatures. Remains flexible at low temperatures.

Special Instructions: Protect from freezing in container and until applied film is dry.

Net Weight Per Gallon: About 8.5 pounds.

Container Sizes: 1, 5, 55 gallons.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.



FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 283
ISSUE 61-F

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE NO. 746 ADHESIVE

High solids, non-flammable adhesive—black in color—used for bonding sound deadening felts and insulation media in wet or dry combining.

GENERAL

Flintkote No. 746 Adhesive is a general purpose water vehicle adhesive which is particularly characterized by its 78% solids content while retaining a relatively high degree of workability. This combination of properties *is unique for* adhesives of this type and permits application of moderately heavy films since it is not necessary to evaporate large amounts of water vehicle. The dried film further exhibits a degree of *pressure sensitivity* which has not previously been known for rubber-asphalt based adhesives.

RECOMMENDED USES

Flintkote No. 746 is applicable to a wide variety of industrial and general purpose adhesive problems involving bonding and laminating such materials as paper, paper boards, felts and insulation materials to themselves or *other surfaces so long as* removal of the water vehicle is possible before or after the bond has been established.

The following products represent a partial list of materials which can be bonded *to themselves or to* metal, masonry or wood with Flintkote No. 746 Adhesive.

Paper and paperboard (kraft, crepe, "V" board and other packaging materials). This adhesive does not bleed through 50 lb. *kraft at a temperature of* 160° F.

Cloth and cloth-like materials (burlap, jute, canvas and felts).

Asphalt containing products (paper sheathing boards, saturated felts and impregnated sound deadening felts.)

Insulation media (cork, expanded polystyrene, glass fiber, *cellular glass*, gypsum plank and wall boards). Note: bonding materials which have a low water vapor transmission rate such as expanded polystyrene and cellular glass insulations to themselves or to metal is generally *not recommended due to the possibility of* water vehicle entrapment in the glue line.

Flintkote No. 746 Adhesive, however, *is* especially recommended for adhering sound deadening, insulating felts and other lightweight composition materials to metal, as in air conditioning ducts, aluminum siding or roofing, refrigerators, television and radio cabinets, household appliances and sheet metal equipment. Trying in effected though these composition materials.

Due to rapid gain in strength, it is frequently unnecessary to use *shoring for temporary* holding of insulation.

Application of Flintkote No. 746 Adhesive is made by brush or trowel at a coverage of 50 to 200 sq. ft. per gal. depending on the nature of the materials to be bonded and the smoothness of the *surfaces involved in the operation.* Being a water vehicle material, the cleaning of tools and equipment is easier than with solvent cements. There are no fire or toxicity hazards encountered in the use of this product.

Temperature *and water resistance factors of* the dried film are excellent.

CHARACTERISTICS OF FLINTKOTE NO. 746 ADHESIVE

Type: Rubber-asphalt, water vehicle emulsion.

Color Dried Film Black.

Viscosity: Appr. 18,000 cps. *(Brookfield at 77°F.). Heavy paste consistency.*

Solids, Wt. %. Approx. 78%.

Dilution: *Normally used as received. However, If necessary may* be diluted with 1% solution of soap* in cool, clean water. (*Such as "Ivory Snow", "Ivory Flakes", liquid hand soap, etc.)

510539

NOTE: The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such tests are beyond our control, we do not guarantee the results to be obtained.

Coverage: Depends on the surface to be coated. Figure 100 to 200 sq. ft. per gal. on the fairly smooth surfaces.

Perm Rating of Dried Film: 1.5 gals ·CSF-0.5 2.6 gals ·CSF-0.25

Application Procedure: Heavy brush or light trowel. Not designed for spray application.

Working Period: Remains tacky for a number of hours permitting wet or dry combing over wide range of conditions. One surface coating can be combined in several minutes.

Temperature Limits For Application: Between 40°F. to 100°F. However, apply near room temperatures wherever possible.

Service after Application: Not affected by extremes in atmospheric conditions. Usually maintains bond over range of minus 20°F. to plus 180°F. Excellent water and moisture resistance.

Flammable During Use: No.

Caution: Keep from freezing. Store above 40°F.

Shelf Life: Rotate inventory so that product is used on "first in - first out" basis. Store in 60-80°F. range whenever possible. For best results, this product is recommended for use within six months.

Net Weight Per Gal.: Approx. 8.4 pounds.

Container Sizes: 1, 5, and 55 gallons.

510540



FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 293

ISSUE A-61

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE LAGGING ADHESIVE

A white latex adhesive for bonding various laggings to insulation. Available in standard and fire resistive grades.

FIRE RESISTIVE GRADE COMPLIES WITH MIL-A-3316 TYPE II MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 00136 (COM-NBS).

GENERAL

Flintkote Lagging Adhesive is a white compounded latex adhesive of medium paint consistency suitable for adhering lagging fabrics and papers to pipe insulations. Its quick setting properties allow rapid installations with a wide variety of materials. Since Flintkote Lagging Adhesive is a water vehicle compound, clean-up is easily accomplished with clean water before the adhesive dries.

RECOMMENDED USES

Plant installations where cleanliness is essential, such as breweries, food processing plants, dairies and dairy products plants, also, steam generating and utilities installations require an adhesive and coating such as Flintkote Lagging Adhesive. The dried coming can be washed to remove grease, oil and dirt accumulations and can also be used as a sizing base for further painting.

Lagging adhesive is used extensively for adhering cotton fabrics, canvas, asbestos, glass fabrics and other coverings over pipe insulation. The permanent, non-yellowing white coating makes a smooth, jointless finish which is easy to keep clean with a minimum of maintenance.

Application can be made directly by brush or spray, or by dipping the lagging fabric in the adhesive prior to installation on the insulation. One or more coats applied over the adhered membrane makes an excellent base for further painting or can be left as a finished white coating.

Flintkote Lagging Adhesive is non-toxic and non-flammable when wet. See table below for fire resistive properties of dried film. Do not apply at temperatures below 40°F.

PHYSICAL PROPERTIES OF FLINTKOTE LAGGING ADHESIVE

	Standard	Fire Resistive
Type		
Color	White	White
Volative Vehicle	Water	Water
Consistency	Medium Paint	Medium Paint
% Solids	51%	38%
Weight per gallon	10.6	9.5
Average Coverage Sq. Ft./Gal.	100	80
Drying Time / 77° F Bonding Time Thorough Dry	0 - 10 Minutes 3 - 4 Hours	0 - 10 Minutes 3 - 4 Hours
Service Temperature	-50°F/175°F	-50°F/175°F
Application	Brush, Dip, Spray	Brush, Dip, Spray
Flammability Wet Film Dry Film	Non-flammable Burns	Non flammable Fire Resistive (Meets fire resistance requirements of MIL-A-3316A, Type II
Clean-up Wet Film Dried Film	Water Toluene or Xylene	Water Toluene or Xylene
Container Sizes	1, 5, 55 gallons	(3 gal. Special Order)

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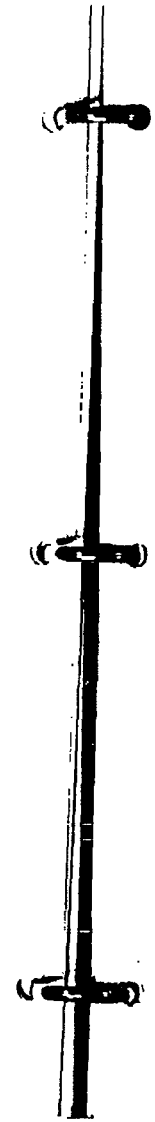
NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.



FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 296
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE COLORCOAT

Decorative and Protective Coating for Thermal Insulation lagging fabrics and asphalt weathercoats.

MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 00136 (COM-NBS).

Flintkote Colorcoat is a durable yet flexible protective coating for thermal insulations. The dried film is fire resistant and provides a highly decorative finish which resists dirt, oils, grease and many corrosive chemicals. It can be used as an adhesive for cementing lightweight lagging fabrics or as a finish coating over laggings which previously have been installed with a conventional lagging adhesive.

Colorcoat is supplied in a ready-to-use brush consistency for maximum ease in application. Since it is a synthetic resin latex composition, only water is needed for clean up of brushes and equipment and spills may be removed, before drying, with a dampened cloth.

Flintkote Colorcoat may also be used as a finish over most asphalt weathercoats after they are thoroughly dried (note; cutback type mastic coatings require drying periods of up to 30-60 days before applying colorcoat.)

PHYSICAL PROPERTIES

Consistency	Brushing	*Service Temperature*	-50 - 180°F
Wgt. Per Gallon	10.5 - 11.0	Solvent for clean up	Water
Solids % by wgt.	48.0 - 51.0	Permeability	3.0 perms
Drying Time		Flammability	
Bonding Time	0 - 15 mins.	Wet	Non Flammable
Touch	1 Hour	Dry	Fire Resistive
Through	4 Hours		

APPLICATION NOTES:

1. Apply only to clean *surfaces*.
2. Do not apply at temperatures below 40°F.
3. Condition brushes *by soaking in clean water* before applying Colorcoat.
4. Insulating cements and mastic coatings should be thoroughly dry before applying Colorcoat.
5. Coverage will vary according to surface and use conditions.
   A. 50-60 sq. ft. per gallon over insulation without membrane.
   B. 80-100 sq. ft. over lagging fabrics and membranes.
   C. 100-125 sq. ft. over non-absorptive surfaces such as mastic weathercoat.

COLORS: White is standard, other colors available on special order.

CAUTION: Flintkote Colorcoat is a water vehicle material, - Keep From Freezing.

CONTAINERS: 55 gallon, 5 Gallon, 1 Gallon

* 6 per case.

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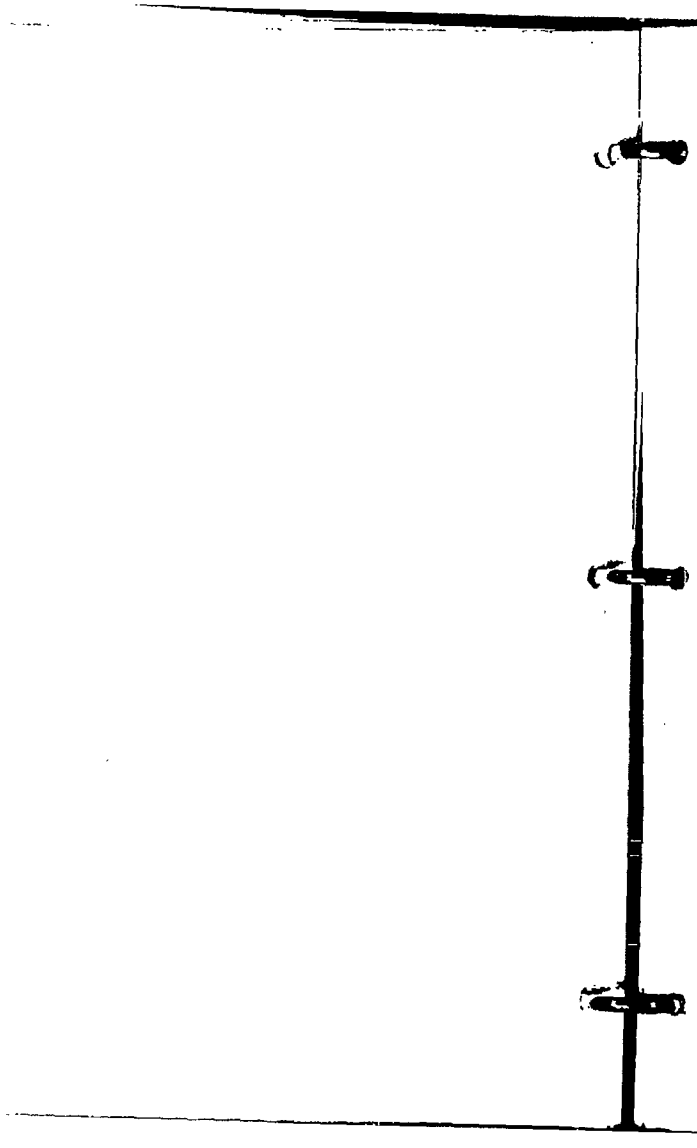

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 298
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE LAGGING COATING

A Light Colored Heavy Bodied Coating For Thermal Insulation

MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 191A (COM-NBS).

Flintkote Lagging Coating is a heavy bodied latex coating formulated to produce a tough puncture resistant white protective finish on thermal insulation. The dried film is fire resistive and when combined with lagging fabric produces a surfacing with excellent resistance to physical damage.

Lagging Coating may be used with or without fabric, as an adhesive or coating, has good resistance to oils and greases, and may be washed to remove accumulated dirt. It also serves as an excellent base for further decorative finishes such as paints or Flintkote Colorcoat.

PHYSICAL PROPERTIES

Type	Synthetic Resin Latex
Color	White
Vehicle	Water
Consistency	Heavy Brush
% Solids	50%
Weight per gallon, lbs.	10.6
Coverage	40-100 sq. ft./gallon
Drying Time Touch Through	 2 hours 12 hours
Service Temperature	0 - 180°F.
Application	brush, spray, roller coat.
Flammability Wet Dry	 non-flammable fire-resistive
Vapor Permeability	1.0
Clean-up wet film dried film	 water Toluene or Xylene
Precautions	Keep from freezing in storage. Do not apply at temperatures below 40°F. and protect from freezing temperatures until dry.
Container Sizes	1, 5, 55 gallons.

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NOTICE The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since tests are beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 306
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY • 30 CENTRAL AVENUE • EAST RUTHERFORD, N. J.

WHITE INSULATION COATING

Specially compounded latex and premix for trowel application over insulation in cold storage areas.

GENERAL

Flintkote White Insulation Coating is a two-component product formulated for application by traditional plastering techniques to give a thin, abrasion-resistant surfacing to insulations in cold-storage areas. Additionally, it provides a tough, non-brittle film which forms strong bond with the insulation surface. The resulting white finish has excellent light reflectiveness for better visibility in enclosed spaces.

Each unit of Flintkote White Insulation Coating is composed of liquid latex binder and dry, premixed powder, properly proportioned for mixing to the correct consistency without the addition of any other ingredients. Although it may be mixed and applied at temperatures between 40°F. and 90°F., the range of 60°F. to 80°F. is recommended for best application results.



Trowel applied Flintkote White Insulation Coating over ceiling insulation provides a smooth, abrasion-resistant, light reflecting surface.

PREPARATION OF SURFACE

The insulation shall be firmly adhered to the base. Application of the insulating material shall be in accordance with the insulation manufacturer's specifications.

The surface of the insulation shall be clean and free of loose particles, sharp projections or anything that prevents the application of a continuous coating. Holes, cracks, joints, depressions, broken corners, voids and the like shall be repaired prior to application of coating. Replacement of certain blocks may be necessary to present a smooth, even surface. Where insulation is uneven and presents an off-line surface, the applicator shall apply a smoothing coat of Flintkote WHITE INSULATION COATING to a maximum thickness of 1/4 inch per coat and allow to cure before applying the continuous coating. To span over conduits, wood supports and wood nailing strips, it is advisable to apply this coating in a uniform application and embed one ply of a glass fabric membrane in the wet coating as reinforcing. Extend fabric at least one inch beyond all edges of the area.

MIXING THE COATING

The unit of Flintkote White Insulation Coating is prepared as a batch. Put the dry component powder in a metal or other leak-proof mortar box and add the liquid binder component slowly with thorough mixing action for complete plasticity free of any lumps. In mixing more than one unit, do not change the ratio of powder to liquid. If conditions indicate the need for a slightly different consistency it is permissable to add or subtract up to 5% of latex based on the original volume of the binder liquid.

The coating should be applied immediately after mixing. Mix only a such quantity as will be used within an hour. Do not try to retemper this mixture. The mixing pan or box, mortar boards, trowels and other tools should be cleaned with water and wiped dry at frequent intervals to prevent the accumulation of lumps of hardened coating. Maximum

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

510544

thickness for one coat application is 1/4 inch; working time is approximately one hour for normal atmospheric conditions.

APPLICATION AND CURING

After insulation has been judged to be satisfactory, the applicator shall apply by trowel an even coating of Flintkote White Insulation Coating. Trowelling should be kept to a minimum. For smooth finish work, sufficient area should be applied to permit re-trowelling in approximately one hour at 70°F. and 50% relative humidity. In cooler and/or more humid air, the working time may be longer. The applicator should determine the proper time and amount of finish trowelling by early trial. For two coat applications, the second coat is usually applied as a thin coating sufficient only to obtain a smooth appearing surface.

Application of Flintkote White Insulation Coating over insulations containing surface voids or open cells may produce bubbles of entrapped air in the coating. This condition can generally be corrected by applying a thin "scratched in" coating before the final application is made. The purpose of this application is merely to displace the air and fill the surface voids.

Final set of Flintkote White Insulation Coating occurs within 24 to 48 hours. However, temperature should not be pulled down for operation until the coating is thoroughly dry. With warmth and ventilation, at least 4 to 6 days should be allowed for drying. In confined areas, artificial ventilation may be required but it is important to note that drying with high temperature space heaters or fans that are directed on to the surface of the coating is to be avoided. Ventilating and air circulating fans used in operating the cold room should be baffled in such a way as to keep the air blast from impinging directly on the coating.

To minimize possible cracking of the thin coating due to structural movement of the base insulation deep scoring should be carried out at intervals of about 20 feet as well as at angles of wall, ceiling, or where it contacts floors, doors, windows or framing. This relieves undue stress on the applied finish.

CAUTION:

Protect the binder liquid component of Flintkote White Insulation Coating from freezing during storage as well as during application and curing.

Keep dry powder premix component of Flintkote White Insulation Coating dry in closed containers until time of use.

NOTE:

During mixing and application a slight characteristic odor of the binder liquid may be noticed. Adequate ventilation and complete drying will remove all traces of this odor in the finished application.

CONTAINERS:

One unit is composed of 5 gal. latex binder (liquid) in 5 gal. pail and 140 lbs. Premix (dry) in four 35 lb. bags. Each unit will cover approximately 140 sq. ft. at 1/8 inch thickness.

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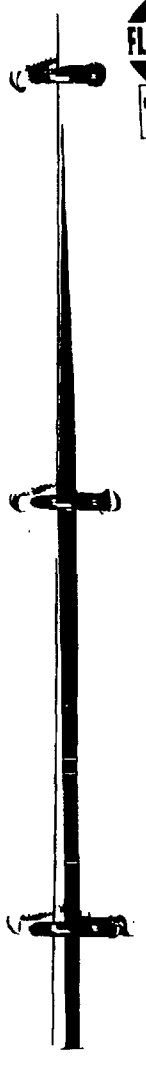

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 313
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

YELLOW JACKET
MEETS FED. SPEC. HH-C-466b
20 x 10 mesh

GENERAL

Flintkote Yellow Jacket is a woven glass mesh reinforcing membrane of distinctive color for easier application. It is manufactured to meet the requirements of Federal Specification HH-C-466b.

It is recommended for use wherever internal reinforcement of applied coatings is required such as waterproofing, dampproofing, industrial protective coatings and similar applications.

CHARACTERISTICS AND USES

Flintkote Yellow Jacket is manufactured with a coating of synthetic resin which is compatible with cold-applied coatings of asphalt and coal tar and resins. It's distinctive yellow color is of great assistance to the applicator in making certain that the fabric does not "float" to the top of the coating and that complete coverage is obtained in applications made under conditions of poor lighting. The resin coating is non-tacky even at elevated temperatures assuring no sticking in the rolls - permits easy knife cutting and no trowelling.

The strong glass fibers provide the reinforcement needed in waterproofing and protective coatings for bridging cracks caused by structural movement and building vibrations. The woven mesh construction is also of assistance in obtaining greater wet film build for heavy duty applications. Widely used in thermal insulation applications, it is of value in reinforcing weatherproof coating films and in protecting valves, fittings and other irregular surfaces. The presence of glass fabric greatly increases the resistance to impact of applied films.

PROPERTIES

Type:

Woven glass mesh treated with synthetic resin coating.

Color:

Yellow.

Mesh Size:

20 x 10.

Breaking Strength:

M. D. – Warp 75# Min.
C. D. – Filling 75# Min.

Packaging:

Units

1 – 48" x 150' Roll (600 sq. ft.)

1 – 36" x 150' Roll

3 – 12" x 150' Rolls (450 sq. ft.)

6 – 6" x 150' Rolls

12 units per carton.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.



EQUIPMENT & PIPING INSULATION ACCESSORIES

ASPHALT EMULSIONS

Product	Data Sheet	Applicable Specification	Description
C-13-HPC	202		Unfibrated asphalt emulsion for brush, spray or trowel used as primer and protective coat.
C-13-C 4	204		Fibrated emulsion protective coating for brush or spray application.
C-13-A	205		Heavily fibrated asphalt emulsion weatherproof coating. Trowel applied mastic finish.
C-13-AW	205A		Winter grade C-13-A. Designed for application and drying at temperatures down to 420°F.
Thermalkote	208		Heavy bodied fibrated emulsion for trowel application. Maximum weather protection for thermal insulation.
No. 54 Insul. Coating	211		Cork filled asphalt emulsion for brush, spray or trowel.

ASPHALT CUTBACKS

Asphalt Primer	252	SS-A-701	Penetrating cutback asphalt, brush or spray for priming dusty or porous surfaces.
No. C-19	217		Heavily fibrated coating for brush, or spray. Provides vapor tight film.
Trowel Mastic	219	SS-C-153 Type I	Heavy bodied coating for trowel application. Use for caulking, flashing and extra heavy duty service.
FR-200	316		Black fire resistive vapor barrier mastic coating. Available in spray (S) or trowel (T) grades.
No. 69 Insul. Coating	241		Cork filled cutback coating for brush, spray or trowel.
Aluminum Paint	301		Aluminum pigmented asphalt paint for brush or spray. Provides vapor tight film.

ADHESIVES AND SPECIALTIES

No. 744	285		High solids rubber-asphalt emulsion adhesive. Excellent resistance to low temperatures for insulation bonding.
Atlas Insulation Adhesives	292		Heavy bodied resin-based adhesives for erecting light and medium weight insulations.
No. 474	290		High strength neoprene adhesive for bonding and joint cementing flexible foamed insulation.
Lagging Adhesives Std. and FR.	293	MIL-A-3316-A Type II	Standard and fire resistive grades of resin latex adhesives for insulation laggings.
Lagging Coating	298	MIL-A-3316-A Type I	Fire resistive heavy bodied coating for surfacing insulations.
Colorcoat	296		Pigmented heavy bodied fire resistive coating for decorative finishes.
FR-100	317		White fire resistive vapor barrier protective coating for interior and exterior applications. Colors available on special order.
M-11	299		Resin base fire resistive adhesive, for bonding insulation jacketings.
No. 2004	297		Heavy bodied inorganic adhesive for high temperature applications.
Yellowjacket	313	HH-C-466b	Glass Fabric reinforcing membrane. Distinctive yellow color assures proper embedding in coatings.

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 202
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY • 30 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE C-13-HPC EMULSION

Non-fibrated, non-flammable, cold-applied protective coating for metal and masonry

GENERAL

Flintkote C-13-HPC is an asphalt base clay emulsion coating which contains no fillers or fibers. It has a semi-paste consistency which is easily brushed and may be applied in thick films in a single application. No heating is required and for some uses may be adjusted for workability by the addition of coal, clean water.

CHARACTERISTICS

Emulsification of asphalt by means of a mineral colloid (a form of clay) results in a product having a dried film which will not flow or sag when exposed to elevated temperatures. This characteristic permits the use of softer and more ductile steam refined asphalts than is possible with other methods of manufacture and greatly enhances the life expectancy of the coating.

Flintkote C-13-HPC Emulsion resists alligatoring and crazing when exposed to outdoor weathering and cracking due to cold. The dried film of this coating meets moisture and weather exposure without equal in bituminous materials.

The advantages of using Flintkote C-13-HPC Emulsion over chemical emulsions, cutback and hot asphalt are in it's stability, non-toxicity and non-flammability. The dried film retains its elasticity by remaining resistant to oxidation. The advantage of soft, ductile steam refined asphalt in its composition is apparent in this product's ability to resist the effects of exposure to rain, snow and heat as well as corrosive and abrasive industrial atmospheres.

Since it is an emulsion type coating, Flintkote C-13-HPC can be applied to most clean surfaces, either wet or dry, including green or damp masonry. Since clay emulsions do not skin over on drying, Flintkote C-13-HPC will not entrap moisture in the film during periods of rapid surface drying.

No hazard is encountered in it's use, either from fire or toxicity - even in confined areas. The dried film does not support combustion and is odorless.

TYPICAL PROPERTIES

CODE	C-13-HPC
Type	Mineral colloid asphalt emulsion. General purpose protective and weather resistant coating.
Volatile Vehicle	Water
Weight, pounds per gallon @ 77°F.	8.2 - 8.4
Consistency	Brush or spray
Solids Content, % by wt., Minimum	55
Typical Ash Content, % by wt.	2.0
Average Coverage, Sq. Ft. per gallon of coating per 1/16" dry film.	15
Build.	1/8" wet films on vertical surface show no sheeping.
Drying time of 1/8" wet film, 60% R. H., 77°F.	
To touch	5
Firm	12
Flash Point	Not flammable
Outdoor Weathering Performance	Excellent. Films do not check or crack and remain intact on long exposure.
Flow of Cured Film at 160°F.	None
Water Resistance, 24 hr. soak of cured film (ASTM D-1010)	Films not recommended for water immersion
Blistering	Films not recommended for water immersion
Re-emulsification	Films not recommended for water immersion
Loss of adhesion to panel	Films not recommended for water immersion
Film flexibility at 77°F over 1/2" mandrel, through arc of 180°, 2 sec. cracking, flaking, or loss of adhesion (ASTM D-1030)	None
Water Vapor permeability at 90°F, perms, 1/16" dry film:	
Before Weathering	1.0 to 2.5
After 60 days outdoor weathering	0.5 to 1.0
Resistance of Cured Film	
To oils, grease, solvents	Not resistant
To splash and spillage of dilute acids and mild alkalies.	Not suggested
To abrasion by sandblast.	Excellent. On SS sandblasting grease, 90 psi, film decreases less than 10% in thickness.

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[illegible] of Flintkote Products are based on tests believed to be [illegible] control, we do not guarantee the results to be obtained.

RECOMMENDED USES:

Flintkote C-13-HPC Emulsion is especially recommended as a weather resistant protective coating for both metal and masonry surfaces. The quality of thick film application makes it a desirable coating for heavy duty industrial use since the required thickness is easily obtained with minimum applications expense and time.

Flintkote C-13-HPC, while completely resisting the passage of water is not a vapor barrier and thus is ideally suited for use as a dampproofing on exterior masonry walls or as a protective coating for certain structures such as grain elevators.

The general utility of this product is further demonstrated by it's use as a bonding coat for asphalt mastic floorings, a primer coating for certain insulations before they are protected by heavily fibrated emulsions, and as an adhesive for bonding lightweight fibrous or porous materials such as wallboard, cork, insulation board and felts.

DIRECTIONS FOR APPLICATION:

Preparation of Surfaces:

All metal must be thoroughly cleaned of all rust, mill scale, dirt, oil, grease or other foreign matter. Concrete or masonry surfaces should be clean and brushed free of loose particles and dust. Surfaces may be damp but not wet.

Priming:

Flintkote C-13-HPC Emulsion may be used as a primer by thinning with up to 15% of clean, cool water. This system has been found to be particularly useful on porous concrete, masonry and certain insulations. For excessively corrosive exposures in and around some industrial installations, the use of Flintkote No. 267 cutback asphalt primer is recommended. It may be used as received or diluted with up to 10% of mineral spirits depending on the temperature of application. Wash primer, zinc chromate alkyd and federal specification grade red lead have been found acceptable as primers if properly applied and cured prior to the application of the C-13-HPC Emulsion.

Application Rate:

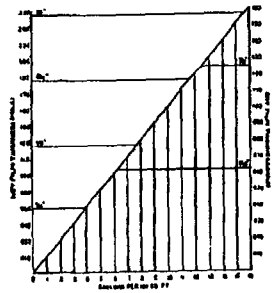
Best results are obtained by the use of not less than 3 gallons per 100 sq. ft. when used as a dampproofing or masonry protective coating. For protection of metal or masonry surfaces to corrosive exposures of severe weathering, it is recommended that two coats of 3 gallons per 100 sq. ft. each be applied at right angles to each other. This method will effectively eliminate "pinholing" and give increased serviceability.

Application Methods:

Flintkote C-13-HPC may be applied by brush, trowel or spray. For trowel application the material should be used as received. In brushing C-13-HPC it must be remembered that this is essentially a spreading operation. A soft bristled brush, is recommended to minimize the variable film thickness due to brush marks. It is particularly important to avoid the use of brushes having occasional stiff or "wild" bristles which cut the wet film and reduce the effectiveness of the coating.

For spray application, Flintkote C-13-HPC Emulsion may require slight thinning with approximately 5% of cool, clean water. The coating may be moved to the gun by means of either a pressure tank or a drum pump. Pressure tanks which are capable of operating at pressures up to 90 psi. are generally satisfactory while drum pumps having a ratio of approximately 8:1 are best suited for this application. A 3/4" I. D. material hose is recommended but may be reduced to 3/8" or 15 to 25 feet behind the gun for ease of handling. A 5/8" I.D. air hose is preferred for most applications. A number of guns are recommended by their manufacturers for applying Flintkote emulsion coatings but in general an external atomizing gun with a 5/32" nozzle is acceptable.

COVERAGE CHART



Drying:

Asphalt emulsion coatings "set" by dehydration. The rate of drying is dependent upon the thickness of application, temperature, humidity and rate of air movement. Poorly ventilated or interior spaces will take considerably longer than exposed surfaces and it is desirable to provide a sufficient volume of moving air for complete drying. This can be accomplished by the use of heaters and blowers capable of moving large volumes of air.

Care of Tools:

Use only clean containers. Brushes, spray equipment and other tools should be soaked in water before using and immersed in water while not in use. At the end of the work, clean away all dried material by the use of kerosene or petroleum naphtha. Allow to dry and rinse in water before using again.

CAUTION:

Flintkote C-13-HPC Emulsion is a water vehicle product and must be protected from freezing in shipping and storage. Apply at temperatures above 45°F. and the coating must be protected from rain until dry. Water, freezing weather, snow or ice will not affect the dried coating.

Containers:

55 gal., 30 gal., 5 gal., 1 gal.*

*6 per case.

510549

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 204

ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 30 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE C-13-C4 EMULSION

Lightly fibrated with asbestos, non-flammable, cold-applied coating to resist weather and corrosion

GENERAL

Flintkote C-13-C4 is an asphalt base clay emulsion coating containing a nominal amount of asbestos fibers which can be applied in relatively heavy films. The reinforcing effect of the asbestos fibers helps to prevent shrinkage and cracking when the wet film is subjected to very rapid drying conditions and also increases the resistance of the dried film to base surface movement or vibration. Available in two consistencies, one for brush or trowel application and one for spray, this cold-applied emulsion provides exceptional weather, corrosion and abrasion resistance to roofs, structural steel, metal buildings and similar exposed surfaces.

CHARACTERISTICS

The unique method of manufacture, using a mineral colloid emulsifier, produces a stable film of asphalt which will not flow or sag due to heat. It permits the use of softer, more highly ductile, steam refined asphalts than is possible with other methods of manufacture and greatly enhances the life expectancy of the dried film. It is also an outstanding characteristic of asphalt base clay emulsions to resist alligatoring and crazing due to outdoor exposure and cracking at low temperatures. Elimination of thermoplastic flow by the stabilizing action of the mineral colloid considerably retards the progressive oxidation which is found in most other bituminous films.

No hazard is encountered in the use of Flintkote C-13-C4 Emulsion either from fire or toxicity - even in confined areas. The dried film does not support combustion and is given a Class C rating by the Underwriter's Laboratories, Inc.

TYPICAL PROPERTIES

CODE	C-13-C4
Type	Mineral colloid asphalt emulsion fibrated with asbestos to give lightly reinforced films.
Volatile Vehicle	Water
Weight, pounds per gallon a 77°F.	8.5-8.5
Consistency	Brush or spray
Solids Content, % by wt., Minimum	45
Typical Ash Content, % by wt.	4.0
Average Coverage, Sq. Ft. per gallon of coating per 1/16" dry film. Build.	13 1/8" wet films on vertical surface show no slump or sag.
Drying time of 1/8" wet film, 60% R. H., 77°F.	
To touch	5
Firm	12
Flash Point	Not flammable
Outdoor Weathering Performance	Excellent. Films do not check or crack and remain intact on long exposure.
Flow of Cured film at 200°F.	None
Water Resistance, 24 hr. soak of cured film (ASTM D-1010).	
Blistering	None
Re-emulsification	None
Loss of adhesion to panel	None
Film flexibility at 77°F. over 1/2" mandrel, through arc of 180°, 2 sec.; cracking, flaking, or loss of adhesion (ASTM D-1910)	None
Water Vapor permeability at 90°F. perms, 1/16" dry film	0.7 to 2.0
Before weathering	0.4 to 0.8
After 60 days outdoor weathering	
Resistance of Cured Film:	
To oils, grease, solvents	Not Resistant
To splash and spillage of dilute acids and mild alkalies.	Excellent.
To abrasion by sandblast.	Excellent. On 10 sandblasting passes, 90 psi, film decreases less than 10% in thickness.

510550

Whether [illegible] of Flintkote Products [illegible] based on tests believed to be [illegible], we do not guarantee the results to be obtained.

NUMBER 205
ISSUE 61-D

FLINTKOTE INDUSTRIAL PRODUCTS

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE C-13-A EMULSION

Fibrated with asbestos, cold-applied coating for thick film protection

GENERAL

Flintkote C-13-A Emulsion is a basic mineral colloid asphalt emulsion fibrated with selected asbestos. It is produced in a suitable consistency for easy trowel application of thick films having high resistance to weather, water, corrosion and abrasion. The dried film, when used as a protective coating for insulation, is permeable to water vapor but does not permit the passage of free water. As with other mineral colloid emulsions produced by Flintkote, C-13-A is made of soft ductile steam refined asphalts yet does not flow at high temperatures. Its resistance to oxidation due to weather is not equalled by other forms of bituminous coatings.

CHARACTERISTICS

Flintkote C-13-A emulsion is used whenever a heavy duty protective coating is required. It permits a greater film thickness than non-fibrated or lightly fibrated coatings. The mineral colloid clay structure, which surrounds the asphalt particles in the dried film, permits an unusual stability to both high and low temperatures. Since this emulsion dries from the "bottom-up", residual moisture cannot be trapped in the film. The dried film is sufficiently permeable to water vapor to be classed as a breathing membrane but does not permit the ingress of free water such as rain, splash or spillage.

This coating is applied cold to either dry or slightly damp surfaces. If a priming coat is required for excessively porous or dusty surfaces either Flintkote C-13-HPC Emulsion (non-fibrated) or Flintkote Asphalt Primer (a cutback) should be used. Allow adequate drying of a cutback primer before applying C-13-A Emulsion.

Flintkote emulsion protective coatings are non-hazardous, both for application and in use. The dried coatings will not support combustion. In addition, mineral colloid emulsions contain no solvent, are odor free, non-flammable and non-toxic.

PROPERTIES AND PERFORMANCE CHART

Type	Mineral colloid asphalt Emulsion fibrated with asbestos
Volatile Vehicle	Water
Weight, pounds per gallon at 77°F	8.7/9.0
Consistency	Trowel or heavy brush
Solids content, % by weight minimum	45
Coverage, sq. ft. per gallon of coating per 1/16" dry film	12
Build	1/4" wet films on vertical surface show no sheep or sag
Drying Time of 1/8" wet film, 60% R. H., 77°F To touch	8 hours
Fire Dry	24 hours
Flash Point	Non-flammable*
Outdoor weathering performance	Excellent
Flow of cured film at 300°F	None
Water vapor permeability at 90°F, perms, 1/16" dry film, initial before weathering	0.5 to 1.0
After 60 days outdoor weathering	0.2 to 0.5
Resistance to oils, greases, solvents	Not resistant
Resistance to dilute acids and to mild alkalies	Excellent
Resistance to abrasion by sand blast	Excellent. On fifty sandblasting passes, 90 pal. film decreases less than 10% in thickness.

NOTICE. The recommendations for use of Flintkote products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

RECOMMENDED USES:

Flintkote C-13-C4 Emulsion is especially recommended for coating weathered asphalt roofing, including built-up or mill roofing, corrugated or galvanized steel roofs and sidings. Masonry parapet walls or metal facings, where a fibrated coating is desirable to resist abrasion or industrial fumes, are effectively protected. Structural steel building frames or bridge sections may also be given excellent corrosion protection. This product is not recommended, however, for application over tar roofings, tar-base coatings or wood shingles.

DIRECTIONS FOR APPLICATION

Flintkote C-13-C4 Emulsion is available in two consistencies; formulated for brush or spray application. At room temperature, this emulsion does not normally require thinning, but if necessary, allow no more than 5% dilution with clean, cool water and thorough stirring. For normal conditions the use of not less than 3 gallons per 100 sq. ft., is recommended. For protection of most surfaces to corrosive or industrial atmospheres, it is desirable to apply two coats at a rate of note less than 3 gallons per 100 sq. ft. per coat. When the coats are applied at right angles to each other, "pinholing" will be effectively eliminated.

PREPARATION OF ASPHALT ROOF SURFACES:

Clean off all dust, dirt, old loose or scaling coatings or other foreign matter and wash down with water.

Inspect roof for defective flashings, copings, cracks and open seams. (1) Repair flashings and copings by applying one heavy coat of Flintkote Trowel Mastic and embedding in the wet-coating a strip of glass fabric. Work the membrane until the coating comes through the open mesh to the surface. Such fabric should extend six inches in all directions beyond the defective area or break. (2) Repairs of cracks and open seams in roofing may be made as described above with Trowel Mastic, or can be made using Flintkote C-13-C4 and glass fabric. Repairs made with Trowel Mastic should be allowed to dry at least 48 hrs. before coating with C-13-C4. Raised nails in roll roofing must be driven tight; loose nails should be replaced by longer nails.

Checked or alligatored coatings which are firm and not powdery may be treated with a prime coat of this emulsion diluted 10% to 20% with water well scrubbed in. If the roofing material has lost its pliability it should be treated with Flintkote Asphalt Primer to re-saturate. Badly deteriorated roofing, however, should be replaced completely.

PREPARATION OF METAL OR MASONRY SURFACES:

Clean off rust, scale, loose paint or other coatings by sandblasting, scraping, wire brushing or other acceptable practice. Dusty or porous masonry should be first dampened with water. Excessively dusty or porous masonry should be primed with Flintkote Asphalt Primer and allowed to dry thoroughly before coating with emulsion.

Cleaned metal surfaces can be effectively primed with Flintkote No. 267 cutback asphalt primer. Other primers which have been satisfactorily used are Federal Specification grade red lead, zinc chromate alkyd and wash primer. It is particularly important to allow adequate drying time, when using red lead as a primer, before coating the surface with any bituminous materials.

510551

APPLICATION METHODS

Flintkote C-13-C4 Emulsion (regular) may be applied by trowel or brush. Soft brushes free from stiff bristles which cut the film should be used and the material applied in a spreading manner taking care to keep brush marks to a minimum. Spray grade C-13-C4 Emulsion may be applied, as received, by either a pressure tank or air operated drum pump. Most manufacturers of spray equipment have units which are recommended for applying Flintkote emulsion coatings but the following suggestions may be used as a guide in selecting equipment: -

Pressure tank - Operated at up to 90 psi.

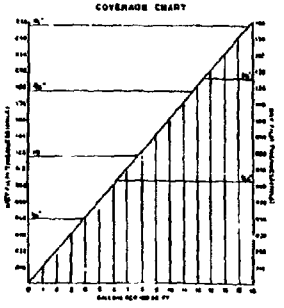
Drum Pump - approximately 8:1 ratio.

Material Hose - 3/4" I. D., may be reduced to ½" 15-25 feet behind gun for ease of handling.

Air Hose - ½" I. D.

Spray Gun - Internal atomizing with ⅝" nozzle.

COVERAGE CHART



Drying:

Asphalt Emulsion coatings have a drying time dependent upon temperature, humidity, air movement and the thickness of coating applied. It is essential that good drying conditions be observed in order to eliminate the possibility of loss of film due to wash off by early rainfall. If rain is imminent - do not apply.

Care of Tools:

Use only clean containers. Brushes, spray equipment and other tools should be soaked in water and kept immersed when not being used. Dried material may be removed with kerosene or petroleum naphtha. Rinse in water before using again.

Caution - Avoid Freezing:

Asphalt emulsion coatings must be protected from freezing in shipping and storage. Apply when temperatures are over 45°F. and protect from rain or freezing until completely dry. The dried coating is unaffected by freezing temperatures.

Containers:

55 gal., 30 gal., 5 gal., 1 gal.*

*¢ per case.

510552

COVERAGE AND FILM THICKNESS FOR FLINTKOTE C-13-A APPLICATION

Wet Film Thickness, Inches	Gallons Per 100 Sq. Ft.	Square Feet Per Gallon
1/16	4	25
1/8	8	13
5/16	12	8.5
1/4	16	6.4

RECOMMENDED USES

Performance properties of C-13-A Emulsion films are such that this coating is especially suited for application over thermal insulations when the surface temperature of the vessel, line or tank is above ambient. Then the moisture vapor flow will be outward through the insulation. Blistering and disbonding of the protecting film over the insulation under such conditions can be avoided by the use of C-13-A Emulsion since the film after curing is a breathing type. Liquid water is prevented from entering the insulation by the C-13-A film. The breathing property combined with the unexcelled weatherability and over-all durability of the film results in a long-life, of service and trouble-free installation. Of interest, the permeability of the film decreases with age: A perm value of 0.75 to 0.5 perms is found for a 1/16" dry film after 60 days outdoor weathering, the barrier effect thus becomes improved so that in periods of shutdown moisture vapor movement into the insulation is retarded, but with sufficient breathing property being retained to prevent blistering.

Application of Flintkote Aluminum Paint over a cured film of C-13-A Emulsion reduces the water vapor transmission rating to a value of 0.2 perms, or after weathering to the very low value of 0.05 perms, based again on 1/16" dry film. The vapor transmission measurements were made on films with the paint applications at the rate of 350 sq. ft. per gallon to give a highly reflective finish.

In cold rooms, Flintkote C-13-A Emulsion is ideal for coating and sealing insulation against air and moisture particularly because of its non-toxicity and freedom from odor. In this field, it is common practice for applicators to mix 1 or 2 pounds of clean, fine sand per gallon of the coating to give a harder surface whenever it may be subject to bumping or other abrasive action.

Flintkote C-13-A Emulsion is extremely effective when used as an adhesive for bonding insulation blocks and bats onto masonry structures which require thick films due to base surface irregularities. Generally, the film has sufficient wet strength grab as to eliminate the need for shoring the insulation during the drying period.

APPLICATION

Preparation of Surfaces: All surfaces should be cleaned thoroughly of dirt, oil, grease and loose particles prior to application of the priming coat.

Primings (Insulation Materials) Porous materials should be adequately covered with one coat of Flintkote C-13-HPC Emulsion (non-fibrated), thinned to satisfactory application consistency of brush or spray with up to 15% with cool, clean water.

(Masonry): Cement plaster or masonry that is porous or dusty should be primed with Flintkote Asphalt Primer or Flintkote C-13-HPC (thinned up to 15% with clean cool water). Allow complete drying of cutback primer.

(Metal): Surface may be primed with either Flintkote C-13-HPC Emulsion or with Flintkote Asphalt Primer Cutback. For wire held insulation, prime over the wire.

Application: (by Trowel) Apply Flintkote C-13-A Emulsion over the primed surface to a wet thickness of not less than 1/8 inch. The coverage at this rate will approximate 8 gallons per 100 sq. ft. The dry thickness will be proportionately less upon evaporation of the liquid present in the product. For a dry coating thickness of 1/8 inch, apply approximately 12 to 14 gallons per 100 sq. ft. Heavier coats over insulation on sloping or vertical surfaces should be applied over wire for a strong mechanical key.

Drying: Asphalt emulsion coatings have a drying time depending on temperature, humidity and the thickness of coating applied. Poorly ventilated areas or interior spaces will take longer and it is desirable to provide a sufficient volume of moving air for drying.

Care of Tools: Use only clean containers. Brushes, trowels and other equipment should be soaked in water before using and immersed in water while not in use. At the end of the work, clean away all dried material by the use of kerosene, white gasoline or other petroleum solvent. Allow to dry and rinse in water before using again for asphalt emulsion coating.

CAUTION:

Flintkote C-13-A Emulsion (fibrated) and C-13-HPC Emulsion (non-fibrated) are water vehicle asphalt emulsions and must be protected from freezing in shipping and storage. Likewise, they should not be applied in freezing weather and must be protected from rain until dry. Water, freezing weather, ice or snow will not affect the dried coating.

Containers: 55 gallons, 50 gallons, 5 gallons.

510553

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 205-A
ISSUE 65

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE C-13-A (WINTERIZED) EMULSION

Heavily fibrated coating for use in cold weather.

GENERAL

Flintkote C-13-A (winterized) is a mineral colloid emulsion fibrated to a trowel consistency with asbestos fibers and formulated to resist freezing in shipping, storage, application and curing at temperatures down to 20° F. Many "winter grade" emulsions are protected against freezing at temperatures somewhat below 32°F, but during the curing cycle the antifreeze ingredient evaporates before the water vehicle leaving the remaining water in the partially cured film subject to freezing with consequent film damage. Winterized C-13-A is formulated to stay freeze resistant until curing is complete.

CHARACTERISTICS

Flintkote C-13-A (winterized) is similar in all respects to standard C-13-A as described in data sheet no. 205. It is well suited for the protection of thermal insulation and permits the continuation of work schedules under conditions which would be unsuitable for conventional breather film coatings.

DRYING

Asphalt emulsion coatings have a drying time depending on temperature, humidity and the thickness of applied coating. Poorly ventilated areas of interior spaces will take longer and it is desirable to provide a sufficient volume of moving air for drying.

CARE OF TOOLS

Use only clean containers. Trowels and other equipment should be immersed in water while not in use. At the end of the work, clean away all dried material by the use of kerosene, white gasoline or other petroleum solvent. Allow to dry and rinse in water before using again for asphalt emulsion coating.

CAUTION

It must be remembered that night temperatures frequently drop considerably below daytime temperatures and care should be taken in the handling and use of Winterized C-13-A to prevent exposure to freezing conditions below those recommended for this product.

CONTAINERS

55 gallons, 5 gallons.

510554

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

INDUSTRIAL FLOORINGS

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 208
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

THERMALKOTE*

Ready to use, non-flammable asphalt emulsion – heavily fibrated with asbestos. Applied by trowel.

*Reg. U. S. Pat. Off.

GENERAL

The use of insulation on tanks, vessels and conduits results not only in fuel and power savings, but also in better products by permitting more accurate temperature control. However, unless the insulating material is completely sheathed by a protective coating its full efficiency is not realized.

CHARACTERISTICS

Flintkote *Thermalkote* is such a protective coating, specifically designed to provide protection for all types of thermal insulation. The base material is an emulsion of highly ductile asphalts. It is heavily fibrated with asbestos to a mastic like consistency for trowel application.

Thermalkote provides excellent durability under extreme weather conditions; will not sag or flow at high temperatures or develop cracks at low temperatures. Its elasticity and toughness resists the stresses of expansion and contraction as well as vibration in the base or structure.

Another outstanding characteristic of *Thermalkote* is the fact that it is non-flammable, being a water base emulsion. As an applied coating it will not support combustion if exposed to flame, and its high asbestos content makes it further resistant to fire.

Thermalkote is especially suitable for use over insulations which are protecting surfaces at elevated temperatures. Under these circumstances the moisture vapor flow is outward through the insulation and weatherproofing. Since *Thermalkote* is made from a "Clay Emulsion" base it is a breathing film which prevents blistering and loss of bond from the vapor pressure caused by escaping moisture. The vapor transmission value is 0.5 to 1.0 perm for a freshly cured 1/16" thick dry film. Sixty days of outdoor weathering reduces this value to 0.25 to 0.5 perm. Liquid water however, is prevented from entering the insulation by *Thermalkote*.

The application of Flintkote Aluminum Paint to a cured film of *Thermalkote* reduces the moisture



Application of Thermalkote to weather-proof insulation on storage tank.

510555

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

vapor transmission rating to a value of approximately 0.2 perms, or after weathering to 0.05 perms, based on 1/16" films.

RECOMMENDED USES

Flintkote *Thermalkote* has proved to give long time and effective protection to thermal insulation installed outdoors. It has been a standard recommendation of insulation manufacturers to weatherproof outdoor applications as well as seal the insulation from infiltration by moisture and fumes. Large tanks, vessels, conduits and other heated equipment all require protection when insulated.

Thermalkote is applied as it comes from the container. Coverage can be estimated at 60 to 70 sq. ft per 100 lbs. or about 16 gallons per 100 sq. ft. in 1/4 inch wet film thickness. This will provide a coating when dry of approximately 1/8 inch thickness which is the minimum that should be used. Severe exposure requires additional coats.

APPLICATION

Some special types of insulation are furnished with wire mesh affixed, over which insulation cement or protective coating is applied. It is more common practice, however, for the insulation to be installed with a wrapping of wire mesh to hold it firmly in place. This wire further serves to prevent flaking of the insulation material and also to anchor the coating material and also in all cases that the insulating material be held tightly so that vibration, expansion or contraction will not crack it or rupture the protecting cement or coating.

Where block insulation is used, the surface is usually finished with a type of insulation cement as dictated by the temperature requirement. This material seals the joints between blocks, fills spaces where the use of blocks is impractical and provides a smooth surface. Flintkote *Thermalkote* is applied directly over this surface to protect it from exposure.

Prior to the application of *Thermalkote* it has been found desirable in most cases to prime the entire surface of the insulation and over the wire if any. This practice gives a more uniform bonding of the protective coating. The product recommended for priming is Flintkote C-13-HPC Emulsion applied at the rate of 1½ gallons per 100 sq. ft. If thinning is necessary for application on porous surfaces, add a small quantity of cool, clean water (up to 15%) and stir to a creamy consistency. For best results, *Thermalkote* is applied by trowel while the priming coat is still tacky.

The finished surface of *Thermalkote* may be troweled as smoothly as desired, resulting in a dull, black finish. Sometimes a final coat of non-fibrated emulsion (Flintkote C-13-HPC or N-13-HPC Emulsion) is applied over the *Thermalkote* to obtain a smooth film and a uniform black color. A highly decorative surface finish is achieved by applying Flintkote Aluminum Paint or Decorator Latex Seal Coat after the *Thermalkote* is thoroughly dry. This latter treatment gives both heat and light reflection which serves to reduce losses from within and sun ray absorption from the outside. Other finishes are also used but care must be taken that they are suitable for application over asphaltic materials.

Drying:

Asphalt emulsion coatings depend on temperature, humidity and the thickness of coating to establish the drying time. Do not apply *Thermalkote* when it is raining. Protect it from watersplash from any source until dry. If it is to receive a paint coat it must be completely and thoroughly dry. A lapse of two or three weeks between application of the coating and painting is recommended.

Care of Tools:

Brushes, trowels and other tools used for application of *Thermalkote* or asphalt emulsion prime and seal coats should be immersed in water when not in use. Dry material can be removed with petroleum solvent such as white gasoline.

Caution:

Flintkote *Thermalkote* should not be exposed to temperatures below freezing either in storage or during application. Best application and drying will result when temperature is well above 40 degrees F. If work is carried on during extremely cold weather, ask for information about "*Winter Grade*" *Thermalkote*.

Containers:

Primer (Flintkote C-13-HPC) Emulsion – 55 gallons, 30 gallons and 5 gallons. Flintkote *Thermalkote* – 50 lb., 300 lb. and 500 lb. drums. *Thermalkote* weighs about 9 to 9.5 lbs. per gal., net.

510556

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 311
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE NO. 54 INSULATION COATING

Heavy bodied non-flammable liquid asphalt emulsion containing insulation materials – designed for spray application.

GENERAL

Flintkote No. 54 Insulation Coating is an asphalt base liquid made in a consistency which is readily sprayed at normal atmospheric temperatures. It is designed to provide protection for interior and exterior surfaces from acids, alkalies and corrosive fumes, moisture condensation, vibration noise, high temperatures and humid atmospheres.

All types of surfaces – steel, wood, concrete and compositions – coated with Flintkote No. 54 Insulation Coating have high resistance to decay, deterioration and corrosion induced by moisture and fumes.

On light steel or other metal, this type coating gives a degree of thermal insulation and acts as a sound dampener to vibration noises. The tough texture of the applied film will retain an appreciable amount of condensed moisture without dripping, thus Flintkote No. 54 functions also as an anti-sweat for areas which need such protection.

Flintkote No. 54 Insulation Coating is recommended for use on air conditioning ducts, ventilator housings, tanks and the like to protect the metal from moisture which collects as dew on cool surfaces. It also minimizes the noise from fans and vibration set up in sheet metal.

Buildings constructed of metal corrugated sheets, flat plates or panels are effectively protected on the interior with Flintkote No. 54 Insulation Coating to assist corrosion attack and minimize sweating and heat losses. It may also be applied to concrete or wood surfaces where it provides similar advantages.

CHARACTERISTICS

Flintkote No. 54 Insulation Coating adheres tightly to prepared surfaces, over a wide range of temperatures. It resists checking, sliding, sagging or peeling from minus 40°F. up to plus 200°F. In addition, because of its special formulation it is resistant to shock and abrasion. Flintkote No. 54 Insulation Coating has a thermal conductivity ("K" value) of 0.68 BTU's per hour per sq. ft. per °F. temperature difference per one inch thickness. The sound decay value is 3.5 decibels per second at 70°F. for a coverage of 1/10 inch thickness (0.5 pound per square foot).

RECOMMENDED APPLICATION

While primarily intended for spray application, Flintkote No. 54 may be applied by brush or trowel in small areas. No fire or toxicity hazards are encountered with its use as it contains no solvents, being a water emulsion base. The coating will dry readily at normal temperatures whenever good ventilation is provided. It must be protected from rain, freezing or water splash, however, until dry.

Spray equipment which has been reported satisfactory for this product includes Johnstone Pump Model 8600, 4:1 ratio; Graco Pump Magul Model, 8:1 ratio or standard pressure pot (such as De Vilbiss) in conjunction with an Eclipse spray gun modified model AE 46 and the Johnstone Special Pole Gun. A feed diameter of 1/2 inch is suggested; and an orifice diameter of 3/8 inch for the Eclipse gun and 1/2 inch for the Johnstone.

510557

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

Preparation of Surfaces:

All surfaces should be cleaned thoroughly of any mill scale, rust, plaster, dirt, oil and grease, using a wire brush, sandblast, or other methods in accordance with good coating practice. Rusted metal should be spot primed; porous or dusty concrete and wood should be primed with a thin penetrating cutback asphalt (such as Flintkote Asphalt Primer). Clean metal and dense concrete ordinarily do not require a primer but wood must be primed to reduce its absorption of the water vehicle in Flintkote No. 54 Insulation Coating.

Application:

Apply evenly with full coverage of approximately 1/4 inch thickness (wet), either in one coat or in two of 1/8 inch each. Coverage of 1/4 inch total thickness (wet) amounts to about 16 gallons per 100 sq. ft.

Drying:

Asphalt emulsion base coatings have a drying time depending on temperature, humidity, and the thickness applied. Enclosed areas or confined spaces will take longer, and the use of ventilating fans and heaters should be considered as an aid to accelerating drying when necessary.

Care of Tools:

Use only clean containers. Brushes and tools should be soaked in water before using and immersed in water when not being used. Occasional rinsing of spray guns and other equipment will generally. Follow the recommendations of spray equipment manufacturer in cleaning spray pumps, lines and guns.

Caution:

Flintkote No. 54 Insulation Coating must be protected from freezing in storage as well as during application. After the coating is thoroughly dry, water or freezing weather will not affect it.

Containers:

55 gallons, 30 gallons, 5 gallons. Net weight per gallon, approximately 8 lbs.

510558

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 232

ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE ASPHALT PRIMER

General purpose, thin asphalt primer in solvent vehicle – used on all types of surfaces in preparing them for asphalt coatings – applied by brush or spray.

MEETS FEDERAL SPECIFICATION SS-A-701

GENERAL

Flintkote Asphalt Primer is a solution of highly ductile, soft asphalt of about 40 penetration. It is a general priming coat for concrete, gypsum, cinder block, brick and metal surfaces over which built-up roofing, waterproofing, dampproofing or other asphalt coatings are to be applied. The thin solution readily penetrates the pores and seals dusty surfaces of masonry to provide a firm bond for such coatings – hot or cold, cutback or emulsion types. Steel in like manner effectively prepared for asphalt protective coatings by the application of Flintkote Asphalt Primer.

This primer is not intended as a coating or as a finish. For a heavier, harder asphalt primer which is also a coating, Flintkote No. 267, a glossy asphalt enamel, is recommended.

DIRECTIONS FOR APPLICATION

Preparation of Surfaces: All surfaces to be primed with Flintkote Asphalt Primer must be dry and free from oil, grease, rust, scale, loose paint and dirt.

Application: Apply by brush or spray at the rate of 200 to 500 sq. ft. per gallon depending on the nature of the surface.

Care of Tools: Brushes, spray equipment and other tools may be cleaned and dried material removed by the use of Varsol or white gasoline.

Caution: Flintkote Asphalt Primer is inflammable. Do not use near open flame and provide adequate ventilation to protect applicators from solvent fumes. Keep containers covered when not in use.

Containers: 1 gallon, 5 gallons, 40 gallons, 55 gallons.

510559

NOTICE The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 237
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY • 480 CENTRAL AVENUE • EAST RUTHERFORD, N. J.

FLINTKOTE NO. C-19

Vapor barrier coating for protection of insulation and heavy duty corrosion resistant coating for industrial use.

GENERAL

Flintkote No. C-19 is a medium consistency cutback made from a blend of special asphalts and reinforced with a relatively high percentage of asbestos fibers. It is designed to give an extremely tough moisture vapor barrier when applied as a coating over dry, clean surfaces. It is formulated for smooth, fast application by conventional spray equipment (brush and trowel methods may also be used) to provide a protective film many times the thickness of paint.

CHARACTERISTICS

The base asphalts of Flintkote No. C-19 have been selected for ductility and softening point to provide a coating which demonstrates exceptional durability under severe exposure and a tough elasticity to withstand shock and vibration as well as normal expansion and contraction without cracking. It is not subject to brittleness or checking under cold and resists sagging or flow at reasonably high temperatures of 250°F. to 300°F. The dried

TYPICAL PROPERTIES

CODE	C-19
Type	Solvent type asphalt mastic filmated with asbestos.
Volatile vehicle[a]	Mineral Spirits.
Weight, pounds per gallon at 77°F.	8.5.
Consistency	Spray, light trowel, or brush.
Temperature range for application	50° - 120°F.
Solids content, % by wt., average	63.5.
Film appearance	Black mastic type.
Average coverage, sq. ft./gal. of coating for 1/16" dry film	16.
Build	3/32" wet film on vertical surfaces at 85°F does not slump or sag. Practical to spray to 1/8" wet film excepting on hot surfaces.
Average drying time of 3/32" wet film, 60% R. H., 77°F[a]	
To touch	3 hrs.
Firm	24 hrs.
Flash point, Tag Open Cup, °F[a]	100 min.
Outdoor weathering performance	Excellent. Films do not check or crack and remain intact on long exposure.
Flow of cured film at 325°F	None, but films not recommended for continuous exposure above 225°F.
Salt fog resistance, 1/16" dry film complete protection of steel panel, hours, minimum	500.
Cracking or disbonding of 1/16" dry film on steel plate, rapid temperature change from 140°F to -60°F	None.
Water vapor permeability at 90°F, perms, 1/8" dry film	Less than 0.02.
Resistance of cured film to	
To oils, grease, solvents	Not resistant.
To splash and spillage of dilute acids and mild alkalies	Excellent.
To abrasion by sand-blast	Excellent. On 50 sandblasting passes, 90 psi, film decreases less than 10% in thickness.
Estimated Thermal Conductivity of cured film, Btu/sq. ft. x °F-inch	1.8
Flame resistance of cured film, 6" Bunsen flame applied for 5 minutes	Excellent. No film flow or falling of asphalt. Flame duration of film less than one minute after Bunsen flame is removed.

a) Except New Orleans product is prepared with VM&P naphtha and has a minimum flash of 40°F TOC, and a dry time to touch of 1-1/2 hours, and firm of 14 hours.

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

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film of this coating is fire retardant to the degree that it does not support combustion.

Flintkote No. C-19 is classed as a vapor barrier as indicated by the values in the table of typical properties above. Due to the internal reinforcing of the coating by asbestos fibers the dried film is highly resistant to abrasion and physical damage such as is likely to be encountered in industrial applications.

The manufacture of Flintkote No. C-19 is carefully controlled to produce a smooth, homogeneous product, free from lumps. Careful attention is given to providing excellent working properties, capable of application in thick coatings without flowing or slumping when applied to vertical surfaces.

RECOMMENDED USES

Insulation Protection - This coating is especially suited for application over thermal insulations when the surface temperature of the vessel line or tank is below ambient. When these conditions prevail the moisture vapor flow is inward through the protective coating and applied insulation. The use of a vapor barrier coating such as C-19 will prevent moisture condensation in the insulation and corrosion of the metal surface. The resistance of the applied film to mild chemical attack and abrasion offers further protection to the insulation under actual service conditions.

Steel and Masonry Protection - Flintkote No. C-19 is highly recommended for use as an industrial protective coating in corrosive exposures and where abrasion or other physical damage is likely to be encountered. The strong reinforcement of the film by asbestos fibers affords the use of thick, durable coatings which will withstand the attack of many corrosive chemicals and will not sag or slump when exposed to moderately high temperatures.

Where required, the application of Flintkote Asphalt Base Aluminum Paint to Flintkote No. C-19 gives a durable, weather resistant, reflective finish.

APPLICATION

Surface Preparation

Metal - Must be clean and dry, free from oil, grease, rust and other foreign matter. Sandblasting is preferred but when not available, other accepted cleaning methods such as flame cleaning, scaling or wire brushing may be used if accepted by the engineer in charge. Flintkote No. 267 (asphalt cutback) is a recommended primer where temporary protection of cleaned metal is required in corrosive atmospheres.

Masonry - Must be clean and dry, free from oil, grease, laitance and other foreign matter. Flintkote Asphalt Primer should be used on dusty or porous surfaces before applying coating.

Insulation - Must be dry and free from dust and dirt. Porous surfaces should be sealed with a thin primer coat of Flintkote Asphalt Primer. When joints or crevices occur in insulation, such as in blocks or boards, these should be caulked or filled smoothly with Flintkote Trowel Mastic prior to applying the coating.

COVERAGE

Rate of application shall be determined by the severity of the anticipated exposure; however, 8 gallons per 100 sq. ft. (1/8" wet film) is generally recommended for most applications. For areas involving impact or other physical damage the use of a glass reinforcing membrane such as Flintkote "Yellow Jacket" may be required. In such cases the membrane must be completely embedded in the coating.

COVERAGE CHART - FLINTKOTE NO. C-19

THICKNESS		COVERAGE	
WET FILM	DRY FILM	GALS. PER 100 S. F.	S. F. PER GAL.
1/32"	.021"	2	50
1/16"	.042"	4	25
3/32"	.063"	6	16.6
1/8"	.083"	8	12.5

EQUIPMENT

Flintkote No. C-19 may be applied directly from the drum without addition of other materials. If low temperatures cause a thickening, the product may be diluted with a small quantity of mineral spirits. Flintkote No. C-19 may be sprayed, using a standard air operated drum pump of a 10 or 12 to 1 ratio. A mastic type spray gun with a 1/4 inch round nozzle of the internal atomizing type is recommended. Air hose shall be 1/2" I. D. and material hose shall be 3/4" I. D. Best spraying consistency is achieved when material temperature is about 70°F.

CARE OF TOOLS

Spray equipment and other tools may be cleaned and dried material removed with petroleum solvents. Mineral spirits, kerosene or white gasoline.

CAUTION

Flintkote No. C-19 is a flammable mixture. Keep container covered when not in use. Do not spray near open flame and allow adequate ventilation to protect applicators from solvent fumes.

CONTAINERS

55 gallons, 5 gallons.

510561

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 239
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE TROWEL MASTIC

Trowel consistency solvent type asphalt coating containing asbestos and mineral stabilizers.

Meets Fed. Spec. SS-C-153 Type I

GENERAL

Flintkote Trowel Mastic is made from selected asphalts, asbestos fibers, mineral stabilizers and petroleum solvents. It is supplied in a smooth, easy working, plastic consistency; adheres to brick, mortar, concrete and steel and remains elastic, expanding and contracting with the surface on which it is applied.

RECOMMENDED USES

This product is especially recommended for trowel application to the interior surfaces of exterior masonry walls above grade and to back up various facing materials used in construction. It serves to provide a barrier to moisture and water vapor which may penetrate the walls. It retards the entrance of water through joints, cracks or porous mortar.

Flintkote Trowel Mastic is likewise recommended for coating exterior masonry walls below grade. Its strength and adhesion serves to retard the entrance of ground water into or through such walls. It is not intended, however, to bridge open joints or settlement cracks.

The installation of spandrel cloth or reinforcing membranes to protect beams, metal sash, skylights, flashings or effecting various roof repairs is facilitated by the use of Flintkote Trowel Mastic as an adhesive under the membrane and for coating over it. The dried film has high resistance to weathering and excellent durability to all stresses and wear to which such coatings will normally be exposed.

Flintkote Trowel Mastic finds many uses in industrial installations for weatherproofing thermal insulations. Its unique cohesive working properties recommends it for coating irregular surfaces such as valves, fittings and caulking joints and cracks prior to final coating of large surfaces. Due to its vapor tight dried film, it has been widely used as a heavy bodied coating on boiler settings to retard the ingress of air.

COVERAGE CHART - FLINTKOTE TROWEL MASTIC

WET FILM THICKNESS	GALS. PER 100 SQ. FT.	SQ. FT. PER GAL.
1/16"	4	25
3/32"	6	16
1/8"	8	12
5/32"	10	10
3/16"	12	8

APPLICATION DIRECTIONS

Preparation of Surfaces - All masonry or steel surfaces must be clean and dry, free from rust, loose paint, dust and other foreign matter. Masonry which is porous can be primed advantageously with Flintkote Asphalt Primer before applying Flintkote Trowel Mastic. Thermal insulation should likewise be primed before final coating.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, as their use is beyond our control, we do not guarantee the results to be obtained

Application Rate - Thickness requirements depend on the type of job and expected service conditions but, in general, Flintkote Trowel Mastic should be applied at a rate of approximately 8 gals. per 100 sq. ft. in one or more coatings. The use of a reinforcing membrane such as Flintkote "Yellowjacket" Glass Fabric is recommended where extra film strength is acquired on applications such as severe waterproofing problems and protecting certain thermal insulation installations. Where troweling is impracticable, Flintkote Semi-Mastic No. 214 or Flintkote No. C-39 for brush or spray application is recommended (see product data sheet Numbers 236 and 237).

Care of Tools - Dried material may be removed with petroleum solvents such as white gasoline or kerosene.

CAUTION:

Flintkote Trowel Mastic is flammable and suitable precautions must be taken during application to provide adequate ventilation for workmen. Keep containers covered and away from flames.

Containers - 55 gallons, 30 gallons, 5 gallons, 1 gallon.

510563

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 241
ISSUE 63-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE No. 69 INSULATION COATING.

Heavy Bodied Solvent Type Coating – Provides Corrosion Protection, Thermal Insulation and Anti-Drip from Condensation.

GENERAL

Flintkote No. 69 Insulation Coating is an asphalt cutback which has been filled with granulated cork particles and asbestos fibers to a consistency which is easily sprayed at normal atmospheric temperatures. It is designed to provide thermal insulation and corrosion resistance to most industrial atmospheric fumes. It is highly effective as a vibration dampening coating and the rough texture of the applied film will retain an appreciable amount of condensed moisture when used as an anti-sweat surface in humid atmospheres.

The base for No. 69 Insulation Coating is a selected asphalt blend having a high softening point, for elevated temperature service, yet is not brittle when subjected to cold. The blend of this unique asphalt and insulation particles produces a coating which can be applied in thick films without sag or flow of the dried film at temperatures up to 200°F.

Flintkote No. 69 Insulation Coating is recommended for use on air conditioning ducts, ventilation housings and the interior of metal panel buildings to protect the metal from moisture and corrosion. It also is effective as a noise dampener and thermal insulator in this type of installation. It is an effective insulation when used on tanks and vessels whose operating temperatures do not exceed 200°F.

Steel, wood, concrete and numerous composition surfaces can be coated with Flintkote No. 69 Insulation Coating to provide the type of protection described above.

CHARACTERISTICS

Flintkote No. 69 Insulation Coating bonds tightly to prepared surfaces over a wide range of temperatures. It resists checking, peeling or alligatoring from minus 20°F to plus 200°F. It has excellent resistance to outdoor weathering and acids, alkalies and corrosive industrial fumes. Flintkote No. 69 Insulation Coating has a thermal conductivity ("K" value) of 0.65 - 0.70 BTU's per hour per sq. ft. per °F temperature difference per one inch thickness. The sound decay value is 5.5 decibels per second at 70°F for a coverage of 1/10 inch thickness.

RECOMMENDED APPLICATION

While primarily intended for spray application, Flintkote No. 69 may be applied by brush or trowel in small areas. Due to the solvents present in the formulation, ventilation must be provided for workmen when coating is being installed in confined areas and protection from fires or open flames must be taken to prevent flashing of the volatile solvents.

Spray equipment which has been reported satisfactory for this product includes Johnstone Pump Model B600, 4:1 ratio; Graco Pump Model Model, 8:1 ratio or a standard pressure pot (such as De Vilbiss) in conjunction with an Eclipse spray gun modified Model AE46 or the Johnstone Special Pole Gun. A feed diameter of 1/2 inch is suggested, and an orifice diameter of 3/8 inch for the Eclipse gun and 1/2 inch for the Johnstone.

PREPARATION OF SURFACES

All surfaces should be cleaned thoroughly of any mill scale, rust, plaster, dirt, oil and grease, using a wire brush, sandblast, or other methods in accordance with good coating practice. Rusted metal should be spot primed; porous or dusty concrete and wood should be primed with a thin penetrating cutback asphalt (such as Flintkote Asphalt Primer). Clean metal and dense concrete ordinarily do not require a primer but wood must be primed to reduce its absorption of the solvent vehicle in Flintkote No. 69 Insulation Coating.

APPLICATION

Apply evenly with full coverage of approximately 1/4 inch thickness (wet), either in one coat or in two of 1/8 inch each. Coverage of 1/4 inch total thickness (wet) amounts to about 16 gallons per 100 sq. ft.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control we do not guarantee the results to be obtained.

DRYING

Asphalt cutback coatings have a drying time which is dependent on temperature, humidity, thickness of application and rate of air movement over the exposed surface. Enclosed areas or confined spaces will take longer, and the use of ventilating fans should be considered as an aid to accelerating drying when necessary. Complete drying of heavy films will usually require 30 - 60 days under normal conditions.

CARE OF TOOLS:

Use only clean containers. Brushes and tools should be soaked in solvent such as kerosene when not being used. Occasional rinsing of spray guns and other equipment will prevent gumming. Follow the recommendations of spray equipment manufacturer in cleaning spray pumps, lines and guns.

CAUTION

Flintkote No. 69 Insulation Coating contains flammable solvent. Do not use or store near open flames. For best results, application should be made at a temperature of 60°F or higher.

CONTAINER

55-gallons and 5-gallons. Net weight per gallon, approximately 6.7 lbs.

510565

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 285

ISSUE 61-F

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 40 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE NO. 746 ADHESIVE

High solids, non-flammable adhesive—black in color—used for bonding sound deadening felts and insulation media in wet or dry combining.

GENERAL

Flintkote No. 746 Adhesive is a general purpose water vehicle adhesive which is particularly characterized by its 78% solids content while retaining a relatively high degree of workability. This combination of properties is unique for adhesives of this type and permits application of moderately heavy films since it is not necessary to evaporate large amounts of water vehicle. The dried film further exhibits a degree of pressure sensitivity which has not previously been known for rubber-asphalt based adhesives.

RECOMMENDED USES

Flintkote No. 746 is applicable to a wide variety of industrial and general purpose adhesive problems involving bonding and laminating such materials as paper, paper boards, felts and insulation materials to themselves or other surfaces so long as removal of the water vehicle is possible before or after the bond has been established.

The following products represent a partial list of materials which can be bonded to themselves or to metal, masonry or wood with Flintkote No. 746 Adhesive.

Paper and paperboard (kraft, crepe, "V" board and other packaging materials). This adhesive does not bleed through 50 lb. kraft at a temperature of 160° F.

Cloth and cloth-like materials (burlap, jute, canvas and felts).

Asphalt containing products (paper sheathing boards, saturated felts and impregnated sound deadening felts.)

Insulation media (cork, expanded polystyrene, glass fiber, cellular glass, gypsum plank and wall boards). Note: bonding materials which have a low water vapor transmission rate such as expanded polystyrene and cellular glass insulations to themselves or to metal is generally not recommended due to the possibility of water vehicle entrapment in the glue line.

Flintkote No. 746 Adhesive, however, is especially recommended for adhering sound deadening, insulating felts and other lightweight composition materials to metal, as in air conditioning ducts, aluminum siding or roofing, refrigerators, television and radio cabinets, household appliances and sheet metal equipment. Drying is effected through these composition materials.

Due to rapid gain in strength, it is frequently unnecessary to use shoring for temporary holding of insulation.

Application of Flintkote No. 746 Adhesive is made by brush or trowel at a coverage of 50 to 200 sq. ft. per gal. depending on the nature of the materials to be bonded and the smoothness of the surfaces involved in the operation. Being a water vehicle material, the cleaning of tools and equipment is easier than with solvent cements. There are no fire or toxicity hazards encountered in the use of this product.

Temperature and water resistance factors of the dried film are excellent.

CHARACTERISTICS OF FLINTKOTE NO. 746 ADHESIVE

Type: Rubber—asphalt, water vehicle emulsion.

Color Dried Film: Black.

Viscosity: Appr. 18,000 cps. (Brookfield at 77°F.). Heavy paint consistency.

Solids, Wt. %. Approx. 78%.

Dilution: Normally used as received. However, if necessary may be diluted with 1% solution of soap* in cool, clean water. (*Such as "Ivory Snow", "Ivory Flakes", liquid hand soap, etc.)

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since [illegible] control, we do not guarantee the results to be obtained.

INDUSTRIAL ADHESIVES

INDUSTRIAL FLOORINGS

Coverage: Depends on the surface to be coated. Figure 100 to 200 sq. ft. per gal. on the fairly smooth surfaces.

Film Rating of Dried Film: 1.3 gals/CSF-0.5
2.6 gals/CSF-0.25

Application Procedure: Heavy brush or light trowel. Not designed for spray application.

Working Periods Remains tacky for a number of hours permitting wet or dry combing over wide range of conditions. One surface coating can be combined in several minutes.

Temperature Limits For Application: Between 40°F. to 100°F. However, apply near room temperatures wherever possible.

Service after Application: Not affected by extremes in atmospheric conditions. Usually maintains bond over range of minus 20°F. to plus 180°F. Excellent water and moisture resistance.

Flammable During Use: No.

Caution: Keep from freezing. Store above 40°F.

Shelf Life: Rotate inventory so that product is used on "first in - first out" basis. Store in 60-80°F. range whenever possible. For best results, this product is recommended for use within six months.

Net Weight Per Gal.: Approx. 8.4 pounds.

Container Sizes: 1, 5, and 55 gallons.

510567

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 290
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE NO. 974 ADHESIVE

A multi-purpose, synthetic rubber-resin solvent cement for use with a wide range of materials, including those having impervious surfaces. Develops high ultimate strength with flexibility of film.

Flintkote No. 974 is a Neoprene base solvent cement suitable for application by brush, roll coater or spreader bar. It has a good initial grab and can be used successfully to eliminate sewing and stapling in many combining operations. It dries to a flexible film which is neutral in color and semi-transparent.

This adhesive has good aging characteristics and also has a high degree of oil resistance, but it is not strictly an oilproof type. Flintkote No. 974 is suitable for bonding many types of materials such as steel, rubber, wood, leather, fabric, Bakelite, etc., to themselves or each other. It is not recommended for bonding vinyl materials containing migrating plasticizers.

Flintkote No. 974 is an air curing type of cement, requiring no accelerator addition by the user. It has good storage stability in the container and excellent heat resistance of the adhesive film up to 250°F.

Methods of Combining

In the use of Flintkote No. 974, three possible methods of combining are suggested: Cold Bonding, Hot Bonding and Solvent Reactivation Bonding. The choice will depend upon the materials to be combined and handling conditions determined by production requirements. For especially porous materials, it may be advisable to apply more than one coat per surface to obtain sufficient cement at the glue line.

Cold Bonding

Flintkote No. 974 is applied to each of the surfaces to be joined and allowed to dry 5 to 20 minutes, depending upon atmospheric conditions. When the film is aggressively tacky, the surfaces are joined and hand or mechanical pressure is applied.

Hot Bonding

Flintkote No. 974 is applied to each of the surfaces to be joined and allowed to dry until substantially tack free. A forced drying system may be employed to hasten solvent release. The two surfaces are then brought together in suitable equipment, the temperature at the adhesive line raised to about 250°F. for 30 seconds under an applied pressure of about 200 lbs. per sq. in.

Solvent Reactivation Bonding

A method used principally when delayed bonding is a factor in operations. Flintkote No. 974 is applied to each of the surfaces to be joined and allowed to dry thoroughly, either normally by air or by force drying. Later, when the surfaces are to be bonded, they are wiped with Solvesso No. 1 and immediately combined.

Flintkote No. 974 is to be applied only on surfaces that are dry, clean and free from dirt, grease, rust, loose paint and other foreign matter. This product is flammable; keep away from flames and apply in well ventilated areas. For best results apply at temperatures above 50°F.

(Over)

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

CHARACTERISTICS OF FLINTKOTE NO. 974 ADHESIVE

Application: Brush, roll coater, spreader bar.

Dilution: Recommended for use without dilution. However, if necessary, use toluol in small amounts and stir well.

Coverage: Approximately 200 to 300 sq. ft. per surface per coat depending on nature of surfaces.

Application Conditions: Surfaces should be clean and dry. Roughen to improve adhesion. Use at room temperature whenever possible.

Viscosity: About 1,350 cps. (Brookfield, 77°F.); syrup consistency.

Color Dried Film: Semi-transparent, light tan.

Finished Properties: Very durable over wide range of atmospheric temperatures and conditions. Good resistance to water and to lower solvents such as V.M. & P. Naphtha, mineral spirits etc. Poor resistance to higher solvents such as ketones and esters.

Special Precautions: Flammable while wet. Keep away from flame. Avoid breathing fumes. Store below 80°F.

Storage Stability: Rotate inventory of adhesive so that product is used on "first in–first out" basis. Store in cool place wherever practicable. For best results, this product is recommended for use within 6 months.

Net Weight Per Gallon: About 7.4 pounds.

Container Sizes: 55 gallons, 5 gallons, 1 gallon.

ADHESIVE STRENGTH – Tested in shear with Scott Tensile Tester at 1 ft./min.*

* Results are average of 3 tests.

VALUES IN LBS./SQ. IN.	(1) COLD BONDING	(2) HOT BONDING	SOLVENT (3) REACTIVATION BONDING
Plywood to Steel	305	619	123
Canvas to Plywood	295	235	Canvas failed
Rubber matting to Steel	227	–	150
Steel to Steel	–	1,000	57
Aluminum to Aluminum	–	889	113
Bakelite Board to same	–	457	80
Plywood to Plywood	510	–	–

(1) Both surfaces brush coated, allowed to dry 15 ml. at room temp. Bond dried 24 hours before testing.

(2) Brush coated, dried 24 hrs. at room temp. Bonded at 250°F. temp. at 200 p.s.i. for 2 min. Cooled and tested immediately.

(3) Brush coated, dried 24 hours at room temp. Film reactivated with Solvesso No. 1 and air dried 24 hours before testing.

510569

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 292
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

ATLAS INSULATION ADHESIVES

Solvent type, waterproof, resin base compounds for fastening light and medium weight insulation. Available in putty knife, trowel and brush consistencies.

PRODUCT DESIGNATIONS:
No. 16 - Putty Knife Consistency
No. 75 - Trowel Consistency
No. 20 - Brush Consistency

GENERAL

Atlas Insulation Adhesives are especially prepared for fastening such insulation materials as fibrous glass and cork boards up to 2 inches thick without need for shoring or banding. These adhesives have strong, immediate bond.

Atlas Insulation Adhesives are applied with notched spreader to the back surface of the insulation or, in some cases, brushed on the base surface. The insulation is then pressed firmly into position without flexing the base in case it is thin metal.

All surfaces must be dry, clean and free from oil, grease and dust.

CHARACTERISTICS

Type:
Waterproof, resin-base adhesive.

Consistency:
Short and buttery.

Coverage:
Depends on nature of surfaces.

Color:
Tan

Odor:
Mild

Flammability - Wet
Combustible - asst ed label.

Working Period:
15 to 20 minutes.

Drying Time:
Approximately 24 hours-sets hard but not brittle.

Service Temperature:
Up to 140°F. after adhesive has gained its set.

Water Resistance:
Good

Method of Application:
Spreader or trowel.

Alkali Resistance:
Resistant to soap and mild cleansing compounds but not strong alkalies.

Weight Per Gallon:
11 pounds.

Container Sizes:
5 gallons, 1 gallon.

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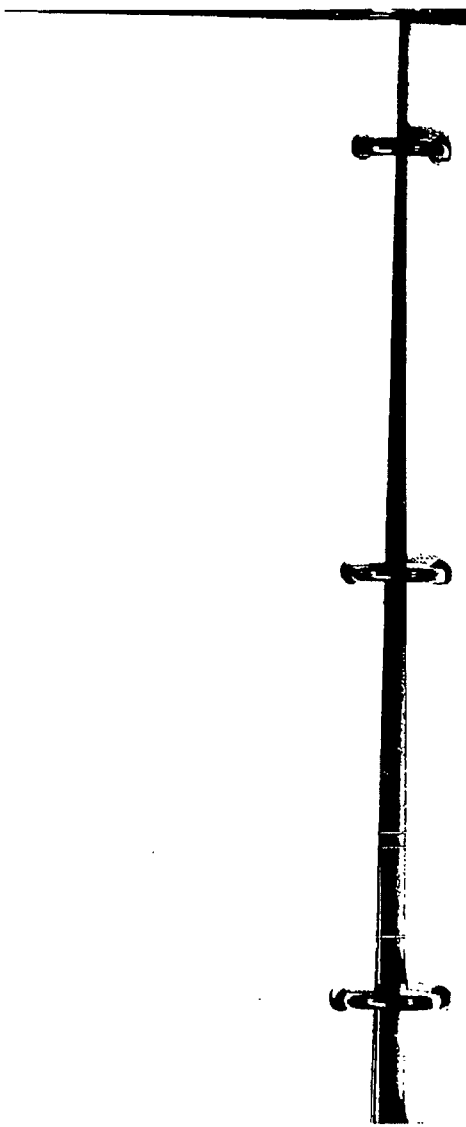
NOTICE: [illegible] Flintkote Products are based on tests believed to be reliable. However, since [illegible] we do not guarantee the results to be obtained.

INDUSTRIAL FLOORINGS INDUSTRIAL ADHESIVES



FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 293
ISSUE A-61

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE LAGGING ADHESIVE

A white latex adhesive for bonding various laggings to insulation. Available in standard and fire resistive grades.

FIRE RESISTIVE GRADE COMPLIES WITH MIL-A-3316 TYPE II
MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 601 M (COM-NBS).

GENERAL

Flintkote Lagging Adhesive is a white compounded latex adhesive of medium paint consistency suitable for adhering lagging fabrics and papers to pipe insulations. Its quick setting properties allow rapid installations with a wide variety of materials. Since Flintkote Lagging Adhesive is a water vehicle compound, clean-up is easily accomplished with clean water before the adhesive dries.

RECOMMENDED USES

Plant installations where cleanliness is essential, such as breweries, food processing plants, dairies and dairy products plants, also, steam generating and utilities installations require an adhesive and coating such as Flintkote Lagging Adhesive. The dried coating can be washed to remove grease, oil and dirt accumulations and can also be used as a sizing base for further painting.

Lagging adhesive is used extensively for adhering cotton fabrics, canvas, asbestos, glass fabrics and other coverings over pipe insulation. The permanent, non-yellowing white coating makes a smooth, jointless finish which is easy to keep clean with a minimum of maintenance.

Application can be made directly by brush or spray, or by dipping the lagging fabric in the adhesive prior to installation on the insulation. One or more coats applied over the adhered membrane makes an excellent base for further painting or can be left as a finished white coating.

Flintkote Lagging Adhesive is non-toxic and non-flammable when wet. See table below for fire resistive properties of dried film. Do not apply at temperatures below 40° F.

PHYSICAL PROPERTIES OF FLINTKOTE LAGGING ADHESIVE

Type	Standard	Fire Resistive
Color	White	White
Volative Vehicle	Water	Water
Consistency	Medium Paint	Medium Paint
% Solids	55%	38%
Weight per gallon	10.6	9.5
Average Coverage Sq. Ft./Gal.	100	80
Drying Time @ 77° F		
Bonding Time	0 - 10 Minutes	0 - 10 Minutes
Thorough Dry	3 - 4 Hours	3 - 4 Hours
Service Temperature	-50°F/175°F	-50°F/175°F
Application	Brush, Dip, Spray	Brush, Dip, Spray
Flammability		
Wet Film	Non-flammable	Non-flammable
Dry Film	Burns	Fire Resistive (Meets fire resistance requirements of MIL-A-3316A, Type II
Clean-up		
Wet Film	Water	Water
Dried Film	Toluene or Xylene	Toluene or Xylene
Container Sizes	1, 5, 55 gallons	(5 gal. Special Order)

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 296
ISSUE 63-A

PRODUCT DATA

GENERAL OFFICE: • THE FLINTKOTE COMPANY 30 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE COLORCOAT

Decorative and Protective Coating for Thermal Insulation lagging fabrics and asphalt weathercoats.

MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 00136 (CDM-NBS).

Flintkote Colorcoat is a durable yet flexible protective coating for thermal insulations. The dried film is fire resistant and provides a highly decorative finish which resists dirt, oils, grease and many corrosive chemicals. It can be used as an adhesive for cementing lightweight lagging fabrics or as a finish coating over laggings which previously have been installed with a conventional lagging adhesive.

Colorcoat is supplied in a ready-to-use brush consistency for maximum ease in application. Since it is a synthetic resin latex composition, only water is needed for clean up of brushes and equipment and spills may be removed, before drying, with a dampened cloth.

Flintkote Colorcoat may also be used as a finish over most asphalt weathercoats after they are thoroughly dried (note: cutback type mastic coatings require drying periods of up to 30-60 days before applying colorcoat.)

PHYSICAL PROPERTIES

Consistency	Brushing	Service Temperature	-50 - 180°F
Wgt. Per Gallon	10.5 - 11.0	Solvent for clean up	Water
Solids % by wgt.	48.0 - 51.0	Permeability	3.0 perms
Drying Time		Flammability	
Bonding Time	0 - 15 mins.	Wet	Non Flammable
Touch	1 Hour	Dry	Fire Resistive
Through	4 Hours		

APPLICATION NOTES:

1. Apply only to clean surfaces.
2. Do not apply at temperatures below 40°F
3. Condition brushes by soaking in clean water before applying Colorcoat.
4. Insulating cements and mastic coatings should be thoroughly dry before applying Colorcoat.
5. Coverage will vary according to surface and use conditions.

A. 50-60 sq. ft. per gallon over insulation without membrane.

B. 80-100 sq. ft. over lagging fabrics and membranes.

C. 100-125 sq. ft. over non-absorptive surfaces such as mastic weathercoat.

COLORS: White is standard, other colors available on special order.

CAUTION: Flintkote Colorcoat is a water vehicle material, - Keep From Freezing.

CONTAINERS: 55 gallon, 5 Gallon, 1 Gallon

* 6 per case.

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NOTICE: The [illegible] for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.



FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 297
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY • 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

ATLAS NO. 2004 ADHESIVE
(Fibrous Adhesive)

A high temperature adhesive designed for adhering high temperature insulation and for lagging asbestos cloth to insulation used for extremely high temperatures.

GENERAL

This is especially formulated sodium silicate adhesive for use with dense thermal insulation such as amosite asbestos block, cellular asbestos block and asbestos felt to itself and non-porous surfaces, also used with 85% magnesia.

All surfaces must be dry, clean and free from oil, grease and dust.

CHARACTERISTICS

Type:
heat resistant cement

Flammability - wet:
Not flammable
- Dry:
Incombustible

Working Period:
15 to 30 minutes

Viscosity:
Heavy Paint Consistency

Method of Application:
Brush or trowel

Coverage:
50 to 75 sq. ft. per gallon depending on nature of surface

Service Temperature:
To 1700°F at coated surface

Water Resistance:
Good-after exposure to temperatures above 700°F.

Grease Resistance:
Good

Net Weight Per Gallon:
12.5 pounds

Dilution:
Generally used as received
can be thinned with clean water.

Application Temperature:
For best results apply above 45°F

Special Instructions:
Protect from freezing in shipping and storage

Special Limitations:
Do not use with glass or mineral wool

Container Sizes:
55 gallon, 5 gallon, 1 gallon • •4 gallons per case

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 298
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICE • THE FLINTKOTE COMPANY 30 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE LAGGING COATING

A Light Colored Heavy Bodied Coating For Thermal Insulation

MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 00134 (COM-NBS).

Flintkote Lagging Coating is a heavy bodied latex coating formulated to produce a tough puncture resistant white protective finish on thermal insulation. The dried film is fire resistive and when combined with lagging fabric produces a surfacing with excellent resistance to physical damage.

Lagging Coating may be used with or without fabric, as an adhesive or coating, has good resistance to oils and greases, and may be washed to remove accumulated dirt. It also serves as an excellent base for further decorative finishes such as paints or Flintkote Colorcoat.

PHYSICAL PROPERTIES

Type	Synthetic Resin Latex
Color	White
Vehicle	Water
Consistency	Heavy Brush
% Solids	50%
Weight per gallon, lbs.	10.6
Coverage	40-100 sq. ft./gallon
Drying Time	
Touch	2 hours
Through	12 hours
Service Temperature	0 - 180°F.
Application	brush, spray, roller coat.
Flammability	
Wet	non-flammable
Dry	fire-resistive
Vapor Permeability	1.0
Clean-up	
wet film	water
dried film	Toluene or Xylene
Precautions	Keep from freezing in storage. Do not apply at temperatures below 40°F. and protect from freezing temperatures until dry.
Container Sizes	1, 5, 55 gallons.

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 299
ISSUE 63

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE M-11 ADHESIVE

A Fire Resistive Synthetic Rubber - Resin Solvent Cement
For Bonding Insulations and Jacketing Materials.

GENERAL DESCRIPTION
Flintkote M-11 adhesive is a rubber-resin base solvent cement which is suitable for application by brush or trowel. It has good initial grab and sufficient wet strength to hold components in position until final strength is achieved. M-11 dries to a tough flexible film and can be used to eliminate straps, tape and staples in many combining operations.

CHARACTERISTICS
Flintkote M-11 has good aging characteristics, a smooth buttery consistency and a moderate degree of oil resistance although it is not rated as a fully oilproof product. It has been found particularly suitable for bonding various jacketing materials such as Hypalon film on glass or asbestos felt backing and Tedlar to themselves or to fiberglass, Foamglas and rigid or flexible polyurethane insulations. M-11 may also be used with 85% Magnesia and Calcium silicate insulations but it is recommended that the adhesive be applied over the standard lagging jacket in order to have a firmer surface on which to establish a bond. It has further been found to perform well when used as joint cement for pipe insulations.

PHYSICAL DATA

Type		Synthetic rubber-resin solvent cement.
Color dried film		White
Vehicle		Volatile solvents
Consistency		Soft brushable paste (approx. 30000 cps.)
Solids Content	% by wgt.	67% avc.
	% by vol.	52 ave.
Weight per gallon net.		9.0#
Shipping		10.0#
Coverage sq. ft./ gallon		100 - 150 (as lap cement)

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(continued)

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

Application	Brush or trowel
Application temp.	40° - 100° F.
Drying time at 77° F. Handing time Through dry	0 - 15 minutes 48 - 72 hours
Service temperature	0° F. - 175° F.
Flammability Wet film Dry film	Burns Fire resistive.
Shipping information	Not red label.
Clean up	Toluene
Shelf life	Rotate inventory. For best results use within six months. Store below 80 ° F.
Special precautions	Combustible mixture. Keep away from open flames. Use in well ventilated areas.
Container sizes	55 gal. drums; 5 gal. pails; 1 gal. pails (4 x 1 per case)

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FLINTKOTE
INDUSTRIAL PRODUCTS

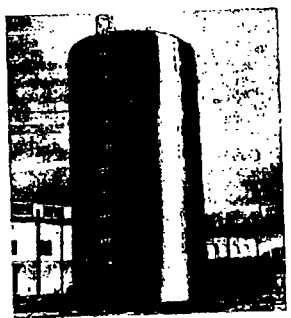
NUMBER 301
ISSUE 61-D

PRODUCT DATA

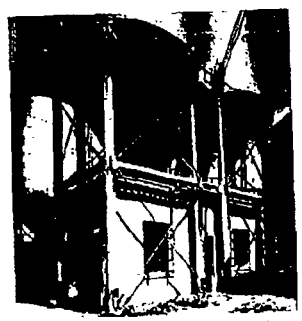
GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE ALUMINUM PAINT

(Asphalt Base) High light reflectivity – decorative paint. Use on roofs and tanks reduces interior temperatures – protects metal from corrosion.



Flintkote Aluminum Paint applied over steel for corrosion protection and reduced interior temperature.



"Brighten Up" with Flintkote Aluminum Paint. Shown here applied to both metal and masonry.

GENERAL

An asphalt base type of aluminum paint is especially recommended, because of its flexible film and high weather resistance, wherever a light reflective paint is desired. As the vehicle is compatible with asphaltic coatings, perfect bonding of the paint film is assured when applied over asphalt coatings and roofs. Excellent water vapor resistance is also obtained. Flintkote Aluminum Paint is recommended also for use over metal and masonry, and primed wood.

CHARACTERISTICS

Flintkote Aluminum Paint is made with selected asphalts, the finest grade of aluminum flake and solvents, all combined chemically and physically to provide a brilliant, durable, decorative paint, requiring no further color treatment. It is factory mixed and ready to apply by spray or brush merely requiring stirring. It was designed originally for use over thoroughly dried asphalt emulsion type protective coatings and smooth surfaced or granule coated roofing in order to give high light reflectivity over these normally dark surfaces.

RECOMMENDED USES

Where a light color or light reflective surface is desired in long-term anti-corrosion steel protection, it is recommended that Flintkote Aluminum Paint be applied over a relatively heavy film of Flintkote asphalt base clay emulsion protective coating.

An excellent system of preventing moisture vapor transmission through masonry walls is to apply Flintkote Emulsion Protective Coating (Type C-13-HPC) or (Type C-13-E) at the rate of not less than 3 gallons per 100 sq. ft. of surface. When the emulsion is thoroughly dryer a spray application of Flintkote Aluminum Paint at a coverage of 1 gallon per 300 to 400 sq. ft. will give a durable, water resistant and beautiful finish plus a surface having

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

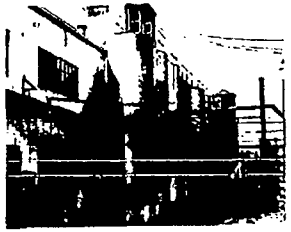


Brighter interiors and better resistance to corrosive elements are obtained by use of Flintkote Aluminum Paint on steel framing and underside of roof.

an extremely low moisture vapor transmission rate. Such a system is particularly applicable in buildings where air conditioning equipment or refrigeration is installed.

Flintkote Aluminum Paint may be applied directly to asphalt roof coating, smooth surfaced or granule coated roofs. The high reflectivity of the paint will materially reduce the temperature inside the building. Moreover, it will serve to prolong the service expectancy of composition roofing and asphalt coatings because of offers additional protection against direct contact with sun, wind and rain.

For decorative purposes and corrosion protection equal to paint film thickness, Flintkote Aluminum Paint may be applied directly to steel or concrete, or



Insulated storage tanks and metal buildings are protected and given better appearance with Flintkote Aluminum Paint.

to wood and porous masonry over a thin sealer of cutback asphalt primer. It is not recommended, however, for direct application to steam or hot water pipes or radiators.

DIRECTIONS FOR APPLICATION

Preparation of Surfaces:

All surfaces must be thoroughly dry and free from dirt, dust and loose material. It is essential that asphalt coatings, either emulsion or cut-back types, should be allowed to dry *thoroughly* (at least a week) under good drying conditions before application of the paint.

Application:

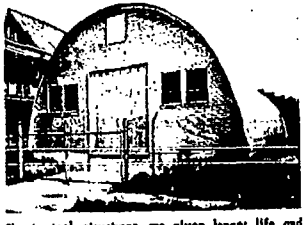
Flintkote Aluminum Paint is factory mixed and ready to apply. *Like any paint, stir thoroughly before using.*

It may be applied by brush or spray, using conventional equipment. Best results in uniform film coverage and brilliance, however, are obtained by spray. For brush application, it is preferable to apply the paint in two coats in order to avoid holidays in the film due to brush marks.

Caution:

Flintkote Aluminum Paint is a combustible mixture. Do not apply near open flames. The flash point is over 100 degrees F., therefore, not hazardous to use when proper precautions are observed. In applying the paint in enclosed areas and unventilated spaces, adequate ventilation should be provided.

Containers: 5 gallons and 1 gallon.



Sheet steel structures are given longer life and lower inside temperature with Asphalt Protective Coating followed by Flintkote Aluminum Paint.

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 213
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

YELLOW JACKET
MEETS FED. SPEC. HH-C-466b
20 x 10 mesh

GENERAL

Flintkote Yellow Jacket is a woven glass mesh reinforcing membrane of distinctive color for easier application. It is manufactured to meet the requirements of Federal Specification HH-C-466b.

It is recommended for use wherever internal reinforcement of applied coatings is required such as waterproofing, dampproofing, industrial protective coatings and similar applications.

CHARACTERISTICS AND USES

Flintkote Yellow Jacket is manufactured with a coating of synthetic resin which is compatible with cold-applied coatings of asphalt and coal tar and resins. It's distinctive yellow color is of great assistance to the applicator in making certain that the fabric does not "float" to the top of the coating and that complete coverage is obtained in applications made under conditions of poor lighting. The resin coating is non-tacky even at elevated temperatures assuring no sticking in the rolls - permits easy knife cutting and no travelling.

The strong glass fibers provide the reinforcement needed in waterproofing and protective coatings for bridging cracks caused by structural movement and building vibrations. The woven mesh construction is also of assistance in obtaining greater wet film build for heavy duty applications. Widely used in thermal insulation applications, it is of value in reinforcing weatherproof coating films and in protecting valves, fittings and other irregular surfaces. The presence of glass fabric greatly increases the resistance to impact of applied films.

PROPERTIES

Type:

Woven glass mesh treated with synthetic resin coating.

Color:

Yellow.

Mesh Size:

20 x 10.

Breaking Strength:

M. D. – Warp 75# Min.
C. D. – Filling 75# Min.

Packaging:

Units

1 – 48" x 150' Roll (600 sq. ft.)

1 – 36" x 150' Roll

3 – 12" x 150' Rolls (450 sq. ft.)

6 – 6" x 150' Rolls

12 units per carton.

NOTICE: The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 315
ISSUE 63

PRODUCT DATA

GENERAL OFFICES: THE FLINTKOTE COMPANY 30 CENTRAL AVENUE EAST RUTHERFORD N J

FLINTKOTE FR-200 S/T

Fire resistive dark colored mastic protective coatings for thermal insulation and protection of metal against corrosion.

Flintkote FR-200 S (Spray) and FR-200 T (Trowel) are dark colored mastic protective coatings which are highly filrated to provide the maximum in film toughness and durability under severe exposure conditions. The consistency of these products is adjusted to provide ease of application by either spray or trowel and permit the use of heavy coatings without slumping or sagging during the curing cycle.

The dried films are fire resistive and the use of a non-flammable solvent blend means safety from flash or fire during application. The low water vaper permeability of the film make these products well suited for use on below ambient surfaces.

PHYSICAL PROPERTIES

Color	Dark Brown - Black
Consistency (Spray)	Heavy brush
" (Trowel)	Medium trowel
Weight per gallon	10.6 - 11.0
Solids Content, % by weight	62 - 65
Coverage	See chart below
Coverage Drying time 1/16" wet film	
Touch	6 Hours
Fire	24 - 48 hours
Service temperature range	-40 to + 200
Water vapor permeability 1/16" dry film	0.05
" " " 1/8" dry film	0.03
Flammability	
Wet	Non-flammable
Dry	Fire resistive
Solvent for clean up	Mineral spirits

Over.....

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, over such use is beyond our control, we do not guarantee the results to be obtained.

COVERAGE CHART

Wet Film Thickness	Gallons/ C. S. F.	S. F./ Gallons	Dry Film Thickness
1/16"	4	25	0.040
3/32"	6	16	0.060
1/8"	8	12	0.080
5/32"	10	10	0.100
3/16"	12	8	0.120

Caution	Contains chlorinated solvents. Use in well ventilated areas. Avoid prolonged or repeated contact with skin.
Container Sizes	1 gallon, 5 gallon and 55 gallon cans.
Shipping Weight	Approximately 12 lbs. per gallon.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 317
ISSUE 63-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

PROTECTIVE COATINGS | WATERPROOFING | INDUSTRIAL ADHESIVES | INDUSTRIAL FLOORINGS

FLINTKOTE FR-100

Flintkote FR-100 is a white, fire resistive, vapor barrier protective coating which has been designed for use over insulation on low temperature vessels and piping. Its heavy bodied consistency permits the application of durable protective films for resistance to physical damage from normal plant operations.

The coating is formulated with fire resistive synthetic resins, inorganic fillers and fibers and blended with selected solvents for ease of application. The coating is flammable in its wet state but the dry film is highly fire resistive.

PHYSICAL DATA

Type	Synthetic Resin Mastic
Solvent	Flammable solvents
Solids (by wgt.)	60.0% (approx.)
Application	Trowel or Spray
Coverage	12.5 S.F./Gal. (1/8" Wet Film) 25 S.F./Gal. (1/16" Wet Film)
Drying Time (1/16" Wet Film)	
Touch Dry	30 mins.
Firm Dry	6 - 8 hours
Flammability	
Wet Film	Flammable
Dry Film	Fire Resistive
Vapor Permeability (1/8" Dry Film)	0.05 max.
Flash Point (T.O.C.)	Above 83° F. (not red label)
Weight Per Gallon	10.8 lbs.

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Clean up		
	Wet film	Water
	Dried film	Toluene
Shelf life		For best results use within 6 months.
Caution		Protect from freezing during storage and period of drying.
Container sizes		1, 5, 55 gallons.

INDUSTRIAL ADHESIVES

WATER VEHICLE

Product	Data Sheet	Applicable Specification	Description
Asphalt Emulsions	281		Mineral colloid asphalt emulsions for light duty bonding.
No. 70	283		Heavy bodied chemical emulsion for bonding vapor barrier papers and insulations in cold room work.
No. 746	285		High Solids rubber-asphalt adhesive for insulation bonding-adhering sound deadening felts and other light combining operations.
No. 747	286	Mil.-A-101-A	High Strength rubber-asphalt adhesive for laminations of wall board and gypsum board. Bonds felts and insulations against moderately high temperature.
No. 749	287	Mil.-A-101-A	High strength black reclaim rubber dispersion for many bonding and laminating operations.

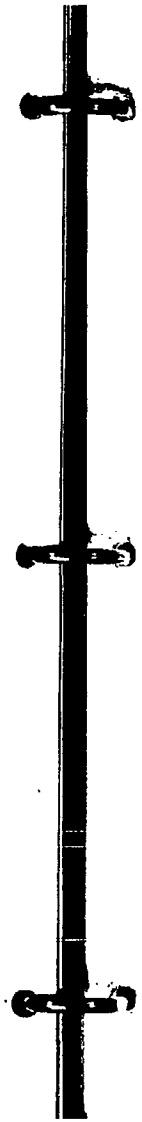
ADHESIVES

SOLVENT VEHICLE

Asphalt Cutbacks	282		Asphalt cutbacks for light duty bonding.
No. 716	294		Clear rubber cement for light bonding operations.
No. 717	289		Reclaim rubber cement for various bonding operations such as adhering insulation blankets in air ducts.
No. 718	295		Fire resistive clear rubber cement for air conditioning duct work and similar bonding operations.
No. 974	290		High strength neoprene-resin cement for many combining operations. Bonds steel, rubber, wood and leather to themselves or each other.
No. 979	291	Mil.-D-2909	High strength neoprene-resin cement for structural bonding of many surfaces.
Atlas Insulation Adhesives	292		Heavy bodied resin adhesives for erecting insulations. Strong immediate bond eliminates need for shoring.

SPECIALTIES

Flintcrete	BI-611	MMM-B-00350 MMM-C-00650	Epoxy-Polysulfide two component compound for bonding masonry surfaces to each other. High strength produces bonds stronger than concrete.



FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 281
ISSUE 61-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N J

ASPHALT EMULSION ADHESIVES

Low cost, non-flammable for bonding lightweight materials

GENERAL

Flintkote C-13-HPC and N-13-HPC are heavy paint consistency emulsions of selected steam-refined asphalts which have been emulsified by means of colloidal clay. These emulsions, which differ only in the degree of the hardness of the asphalt bases, serve as excellent general purpose adhesives for many water and weather resistant bonding and cementing operations with lightweight materials. Flintkote C-13-HPC Emulsion - 100 penetration asphalt. Flintkote N-13-HPC Emulsion - 50 penetration asphalt. The adhesives are low in cost, odor free, non-flammable to use and are applied without heating to many clean, dry or damp surfaces. No toxicity is involved when using these products in confined areas.

RECOMMENDED USES

Flintkote C-13-HPC Emulsion retains a slight tackiness when dry, making it eminently suitable for low strength bonding of such materials as wallboard, gypsum board, cork insulation, fibrous sheets and felts. These may be bonded to one another or to other base surfaces under normal temperature provided the water vehicle of the emulsion can escape from the film.

Flintkote N-13-HPC Emulsion is less tacky than C-13-HPC when dry and because of its firmer film can be used for somewhat stronger bonds and higher service temperatures. It is recommended for bonding insulation blocks and batts to absorptive surfaces such as lightweight concrete, masonry and gypsum board. Since no petroleum or aromatic solvents are present in these emulsions, the adhesive does not attack expanded polystyrene insulations.

CHARACTERISTICS OF FLINTKOTE C-13-HPC AND N-13-HPC EMULSION ADHESIVES

Surface Preparation:

Must be clean and free from oil, grease, rust, scale and dust. The surface may be slightly damp but not wet.

Application:

By trowel or brush, usually to one surface only.

Viscosity:

Heavy paint, smooth and buttery.

Dilution:

Generally used as received. If product is stiff or if more fluidity is required, dilute with cool, clean water, usually not exceeding 10 or 15 percent by volume.

Coverage:

50 to 100 sq. ft. per gallon depending on condition and nature of the base surface.

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NOTICE: The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

Application Temperatures:

Above 40°F. Apply at room temperature whenever possible for best workability.

Dried Film:

Semi-dull black, slightly tacky, free from checks and cracks. Good resistance to moisture and weather.

Finished Properties:

Exposed film is durable over a wide range of atmospheric temperatures; however, if water contact is excessive, the use of a cutback is recommended.

Special Limitations:

Not recommended for surfaces which do not permit evaporation of the water vehicle, such as plastics, laminated vinyls, metals, composition roofing membranes. Combine immediately while tacky.

Special Instructions:

Protect from freezing in containers and until applied film is completely dry.

Net Weight Per Gallon:	Container Sizes:
About 8.3 pounds.	1, 5, 55 gallons.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 282
ISSUE 63-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

ASPHALT CUTBACK ADHESIVES

Economical easily applied asphalt mastic composition.

GENERAL

Flintkote manufactures many asphalt cutback products for a wide variety of uses and many of these materials can, in a general sense, be considered as having adhesive properties. Several of these products, however, have been formulated for the specific purpose of use as adhesives for light bonding operations. Flintkote No. 224 and No. 202 are two such products which are particularly suited for this purpose. They are manufactured from special blends of asphalts, mineral fillers and asbestos fibers to provide good wet strength and high early strength. By proper blending of tacky, ductile asphalts with gilsonite and high softening point air blown asphalts it has been possible to obtain products which have excellent workability in the wet state but which quickly establish a strong bond with the surfaces being joined. Since these products are solvent vehicle types, they are not subject to freezing and may be applied at lower temperatures than is recommended for emulsion adhesives.

RECOMMENDED USES

Flintkote No. 224 is a light brush application consistency adhesive while Flintkote No. 202 is somewhat heavier in body and can be applied by either brush or trowel. Both of these adhesives are recommended for use in bonding or laminating light weight products such as flashing or weatherproofing felts, prepared roofings, cork and fibrous glass insulation materials. They have been successfully used as adhesives for bonding roofing felts on to thermal insulations as well as a lap adhesive and also for bonding block insulations to masonry foundations and walls. Due to the presence of petroleum solvents in the formulations, these adhesives should not be used with expanded polystyrene insulation materials.

APPLICATION SUGGESTIONS

Surface Preparation:

Must be clean and free from oil, grease, rust, scale and dust. The surface should be dry at the time of application.

Application:

By brush or trowel, usually to one surface only.

Curing Time:

Combine surfaces to be joined before adhesive has dried. Initial strength is generally achieved in 30 minutes to one hour and final strength in about 24 hours, gain in strength is somewhat slower at low temperatures.

Dilution:

Use as received. If low temperature has resulted in viscosity increase, consistency can be adjusted by small additions of petroleum solvent such as Varsol or preferably by placing container in a drum of heated water for warming.

Coverage:

50-100 sq. ft. per gallon for No. 224.
25-50 sq. ft. per gallon for No. 202.

Care of Tools:

Use only clean containers. Brushes and other tools should be immersed in kerosene or petroleum naphtha when not in use and for removing dried material.

CAUTION

Flintkote No. 224 and No. 202 are flammable mixtures. Keep containers covered when not in use, avoid prolonged breathing of vapor, and use in well-ventilated areas away from open flames.

CONTAINERS

55 Gallons; 5 gallons; 1 gallon.

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NOTICE The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.



FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 283
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE No. 70 ADHESIVE

Asphalt emulsion type-non-flammable for bonding insulation materials in cold rooms.

GENERAL

Flintkote No. 70 Adhesive is made from 180 penetration asphalt. It remains tacky and flexible at low atmospheric temperatures. Excellent bonds are provided at operating temperatures below 100°F. It is used cold as supplied with a working range in application from 45°F. to 100°F.

RECOMMENDED USES

Specifically, Flintkote No. 70 Adhesive is used to bond insulation materials such as cork, fibrous boards, Styrofoam, Foamglas, etc. to wood or masonry in cold-room application. It is likewise effective as an economical adhesive for bonding paper and paperboard, crepe, asphalt saturated felt and membrane, jute, canvas, burlap and similar materials where low temperature operating conditions are the rule. It is specially recommended for bonding vapor barrier paper or foil against masonry surfaces in cold room construction.

Flintkote No. 70 Adhesive presents no fire hazard. It contains no petroleum solvents which would affect adversely certain insulating compositions and asphalt impregnated or saturated materials.

DIRECTIONS FOR APPLICATION

Flintkote No. 70 Adhesive may be applied to one or both surfaces, depending on the materials involved and the strength of bond required. Application can be by brush, trowel, spray or, as in bonding cork to cork, by face dipping. Average applications require one to three gallons per 100 sq. ft. governed by the porosity of the materials and the method of applying. It is recommended that a small area be tested for the best method.

As most of these materials are sufficiently porous to permit the ready evaporation of the water vehicle, wet combining is possible. On the other hand, the film remains tacky for delayed bonding where desired up to 24 hours.

To spray Flintkote No. 70 Adhesive, a standard pressure pot, or pumps such as Alemite Model 7804-E, 5½ to 1 ratio or Graco Mogul, 8 to 1 ratio, (or equal) are reported satisfactory with DeVilbiss MBC-510 Spray Gun with type MBC-422 removable spray head (1/8 inch air cap and fluid tip) and having a 1/8 inch orifice and 1/2 inch feed diameter.

CHARACTERISTICS OF FLINTKOTE NO. 70 ADHESIVE

Application: Brush, trowel, spray or dipping.

Viscosity: Heavy paint consistency.

Dilution: Recommended for use as supplied, however, if necessary, use small amount of cool, soapy water (containing up to 1/2% soap).

Coverage: Depends on surfaces, usually one to three gallons per 100 sq. ft.

Working Period: Has long open range - combine immediately to 24 hours.

Application Temperatures: Between 45°F. and 100°F. However, apply at room temperature whenever possible.

Dried Film: Glossy black.

Moisture Vapor Transmission: Less than oil paints (4 gal./100 sq. ft.)

Temperature Susceptibility After Application: Thick films will flow at high temperatures. Remains flexible at low temperatures.

Special Instructions: Protect from freezing in container and until applied film is dry.

Net Weight Per Gallon: About 8.5 pounds.

Container Sizes: 1, 5, 55 gallons.

510588

NOTICE. The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 285
ISSUE 61-F

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE NO. 746 ADHESIVE

High solids, non-flammable adhesive—black in color—used for bonding sound deadening felts and insulation media in wet or dry combining.

GENERAL

Flintkote No. 746 Adhesive is a general purpose water vehicle adhesive which is particularly characterized by its 78% solids content while retaining a relatively high degree of workability. This combination of properties is unique for adhesives of this type and permits application of moderately heavy films since it is not necessary to evaporate large amounts of water vehicle. The dried film further exhibits a degree of pressure sensitivity which has not previously been known for rubber-asphalt based adhesives.

RECOMMENDED USES

Flintkote No. 746 is applicable to a wide variety of industrial and general purpose adhesive problems involving bonding and laminating such materials as paper, paper boards, felts and insulation materials to themselves or other surfaces so long as removal of the water vehicle is possible before or after the bond has been established.

The following products represent a partial list of materials which can be bonded to themselves or to metal, masonry or wood with Flintkote No. 746 Adhesive.

Paper and paperboard (kraft, crepe, "V" board and other packaging materials). This adhesive does not bleed through 50 lb. kraft at a temperature of 160° F.

Cloth and cloth-like materials (burlap, jute, canvas and felts).

Asphalt containing products (paper sheathing boards, saturated felts and impregnated sound deadening felts.)

Insulation media (cork, expanded polystyrene, glass fiber, cellular glass, gypsum plank and wall boards). Note: bonding materials which have a low water vapor transmission rate such as expanded polystyrene and cellular glass insulations to themselves or to metal is generally not recommended due to the possibility of water vehicle entrapment in the glue line.

Flintkote No. 746 Adhesive, however, is especially recommended for adhering sound deadening, insulating felts and other lightweight composition materials to metal, as in air conditioning ducts, aluminum siding or roofing, refrigerators, television and radio cabinets, household appliances and sheet metal equipment. Drying is effected through these composition materials.

Due to rapid gain in strength, it is frequently unnecessary to use shoring for temporary holding of insulation.

Application of Flintkote No. 746 Adhesive is made by brush or trowel at a coverage of 50 to 200 sq. ft. per gal. depending on the nature of the materials to be bonded and the smoothness of the surfaces involved in the operation. Being a water vehicle material, the cleaning of tools and equipment is easier than with solvent cements. There are no fire or toxicity hazards encountered in the use of this product.

Temperature and water resistance factors of the dried film are excellent.

CHARACTERISTICS OF FLINTKOTE NO. 746 ADHESIVE

Type: Rubber-asphalt, water vehicle emulsion.

Color Dried Film: Black.

Viscosity: Appx. 18,000 cps. (Brookfield at 77°F.). Heavy paint consistency.

Solids, Wt. %. Approx. 78%.

Dilution: Normally used as received. However, if necessary may be diluted with 1% solution of soap* in cool, clean water. (*Such as "Ivory Snow", "Ivory Flakes", liquid hand soap, etc.)

510589

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained

Coverage: Depends on the surface to be coated. Figure 100 to 200 sq. ft. per gal. on the fairly smooth surfaces.

Perm Rating of Dried Film: 1.3 gals/CSF-0.5
2.6 gals/CSF-0.25

Application Procedure: Heavy brush or light trowel. Not designed for spray application.

Working Period: Remains tacky for a number of hours permitting wet or dry combing over wide range of conditions. One surface coating can be combined in several minutes.

Temperature Limits For Application: Between 40°F. to 100°F. However, apply near room temperatures wherever possible.

Service after Application: Not affected by extremes in atmospheric conditions. Usually maintains bond over range of minus 20°F. to plus 180°F. Excellent water and moisture resistance.

Flammable During Use: No.

Caution: Keep from freezing. Store above 40°F.

Shelf Life: Rotate inventory so that product is used on "first in - first out" basis. Store in 60-80°F. range whenever possible. For best results, this product is recommended for use within six months.

Net Weight Per Gal.: Approx. 8.4 pounds.

Container Sizes: 1, 5, and 55 gallons.

510590

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 286
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE NO. 747 ADHESIVE

Non-flammable adhesive, a water dispersion of asphalt and rubber. Meets MIL-A-101A - "Adhesive, Water-resistant, for Sealing Fiberboard Boxes."

GENERAL

Flintkote No. 747 Adhesive finds wide utility as an economical adhesive in providing a strong, durable bond wherever porous, fibrous type materials are to be cemented to themselves or to metal, masonry or wood.

This adhesive is easy to use by any one of several methods of application which are described under "Characteristics". Being a water dispersed type, cleaning of tools and equipment is by simple washing. There are no fire or toxicity hazards encountered in the use of this product.

Flintkote No. 747 Adhesive is supplied in a viscosity equal to light paste consistency.

RECOMMENDED USES

With few exceptions, Flintkote No. 747 Adhesive may be used with any of the following or similar materials.

Paper and paperboard (kraft, crepe, V-board and other packaging materials. Cloth and cloth-like materials (burlap, jute, canvas and felts).

Asphalt containing products (papers, sheathing boards, saturated felt).

Insulation media (cork, fibrous glass, expanded polystyrene[a], Foamglas[a], gypsum plank and wallboards). These insulating materials may be employed in air conditioning, automobile bodies, refrigeration equipment, machine housings and numerous appliances.

Due to the tack-free rubber-like dried film of Flintkote No. 747 Adhesive it has been found to provide an excellent abrasion resistant coating for use in sand blasting booths and similar areas where surfaces and structures may be subject to damage by flying abrasive particles.

APPLICATION

Materials to be adhered with Flintkote No. 747 Adhesive can be wet combined within very few minutes to about 15 minutes after the adhesive is applied. The adhesive can be applied to one or both the opposing surfaces depending upon the materials involved and strength of bond. It is recommended that a small area be tested for best results.

To spray Flintkote No. 747, a standard pressure pot; or pumps such as Alemite Model 7804-D, 3-1/2 - ratio; Johnstone 8600-BT, 4-1 ratio, or equal, may be used. DeVilbiss MBC Spray Gun or equal with 3/4" orifice and 3/4" diameter feed has been found satisfactory.

CHARACTERISTICS OF FLINTKOTE NO. 747

Application:
Brush, spray, roll coater, spreader bar.

Dilution:
Should be used as received. However, if necessary, may be diluted with small amounts of cool, clean water, containing about 1% soap.

Coverage:
Depends on the surface to be coated. Figure about 100 to 200 sq. ft. per gallon.

Working Period:
For wet combining approximately 15 minutes.

Color Film:
Black

Viscosity:
Heavy brush or light paste consistency (about 66% solids); 15 to 20, Brookfield (Geometry Model: 2 rpm, large inner cup, 1 cm. spindle, 4 cm. immersion, No. 22 wire, 77°F.)

[a]NOTE - Flintkote No. 747 Adhesive is not recommended for bonding these insulations having a low water vapor transmission rate to themselves or to other impervious surfaces, or for joining two impervious materials).

510591

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

Adhesive Strength:

When used to bond V1a, V2s, V3s or V3c fiberboard to itself, provides a bond having shear strength of not less than 100 psi; and shows fiber failure of not less than 75% of the connected area at temperatures over the range minus 40°F. through plus 140°F.

Temperature Limits for Application:

Between 45°F. to 100°F. However, apply at room temperature whenever possible for best results.

Temperature Susceptibility, Moisture Resistance, After Application:

Not affected by extreme or variable atmospheric temperatures. Excellent resistance to water and moisture vapor. Will maintain strength for relatively short exposures to temperatures as high as 350°F.; excellent at low temperatures, also.

Flammable During Use:

No.

Special Limitations:

Keep from freezing in container and until wet film becomes dry.

Net Weight Per Gallon:

Approximately 8 pounds.

Container Sizes:

1, 5, 55 Gallons.

510592

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 287

ISSUE 61-8

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE NO. 749 ADHESIVE

Non-flammable, liquid adhesive—black in color—meets MIL-A-101A "Adhesive, water-resistant, for sealing Fiberboard Boxes.

GENERAL

Flintkote No. 749 Rubber Adhesive finds wide utility as a non-flammable, economical adhesive in providing a strong bond wherever paper, fibrous type materials are to be cemented. It is easy to use by any one of several methods of application with no fire hazard or toxicity involved. Being waterbase, cleaning of tools and equipment after use is by washing in water, which is simpler than with solvent types of cement.

Flintkote No. 749 Adhesive is supplied in a viscosity equal to heavy paint. Any of the following or similar materials can be bonded to themselves or to metal, masonry or wood with this versatile rubber cement.

Paper and Paperboard (kraft, crepe, "V" board and and other packaging materials)

Cloth and Cloth-like Materials (burlap, jute, canvas and felts)

Asphalt containing products (papers, sheathing boards, saturated felt)

Insulation Media (cork, expanded polystyrene, glass fiber, cellular glass, gypsum plank and wallboards) NOTE: bonding materials which have a low water vapor transmission rate such as expanded polystyrene and cellular glass insulations to themselves or to metal is not generally recommended due to the possibility of water vehicle entrapment in the glue line.

Flintkote No. 749 Adhesive is especially recommended for adhering sound deadening, insulating felts and other composition materials to metal as in appliances.

Materials to be adhered with Flintkote No. 749 Adhesive can be wet combined within several minutes after the adhesive is applied, or delayed an hour or two as the cement remains tacky. The adhesive can be applied to one or both of the opposing surfaces depending upon the materials involved and the strength of bond to be made. It is recommended that a small area be tested for the best method of application.

To spray Flintkote No. 749 Rubber Adhesive, a standard pressure pot; or pumps such as Akenite Model 3804-D, 5-1/2:1 ratio; Johnstone 8600-BT, 6:1 ratio; or equal may be used. Use of a DeVilbiss Model MBC 565 Spray Gun or equal with 1/4-in. orifice diameter and 3/4-in. feed diameter has been found satisfactory.

CHARACTERISTICS OF FLINTKOTE NO. 749 ADHESIVE

Type:

Reclaim Rubber Dispersion.

Application:

Brush, spray, roll coater, spreader bar.

Dilution:

Should be used as received. However, if necessary, may be diluted with small amounts of cool, clean water, containing about 1% soap, (such as Ivory Flakes).

Coverage:

Depends on the surface to be coated. Figure about 100 to 200 sq. ft. per gallon.

Working Period:

Can be wet combined within several minutes; however, because it remains tacky, assemblies can be combined up to an hour or two, especially when both surfaces are coated with adhesive.

510593

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

INDUSTRIAL FLOORINGS

Color Dried Film:
Black.

Viscosity:
Heavy paint consistency (about 72% solids); 24 to 34, MacMichael (Gramercy Model; 20 cps, large inner cup, 1 cm. spindle, 4 cm. immersion, No. 22 wire, 77°F.)

Adhesive Strength:
When used to bond V1 or V2 fiberboard to itself, provides a bond having shear strength of not less than 100 psi; and shows fiber failure of not less than 75% of the contacted area - at temperatures over the range minus 40°F. through plus 140°F.

Temperature Limits for Application:
Between 45°F. to 100°F. However, apply at room temperature whenever possible for best results.

Temperature Susceptibility, Moisture Resistance, After Application:
Not affected by extremes in atmospheric temperatures. Excellent resistance to water and moisture vapor. Will maintain strength for relatively short exposures to temperatures as high as 350°F.

Inflammable During Use:
No.

Special Limitations:
Keep from freezing. Store above 40°F.

Net Weight Per Gallon:
Approximately 8.4 pounds.

Container Sizes:
1, 5, 55 gallons.

5-0594

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 219
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE NO. 717

General purpose rubber and resin solvent cement - used for bonding insulation duct liners to air conditioning ducts - also a wide variety of lightweight materials to metal, wood, masonry, glass, rubber and many plastics.

GENERAL

Flintkote No. 717 is a versatile reddish brown reclaim rubber-resin solvent vehicle adhesive which provides excellent bonding properties for a variety of light weight combining operations. It is rapid drying and is easily applied by spray, brush or roll coater. It stores satisfactorily without deterioration or harm from freezing temperatures.

This rubber base adhesive is fortified with resins to provide increased strength and relatively flexible bonds having good resistance to impact, heat and water.

Flintkote No. 717 is widely used by the air conditioning and sheet metal trades to adhere insulation duct liners to metal duct work. The strong flexible bond which it develops permits the application of insulation to flat metal sheets before forming into ducts for maximum economy of fabrication. It is also used to bond deadening felts to metal surfaces of appliance and equipment cabinets as well as many other manufacturing operations where unlike materials must be bonded firmly and quickly without costly techniques and equipment.

The nature of the surfaces involved in the combining operation governs the best method of application and rate of coverage, also whether the adhesive is to be applied to only one or to both surfaces.

Exercise caution for flammability and use in well ventilated areas.

CHARACTERISTICS

Application:
Brush. Surfaces must be clean and dry, free from oil and grease.

Application Temperature:
Apply at room temperature if possible. Satisfactory working range from about 45°F. and up. Avoid high temperatures because of flammability.

Viscosity - Dilution:
About 300 cps. (Brookfield 77°F). Medium paint consistency. Recommended for use without dilution. If necessary for workability, use small amount of textile spirits or benzene and allow for slower drying rate.

Coverage:
Depends on surfaces to be bonded. Usually about 1 gallon is required per 150 to 200 sq. ft. of coated surface.

Working period:
Combine while surfaces are tacky - usually in about 10 to 25 minutes after application.

Color dried film:
Reddish brown.

CAUTION:
Flammable mixture. Do not use near open flame. Store away from heat and provide adequate ventilation during use.

Storage stability:
Rotate inventory of adhesive so that product is used as soon as possible after receipt. Stock on "First Out" basis. Store in cool place whenever possible. For best results this product is recommended for use within six months.

Net Weight per Gallon:
Approximately 6.7 pounds.

Containers:
55 gallons, 5 gallons, 1 gallon.

510595

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 290
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE NO. 974 ADHESIVE

A multi-purpose, synthetic rubber-resin solvent cement for use with a wide range of materials, including those having impervious surfaces. Develops high ultimate strength with flexibility of film.

Flintkote No. 974 is a Neoprene base solvent cement suitable for application by brush, roll coater or spreader bar. It has a good initial grab and can be used successfully to eliminate sewing and stapling in many combining operations. It dries to a flexible film which is neutral in color and semi-transparent.

This adhesive has good aging characteristics and also has a high degree of oil resistance, but it is not strictly an oilproof type. Flintkote No. 974 is suitable for bonding many types of materials such as steel, rubber, wood, leather, fabric, Bakelite, etc., to themselves or each other. It is not recommended for bonding vinyl materials containing migrating plasticizers.

Flintkote No. 974 is an air curing type of cement, requiring no accelerator addition by the user. It has good storage stability in the container and excellent heat resistance of the adhesive film up to 250°F.

Methods of Combining

In the use of Flintkote No. 974, three possible methods of combining are suggested: Cold Bonding, Hot Bonding and Solvent Reactivation Bonding. The choice will depend upon the materials to be combined and handling conditions determined by production requirements. For especially porous materials, it may be advisable to apply more than one coat per surface to obtain sufficient cement at the glue line.

Cold Bonding

Flintkote No. 974 is applied to each of the surfaces to be joined and allowed to dry 5 to 20 minutes, depending upon atmospheric conditions. When the film is aggressively tacky, the surfaces are joined and hand or mechanical pressure is applied.

Hot Bonding

Flintkote No. 974 is applied to each of the surfaces to be joined and allowed to dry until substantially tack free. A forced drying system may be employed to hasten solvent release. The two surfaces are then brought together in suitable equipment, the temperature at the adhesive line raised to about 250°F. for 30 seconds under an applied pressure of about 200 lbs. per sq. in.

Solvent Reactivation Bonding

A method used principally when delayed bonding is a factor in operations. Flintkote No. 974 is applied to each of the surfaces to be joined and allowed to dry thoroughly, either normally by air or by force drying. Later, when the surfaces are to be bonded, they are wiped with Solvesso No. 1 and immediately combined.

Flintkote No. 974 is to be applied only on surfaces that are dry, clean and free from dirt, grease, rust, loose paint and other foreign matter. This product is flammable; keep away from flames and apply in well ventilated areas. For best results apply at temperatures above 50°F.

(Over)

510596

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

CHARACTERISTICS OF FLINTKOTE NO. 974 ADHESIVE

Application: Brush, roll coater, spreader bar.

Dilution: Recommended for use without dilution. However, if necessary, use toluol in small amounts and stir well.

Coverage: Approximately 200 to 300 sq. ft. per surface per coat depending on nature of surfaces.

Application Conditions: Surfaces should be clean and dry. Roughen to improve adhesion. Use at room temperature whenever possible.

Viscosity: About 1,350 cps. (Brookfield, 77°F.): syrup consistency.

Color Dried Film: Semi-transparent, light tan.

Finished Properties: Very durable over wide range of atmospheric temperatures and conditions. Good resistance to water and to lower solvents such as V.M. & P. Naphtha, mineral spirits etc. Poor resistance to higher solvents such as ketones and esters.

Special Precautions: Flammable while wet. Keep away from flame. Avoid breathing fumes. Store below 80°F.

Storage Stability: Rotate inventory of adhesive so that product is used on "first in–first out" basis. Store in cool place whenever practicable. For best results, this product is recommended for use within 6 months.

Net Weight Per Gallon: About 7.4 pounds.

Container Sizes: 55 gallons, 5 gallons, 1 gallon.

ADHESIVE STRENGTH – Tested in shear with Scott Tensile Tester at 1 ft./min.*

*Results are average of 3 tests.

VALUES IN LBS./SQ. IN.	(1) COLD BONDING	(2) HOT BONDING	(3) SOLVENT REACTIVATION BONDING
Plywood to Steel	305	619	123
Canvas to Plywood	235	235	Canvas failed
Rubber matting to Steel	227	–	150
Steel to Steel	–	1,000	57
Aluminum to Aluminum	–	889	113
Bakelite Board to same	–	457	80
Plywood to Plywood	510	–	–

(1) Both surfaces brush coated, allowed to dry 15 mi. at room temp. Bond dried 24 hours before testing.

(2) Brush coated, dried 24 hrs. at room temp. Bonded at 250°F. temp. at 200 p.s.i. for 2 min. Cooled and tested immediately.

(3) Brush coated, dried 24 hours at room temp. Film reactivated with Solvesso No. 1 and air dried 24 hours before testing.

510597

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 291

ISSUE 61-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE NO. 979
Meets Military Specifications MIL-D-2905

GENERAL

Flintkote No. 979 is a Neoprene-resin base solvent cement which is suitable for application by brush, roll coater or spreader bar. It is similar in most properties to Flintkote No. 974 (see product data sheet No. 290) but additionally No. 979 is formulated for faster complete drying and meets the requirements of Military Specification MIL-D-2905 (Adhesive for light weight non-slip deck covering). Both the product designations No. 979 and No. 11074-MU are recognized on the Qualified Products List for this specification.

CHARACTERISTICS

It is of syrup consistency and dries to a transparent amber color developing high strength and maintaining bond under conditions of moisture, salt spray and exposure to open weather. Surfaces to be joined should be brought together when the adhesive film becomes aggressively tacky for cold combining. Hot bonding and solvent reactivation bonding can also be accomplished with this cement - see product data sheet No. 290 for a discussion of these methods.

Flintkote No. 979 has useful properties when used with magnesite flooring compositions. The Bureau of Ships of the U. S. Navy requires all areas aboard Naval vessels, that are to be covered with magnesite decking, to be primed first with a cement meeting specification MIL-D-2905. The magnesite mix is laid only after the No. 979 is completely dry. Not only the deck surfaces but expanded metal lath where such is used should be coated prior to applying the covering.

Flintkote No. 979 dries very rapidly and the dried film is non tacky. Being a solvent vehicle product care should be taken for flammability and use in well ventilated areas.

PROPERTIES (as required by MIL-D-2905)

General:

Shall be cold setting type ready for use, have no deleterious effect on decks (metal or wood) and should not deteriorate in air tight metal containers.

Solids Content:

Not less than 30 percent by weight.

Ash Content:

Not more than 4 percent by weight on the solids.

Viscosity:

Not less than 60 seconds, by special Ford cup method.

Adhesion:

Shall provide bonds of the following strength (deck clean to steel).

510598

NOTICE. The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

ADHESIVE STRENGTH (LOAD AT SEPARATION, LBS.) OZNIMUM*

DRYING TIME	AFTER 48 HRS. WATER IMMERSION	AT 50°F.	AT 80°F.	AT 160°F.
96 Hrs.	2.50	10.00	4.00	1.00
10 Days	6.00	12.00	7.00	1.50

*Actually, "strip" adhesion—1 inch wide by 12 inch long strips are pulled off steel plates.

Coverage

May range from 100 to 300 sq. ft. per gallon depending on type of base and porosity of surface.

CAUTION

Flammable while wet. Keep away from open flame. Work in well ventilated areas only.

SHELF LIFE

Rotate inventory so that adhesive is used on a "first in-first out" basis. For best results this product is recommended for use within 6 months.

NOTICE

When material meeting a government or similar specification is requested, it is necessary that all orders indicate the particular specifications to be met.

NET WEIGHT PER GALLON

About 7.5 pounds.

CONTAINER SIZES

55 gallons, 5 gallons, 1 gallon, 1 quart.

510599

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 252
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

ATLAS INSULATION ADHESIVES

Solvent type, waterproof, resin base compounds for fastening light and medium weight insulation. Available in putty knife, trowel and brush consistencies.

PRODUCT DESIGNATIONS:

No. 16 - Putty Knife Consistency
No. 75 - Trowel Consistency
No. 20 - Brush Consistency

GENERAL

Atlas Insulation Adhesives are especially prepared for fastening such insulation materials as fibrous glass and cork boards up to 2 inches thick without need for shoring or banding. These adhesives have strong, immediate bond.

Atlas Insulation Adhesives are applied with notched spreader to the back surface of the insulation or, in some cases, brushed on the base surface. The insulation is then pressed firmly into position without flexing the base in case it is thin metal.

All surfaces must be dry, clean and free from oil, grease and dust.

CHARACTERISTICS

Type:
Waterproof, resin-base adhesive.

Consistency:
Short and buttery.

Coverage:
Depends on nature of surfaces.

Color:
Tan

Odor:
Mild

Flammability - Wet:
Combustible - not red label.

Working Period:
15 to 20 minutes.

Drying Time:
Approximately 24 hours-sets hard but not brittle.

Service Temperature:
Up to 140°F. after adhesive has gained its set.

Water Resistance:
Good

Method of Application:
Spreader or trowel.

Alkali Resistance:
Resistant to soap and mild cleaning compounds but not strong alkalies.

Weight Per Gallon:
11 pounds.

Container Sizes:
5 gallons, 1 gallon.

510600

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

INDUSTRIAL FLOORINGS

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 294
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE NO. 716

General purpose rubber cement - dried film is clear - used for bonding insulation to air conditioning ducts - also bonds wide variety of light weight materials.

GENERAL.

Flintkote No. 716 is a brushconsistency synthetic rubber cement which is amber in the wet state but dries to a clear translucent film. It provides excellent bonding properties for a wide variety of light weight materials. It is rapid drying for fast combining operations and retains a strong surface tack for delayed bonding.

The bond is clear, permanently flexible, water resistant and has excellent aging properties. Flintkote No. 716 is water resistant and is sufficiently strong to hold even heavy insulation without mechanical fasteners.

Flintkote No. 716 is particularly recommended for the air conditioning and sheet metal trades to bond insulation duct liners to metal duct work. The strong flexible bond permits application of the insulation to flat metal sheets before forming into ducts. No. 716 can also be used for bonding insulation sheets and blankets to the exterior of duct work.

The nature of the surfaces involved in the combining operation governs the best method of application and rate of coverage, also whether the adhesive is to be applied to one or both surfaces.

Exercise caution for flammability and use in well ventilated areas.

PHYSICAL PROPERTIES.

Base -	Synthetic Rubber.
Solids -	20% approx.
Color -	Amber; dries clear
Weight/gallon -	6.2# approx.
Consistency -	Medium brush or spray
Application -	Brush, roller, or spray. Surfaces must be clean and dry, free from oil and grease.
Coverage -	Brush: approx. 200 sq. ft. per gal. Roller: approx. 250 sq. ft. per gal.
Working Period -	Combine while surfaces are tacky. Develops suction bond in 10 - 15 seconds - retains surface tack for periods up to one hour.
Application Temperature -	Apply at room temperature if possible. Satisfactory working range from 45°F and up. Avoid high temperatures because of flammability.
Service temperature -	20°F to 180°F.
Dilution -	Recommended for use without dilution. If necessary for workability, use small amount of low boiling naphtha such as textile spirits or white gasoline.
Caution -	Flammable mixture. Do not use near open flame. Store away from heat and provide adequate ventilation during use.
Storage Stability -	Rotate inventory of adhesive so that product is used as soon as possible after receipt. Stock on "first in first out" basis. For best results this product is recommended for use within six months.

CONTAINERS.

55-gallons, 5-gallons, 1-gallon.

510601

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 295
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE NO. 718

Fire resistive rubber cement - dried film is clear - used for bonding insulation to air conditioning ducts where maximum fire resistance is required.

MEETS GSA REQUIREMENTS FOR SPREAD OF FLAME WHEN TESTED IN ACCORDANCE WITH INTERIM FEDERAL STD. NO. 00136 (COM—NBS).

GENERAL

Flintkote No. 718 is a brush consistency synthetic rubber cement which is light tan colored in the wet state but dries to a light translucent film. The adhesive is non-flammable in the wet state and the dried film is highly fire resistive. It provides excellent bonding for a wide variety of light weight materials. Flintkote No. 718 is fast drying and will develop a suction bond in a very short time, sufficient to hold duct sections in place until adhesive dries. It maintains a surface tack for periods of up to one hour.

Flintkote No. 718 is recommended for the air conditioning and sheet metal trades to bond insulation duct liners to metal duct work. The fire resistive dried film provides the maximum protection against flame propagation in finished duct assemblies.

Due to the presence of chlorinated solvents, Flintkote No. 718 should be used in open or well ventilated areas.

PHYSICAL PROPERTIES.

Base -	Synthetic Rubber.
Solvent -	Chlorinated Solvent.
Solids -	32% approx.
Color -	Light tan - dries translucent.
Weight per gal.	11.5 ± approx.
Consistency -	Medium brush.
Application -	Brush or roller. Surfaces must be clean and dry, free from oil and grease.
Coverage -	brush: 150 - 200 sq. ft. per gal. roller: 200 - 250 sq. ft. per gal.
Working period -	Combine while surfaces are tacky. Develops suction bond in a few minutes - retains surface tack for periods up to one hour.
Application -	Apply at room temperature if possible.
Temperatures -	Avoid high temperatures because of chlorinated solvent vapors.
Service temperatures -	Minus 20°F to 200°F.
Dilution and Clean Up -	Recommended for use without dilution. For clean up use Trichloroethane or Toluene (if no fire hazard present).

CAUTION.

Use in well ventilated areas. Avoid prolonged or repeated contact with skin.

510602

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

INDUSTRIAL FLOORINGS

PAVING PRODUCTS DATA SHEET

Series I-M
NUMBER 611
ISSUE 614-R

FLINTCRETE†

Polysulfide/Epoxy Concrete Bonding Compounds
For Maintenance and Repair of All Types of Concrete Structures

GENERAL

The growing use of epoxy resin in many industrial and commercial fields has now extended to the highway and airport field. Many applications not before possible are now feasible and many benefits are obtained.

When using Flintcrete, the extremely high bonding strength obtained acts as a "weld" does to steel, i. e., the Flintcrete bond is stronger than the concrete itself. Other methods of bonding, such as those employing acid etching-cement grout or water susceptible polymers cannot be compared to the use of modified epoxy compounds for secure bonding. In tensile or shear strengths, in flexural (modulus of rupture) strengths or resistance to impact, Flintcrete is superior.

From a cost standpoint in preparation of the existing surfaces, Flintcrete eliminates the need to remove pavement to a depth of 1-1/2 to 2 inches. Only unsound areas need be cut away and new pavement surface overlays may be of minimum thickness.

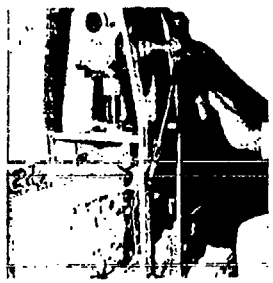
Bonding is not restricted to concrete as Flintcrete is equally effective in bonding pre-cast materials, brick, traffic markers, block pavement, and similar products. Moreover, the properties of polysulfide/epoxy compounds provides exceptional resistance to alkalies, fresh and salt waters, most industrial acids and solvents, temperature changes and aging.

PAVING USES

1. In overlaying existing highway or airfield concrete pavements to meet the requirements of heavier traffic loads. The use of Flintcrete as the bonding agent reduces the thickness of new concrete necessary to obtain the desired load bearing properties.

2. Thin section overlays (1" to 3") to eliminate surface roughness and to make grade corrections.

3. In overlaying existing concrete with refractory concrete or brick to obtain heat resistant surfacing for jet aircraft and missile operation.



Testing beams cast as two slabs bonded vertically with Flintcrete showed failure in the concrete - not in bonded area.



Refractory type overlays (concrete foreground, brick middle area) are effectively bonded to the base concrete with Flintcrete.

† A Trademark of the Flintkote Company

510603

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4. In repairing scaled and spalled areas by patching or repairing cracked slabs thus eliminating costly slab replacement.

5. In repair and maintenance of deteriorated and damaged concrete on bridges and other highway structures.

6. In adhering traffic markers to concrete or bituminous pavements and pre-formed or extruded curbs and drainage items to pavement structures.

7. For grouting of load transfer dowels in pre-formed holes in multiple lane concrete construction (as on airfields).

8. For surface sealing from moisture (when used as a coating) to eliminate deleterious freeze-thaw cycling and the effects of de-icing salts.

9. The above repair procedures can be used for all types of concrete structures outside of the paving field where degradation and wear has taken place.

GRADES OF FLINTCRETE

Flintcrete Grout: A polysulfide/epoxy material comprising a liquid epoxy component and a liquid polysulfide catalyst. Mixed on job-site in a ratio of 1 volume of Component A to 1 volume of Component B. Heavy paint consistency for brush, squeegee or trowel application. Used in all types of bonding work — cast-in-place concrete and pre-formed items.

Meets following Interim Federal Specification: MMM-G-00550(CE). "Grout (Adhesive) Epoxy Resin, Flexible, Filled", Dated 29 June, 1962.

Flintcrete Binder: A polysulfide/epoxy material comprising a liquid epoxy component and a liquid polysulfide catalyst. Mixed on job-site in a ratio of 1 container of Component A to 2 containers of Component B. Used for mixing with coarse or fine aggregate to repair spalls and other depressed areas in concrete.

Meets Interim Federal Specification MMM-B-00350 "Binder (Adhesive), Epoxy Resin, Flexible", Dated 22 June, 1962

MIXING AND HANDLING

Flintcrete should be mixed just prior to use. All grades are supplied in two components for mixing on the job-site. Although blending can be done by hand methods for small installments, mechanical mixing is recommended. A one-half inch, sparkproof electric drill or pneumatic air motor fitted with a paddle mixer has been used advantageously. A re-usable or a throw-away container approximately double the size of the batch should be used to allow ample room for mixing without overflowing or splashing. Mix at slow speed to prevent whipping in excessive amounts of air. Some components of Flintcrete contain mineral filler which must be thoroughly incorporated into the vehicle similar to normal paint preparation.

It is very important that both Components of Flintcrete be stored at 70° – 80°F prior to use. Mixing and spreading with material at lower temperatures is troublesome because the Components thicken when cold. When mixing binder with aggregate to make epoxy mortar and concrete the sand and stone likewise should be at a temperature of 70° – 80°F.

Only enough Flintcrete should be mixed which can be used within approximately 45 minutes when the temperature is 70°-80°F. Higher temperatures will decrease this working time and lower temperatures will increase the working time. Spreading the freshly mixed material in a thin film will increase the time during which it is workable.

Work proceeds more smoothly if a container of toluol is available to clean tools after each use before the Flintcrete compound sets.

Specific instructions regarding the ratio of components A and B for each type of Flintcrete and cautions on using these products are given on containers.

APPLICATION

Preparation of Surfaces: The primary requirement is that the surfaces to be bonded be clean and sound. Small areas which have scaled or spalled can generally be detected and removed with a hand "pick". Large areas of loose and deteriorated concrete can be prepared with a scarifying or rotary grinding machine.

It is necessary to remove only the loose concrete. It is not necessary to remove concrete to a depth 1½-2 inches as in the case when using an acid etch and cement grout method.

When sound clean concrete is being patched or re-surfaced, it is sufficient simply to remove dust and loose particles of stone and debris from the surface. This can often be accomplished with a jet of compressed air. Brooming and sweeping can also be used in the absence of a source of compressed air.

Where heavy films of grease and oil are present, these should be removed by scarifying, sand blasting, wire brushing, detergent washing or scraping.

It is not necessary for the pavement surface to be bone dry since Flintcrete will bond to damp concrete as effectively as dry concrete. However, no standing or free water should be present.

Methods of Applying Flintcrete: Techniques depend upon surface texture encountered, amount of compound to be applied and the type of work being performed. Brush, squeegee, fine notched trowel and spray methods have proved successful.

On small areas a brush or trowel is adequate. For larger areas, squeegee or spray application is more suitable.

For some uses such as surface sealing, and in overlay work, *where allowed by specifications*, thinning of Flintcrete Grout with approximately 25% of toluol by volume will permit spraying with the common tank type of garden insecticide sprayer. If it is desired to apply with a squeegee 10% thinning is recommended.

When using solvent to reduce viscosity for ease of application, the quantity of Flintcrete applied to the pavement surface must be based on the material before thinning. Likewise, when using thinned Flintcrete in bonding applications, approximately 1/2-3/4 hour must elapse before placing new concrete to allow the solvent to evaporate. This condition has been reached when the surface becomes aggressively "tacky".

RECOMMENDED CONSTRUCTION PROCEDURES

For most bonding, 8-10 mils of Flintcrete compound is sufficient. On a relatively smooth concrete surface approximately 1 gallon of Flintcrete per 175 sq. ft. should be applied. On rough surfaces, this coverage will be approximately 100-125 sq. ft. per gallon. The above quantities are exclusive of any thinning.

After application of Flintcrete Grout, concrete may be placed up to approximately one hour ("Open Time"). High ambient temperatures will decrease the "Open Time" and low temperatures will increase "Open Time".

Where allowed by job specifications toluol may be added to retard the setting time, and increase the "Pot Life".

1. Overlays of existing pavements: After proper surface preparation, Flintcrete Grout is applied just ahead of the mixer or spreading machine. Concrete is then placed, using standard methods and finished as specified.

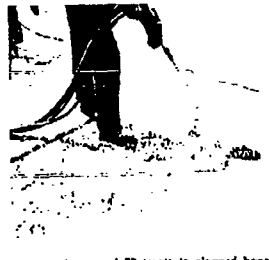
When portland cement or special refractory type concrete is poured as an military installation, follow procedures outlined in Corps of Engineers and U. S. Air Force Specifications.

Cure all concrete in accordance with standard practice.

2. Repairs of cracked, scaled and spalled concrete: Cracked pavement is repaired in a variety of ways depending upon such factors as depth of crack, proximity to working or "frozen" joint, extent of cracking etc. Details for repair procedures to be used under varying sets of conditions can be obtained by writing to The Flintkote Company.

Repairing of spalled and scaled areas can be described under two general categories, one in which the repair is made with portland cement mortar or concrete and the second in which the repair is made with epoxy mortar or concrete.

a. Portland Cement Mortar or Concrete Repairs: The surface to be repaired is first prepared as outlined previously. A bonding coat of Flintcrete Grout is then applied by recommended methods. Portland cement mortar or concrete is placed, finished and cured according to standard procedures. Thin patches are made with mortar and thick patches with concrete. Flintkote Grout must be covered with mortar or concrete while it is still tacky. This is within approximately one hour - low temperatures will increase the "Open Time" and high temperatures will decrease the "Open Time".



After application of Flintcrete to cleaned base, "gunite" concrete is applied by air pressure.



Finishing "gunite" concrete to contour of original pavement for complete repair of scaled area.

b Epoxy Mortar and Concrete Repairs: Epoxy mortar refers to a mixture of Flintcrete Binder and fine aggregate (sand). Epoxy concrete refers to a mixture of Flintcrete Binder, fine aggregate and coarse aggregate. These mixes are used to repair scales, spalls and cavities under circumstances where placement of portland cement concrete is not practical. Typical situations would be when a fast set is needed to minimize delay in allowing traffic on the pavement or where ambient temperatures will not allow placement of cement concrete.

The surface to be repaired is prepared in recommended manner by removing loose concrete and cleaning. A prime coat is then vigorously brushed into the surface. The prime is prepared by diluting Flintcrete Binder with approximately 40-50% by volume of toluol. Sufficient time must be allowed for the toluol to evaporate before placing the patching material. This will normally require a minimum of 1/2 hour and will be apparent when the prime coat becomes "tacky".

Epoxy mortar is prepared by combining 1 part by weight of Flintcrete Binder to 3-7 parts by weight of sand. The exact ratio will depend upon the sand grading, workability and placement method. A recommended sand grading is as follows:

Sieve Size	Per Cent Passing
No. 4	100
No. 8	95-100
No. 10	60-100
No. 30	30- 70
No. 50	15- 40
No 100	2- 25
No.200	0- 10

For best results a clean, dry, uniformly graded sand should be used. Where the above sand grading is not available a concrete or mortar sand may be used after small test mixes are evaluated.

Epoxy concrete is prepared by combining 1 part by weight of Flintcrete Binder to 6-10 parts by weight of sand and coarse aggregate. Coarse aggregate should be uniformly graded, clean, dry, washed gravel or crushed stone 3/4 inch or 1/2 inch maximum size of a quality used for cement concrete or bituminous hot mix. The ratio of coarse to fine aggregate should be approximately 60:40.

When mixing epoxy mortar or concrete, Flintcrete Binder is first prepared by combining one container of Component A (polysulfide) and two containers of Component B (epoxy). Components A should be added to Component B according to recommended procedures.



Broken concrete area is coated with Flintcrete to provide bond.



Concrete is tamped in place. Dry mix minimizes shrinkage.



Finishing the concrete patch which is bonded with Flintcrete.

Aggregate described above is then gradually added to the binder using a shallow pan or mortar box. The quantity of epoxy mortar or concrete to be mixed at any one time is dependent upon amount of labor available for placement. Normally this will be approximately one cubic foot.

Placement of the mortar or concrete is similar to small area cement concrete patching except that "lifts" should be limited to 2" in depth to prevent heat build-up and cracking. Because of the consistency of the mix, hand ramping or surface vibration methods are often desirable. A light application of portland cement on the surface of the patch before it has set will give the repaired area the appearance of cement concrete.



Concrete Repair with Epoxy Mortar
In lower half of photo note partially completed repair with primed hole and polyethylene wrapped separator board.

In top half of photo note completed patch with Portland Cement Dust spread on surface for color match.

3. Bonding precast materials, markers, refractory brick etc: In bonding small pieces of precast metal or concrete markers or buttons to concrete pavement, or installing pre-cast lane dividers or curbs, best results are obtained by thorough surface cleaning and application of sufficient Flintcrete Grout to assure overall contact. Heavy, large sections may be bonded only around the periphery.

If an unusually fast cure is needed in order to open the area to traffic, set will be hastened by the use of infra-red lamps or blowing hot air over the surface. Temperature of the Flintcrete should not be raised to more than 100°F.

4. Dowel Grouting in Concrete Pavement - one method of installing load transfer dowels in portland cement concrete pavement is to pre form holes in the side of one lane of pavement by the use of temporary inserts during placing operations. After the initial set, the temporary dowels are removed and one end of the permanent dowel is coated with Flintcrete Grout and inserted in the preformed hole. Thus, a permanent, high strength bond is obtained between the concrete and the dowel.

Use Flintcrete Grout and follow procedures in the following specification:

"Specification for (Epoxy Resin) Grout for Installation of Dowels in Pavements" dated 18 September 1958 from the U.S. Corps of Engineers, Ohio River Division Laboratories.

5. Surface Sealing: For protection of portland cement concrete from the effects of de-icing salts and freeze-thaw cycles of absorbed moisture, Flintcrete Binder is used after thinning with an equal volume of toluol. It should be applied by squeegee or spray with an estimated coverage of up to 500 sq. ft. (before thinning) per gallon of Flintcrete.

NOTES ON PROPERTIES OF FLINTCRETE

Flexural Strength

When it is desired to overlay existing concrete pavement to obtain increased load bearing capacity, current military criteria requires a greater combined thickness than would be specified if the pavement were poured monolithically. The additional thickness is required because of the lack of bond between overlay and the base slab under design specifications for older bonding methods.

Preliminary Flintkote Research Laboratory tests clearly indicated that the use of Flintcrete to bond the overlay slab to the base slab produced load bearing capacities equivalent to a monolithically poured slab of equal thickness.

The Jersey Testing Laboratories, Inc. of Newark, N. J. was requested to study this problem and determine flexural strengths of Flintcrete bonded beams and of monolithically cast beams. The following is quoted from their report:

"SUMMARY: Four concrete beams were tested at Felix Engineering Laboratory on October 7, 1958. The fractures of all four beams were normal and within the middle third of the clear span. The beams cast as two slabs which were bonded together with Flintcrete to make a beam had an average flexural strength in excess of that obtained from beams cast in one section, and there was no failure whatsoever in the bond between the two sections."

All beams used in the tests referred to were 10" x 10" x 30" and tested in accordance with ASTM method C-78-49. The average modulus of rupture (flexural strength) of the Flintcrete bonded beams was 578 p. s. i. These data clearly indicate the strength of Flintcrete bonded overlays and the substantial savings which can be realized by reducing the requirement for overlay slab thickness.

Shear Strength Properties of Flintcrete.

	Lbs./sq. in.
Shear Strength @ 80°F.	3600
Shear Strength @ 180°F.	1200
Shear Strength @ -60°F.	1800
Shear Strength @ 80°F. after Immersion for thirty (30) days in:	
Tap Water	3200
Sea Water	2900
Type III Fuel	3300
JP-4 Fuel	3400
Engine Oil	3500
Isopropyl Alcohol	3700
Ethylene Glycol	3400
Methyl Ethyl Ketone	2700

(Note: - Average shear strength of portland cement concrete is approximately 600-800 lbs./sq. in. Data on Flintcrete shown above determined with Alclad 24 ST aluminum according to MIL-A-S 331 (USAF) on "Adhesives; Aircraft Structural, Metal to Metal". This method used to obtain actual strength of "Flintcrete" bond since portland cement specimens break within themselves well before the above values are reached.)

Tensile Strength Properties of Flintcrete

Original Tensile Strength @ 80°F.	4580
Aged Tensile Strength After:	
30 days @ 212°F.	5440
60 days @ 212°F.	6000

(Note: Average Tensile Strength of portland cement concrete is approximately 400-500 lbs./sq. in.

Above data were obtained from tests run on a solid-cast cube of Flintcrete.

Compression-Shear Properties of Flintcrete.

A compression-shear test was devised to evaluate the Flintcrete for adhering pre-formed concrete sections to existing surfaces (old concrete to old concrete):

Of the tests conducted, the following are typical results at indicated temperatures:

Impact Strength of Flintcrete.

Resistance to impact was evaluated by the falling ball method on 2" x 3" face of a standard 1" thick mortar block.

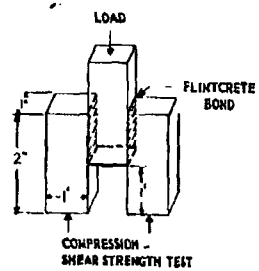
A block was submerged in water for seven days, removed, the surface damp dried and Flintcrete then applied. One half inch of fresh mortar was then added-bonded by the Flintcrete - and the assembly cured and tested. Fracture of this specimen within itself occurred at 12 foot pounds with no fracture of the Flintcrete bond.

CAUTIONS:

Warning: Ingredients of Flintcrete and cleaning solvents are flammable. Keep away from fire or flame. Keep work areas well ventilated. Avoid prolonged breathing of vapor or contact with skin. Operators must wear rubber gloves and goggles. Wash off any material immediately with soap and water. If material gets into the eyes rinse with water for 15 minutes and obtain medical attention.

TEMPERATURES	*LOADING AT FAILURE
32°F.	3600 p. s. i.
75°F.	3300 p. s. i.
180°F.	1100 p. s. i.

*In all cases failure was in the concrete.



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PACKAGING

	STANDARD UNIT (Packaged in two-1 Gallon Cans)	ECONOMY UNIT (Packaged in two-5 Gallon Pails)
FLINTCRETE GROUT TYPE I (70°F. – 100°F.)	2.0 gallons = 24.1 pounds	10 gallons = 121.5 pounds
FLINTCRETE GROUT TYPE II (40°F. – 70°F.)	2.0 gallons = 24.4 pounds	10.0 gallons = 122.0 pounds
	STANDARD UNIT (Packaged in three-1 Gallon Cans)	**ECONOMY UNIT (Packaged in three-5 Gallon Pails)**
FLINTCRETE BINDER TYPE I (70°F. – 100°F.)	2.84 gallons = 27.8 pounds	14.2 gallons = 139.0 pounds
FLINTCRETE BINDER TYPE II (40°F. – 70°F.)	2.84 gallons = 27.8 pounds	14.2 gallons = 139.0 pounds

FLINTKOTE *Manufacturer of Diversified Products for Home and Industry.*

THE FLINTKOTE COMPANY, PAVING PRODUCTS SECTION, P. O. BOX 157 • WHIPPANY, N. J.

Printed in U.S.A.

510609



INDUSTRIAL FLOORINGS

ASPHALT MASTIC FLOORING

Product	Data Sheet	Applicable Specification	Description
Flintmastic Flooring	251		General Description of cold laid asphalt mastic flooring using mineral colloid asphalt emulsion binder.
Emulsion Binder N-13-F	252		Mineral colloid asphalt emulsion fibrated with inorganic fibers for use in hand applied mastic floors.
Emulsion Binder N-13-HPC	253		Unfibrated mineral colloid asphalt emulsion for use in power compacted and trowelled mastic floors.
Asphalt Mastic for Concrete Bases	271		Suggested Application Specification.
Asphalt Mastic for Underlayment	272		Suggested Application Specification.
Asphalt Mastic for Patching	273		Suggested Application Specification.
Asphalt Mastic for Wood Bases	274		Suggested Application Specification.
Asphalt Mastic with Chemical Emulsion	275		General Description and suggested application specification for mastic floors made with chemical emulsion binder.
Emulsion Binder No. 85	254		Fluid chemical emulsion of special asphalt base for use in asphalt mastic compositions.
Premix Mastic	256		Ready mixed asphalt emulsion-aggregate composition for shallow leveling and patching of floors and traffic areas.

LATEX FLOORING

Latex Concrete Patch	258		Two component latex flooring composition prepared in units for a variety of patching and levelling uses.
Latex Industrial Flooring	259		Latex flooring composition designed for heavy duty service conditions.
Latex Flooring Trowel Finish	260		Latex flooring composition in several colors for use where service conditions are moderate.
Latex Binder for Field Mixes	261		Synthetic resin latex binder for use in preparing flooring with local aggregates. Lists suggested mixes and application specifications.

EPOXY FLOORING

Epoxy Flooring	263		General description and suggested application, procedures for chemically resistant epoxy flooring mix.
Epoxy Binder for Field Mixes	263A		Contains suggestions on selecting local aggregates for use with epoxy binder in preparing field mixes.

SPECIALTIES

Oil Resistant Floor Sealer	257		Coal tar pitch emulsion coating for use over asphalt mastic floorings. Provides resistance to oil, grease and solvents.
No. 979-A Primer-Sealer	262		Solvent solution of neoprene for priming and sealing oil and grease contaminated base floors for latex and epoxy toppings.
Flintdek	302		Ship Resilient resin base floor coating in 5 standard colors.

510610

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 251
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

"FLINTMASTIC" FLOORING

Cold applied surfacing using binder of asphalt base clay emulsion—for heavy duty industrial floor resurfacing, patching, underlayment for tile or wearing surface—old or new construction.

FLINTMASTIC® - is the trade name for cold-laid asphalt mastic which is made by mixing cement, graded sand and stone chips with a binder of Flintkote asphalt base clay emulsion. The mix is handled in the same manner as concrete for spreading and finishing. It has the advantage, however, of being a resilient and malleable material because of its asphalt binder and can be readily applied to slab base surfaces in relatively thin sections.

Properly applied, FLINTMASTIC will provide a floor surfacing that is non-slip and dustless, insulating and comfortable under foot, tough and shockproof. It is capable of carrying heavy traffic without rutting or abrading, and for the operating plant, may be installed with little or no delay in work schedules. The millions of square feet in service offer proof of the virtual maintenance-free properties of these floors which actually improve in smoothness, toughness and density with continued heavy duty service.

The use of FLINTMASTIC is not confined to the wearing surface of newly built floors. It is the ideal resurfacing material for worn or damaged floors of almost any type provided they are structurally sound. Further, FLINTMASTIC makes a superior leveling course for smoothing-up surfaces and serving as an underlayment for decorative tile or other coverings. It is also the most effective patching material for work floors that is known.

Two types of Flintkote asphalt base clay emulsion are available as the binder for FLINTMASTIC floors. One, called Flintkote N-13-F, contains a reinforcing fiber to give tensile strength and toughness to surfacing put down with hand tools; while Flintkote N-13-HPC contains no fiber and is used interchangeably with N-13-F, but is preferred for surfacing put down with power finishing and compacting machines.

All FLINTMASTIC flooring work requires the use of an asphalt base clay emulsion for priming. This serves to bond the mastic properly to the base over which it is laid. The product recommended for priming is Flintkote C-13-HPC Emulsion, an non-fibrated emulsion which is made from softer asphalt than binder emulsions.



Heavy trucking in modern industry demands floors that absorb shock and are comfortable, warm and durable under foot traffic.

The mix proportions given here are typical of those which have been used by asphalt mastic flooring specialists for approximately forty years. Changes in the amounts of dry ingredients are occasionally made to adjust for locally available aggregates or unusual floor service conditions. Adherence without deviation or substitution of the asphaltic constituent should be maintained to assure that the mastic floor will meet the requirements and quality of a FLINTMASTIC floor. To protect himself, the buyer should state in his specification: "Emulsion shall comprise asphalt dispersed in water by means of a mineral colloid."

SUGGESTED SPECIFICATIONS

(NOTE: On the basis that the largest size aggregate used shall not exceed 60% nor be less than 40% of the thickness of the mastic laid, the thinner the wearing surface the finer the aggregate. This is the same principle followed in portland cement concrete and asphaltic concrete construction. In levelling courses and patching where the FLINTMASTIC must be carried out to featheredge to meet existing floor levels, obviously only fine aggregate can be used.

510611

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

Measurement in the proportions below are for dry sand. Where sand is damp, an adjustment of about 20% increase should be made. Sand should be clean, washed and of sharp angular particles and properly graded as for concrete work. Either gravel or crushed rock may be used for the coarse aggregate portion with the understanding that white gravel produces a more easily placed mix, crushed rock with its angular particles produces a floor of greater resistance to displacement under load.)

FLINTMASTIC MIX FOR HAND APPLICATION

A. Thickness of ½ inch or over – 1:2:2:4 mix.
1 volume cement (1 bag) ..... 1 cu. ft. (7-1/2 gal.)
2 volumes Flintkote N-13-F (or N-13-HPC) Emulsion ..... 2 cu. ft. (15 gal.)
2 volumes well graded sand ..... 2 cu. ft. (15 gal.)
4 volumes crushed stone or gravel . 4 cu. ft. (30 gal.)
This total quantity will yield at the following thicknesses: 1/2 inch – 130-140 sq. ft; 1/4 inch – 90-100 sq. ft; 1 inch – 65-70 sq. ft.

B. Thickness of less than 1/2 inch – 1:2:4 sand mix.
1 volume cement (1 bag) ..... 1 cu. ft. (7-1/2 gal.)
2 volumes Flintkote N-13-F (or N-13-HPC) Emulsion ..... 2 cu. ft. (15 gal.)
4 volumes well graded sand ..... 4 cu. ft. (30 gal.)
This total quantity will yield at the following thicknesses: 1/2 inch – 100-110 sq. ft.; 1/4 inch – 200-220 sq. ft.

FLINTMASTIC MIX FOR POWER FLOAT APPLICATION

(Not a recommended method for thickness of less than 1/2 inch)

3/4 volume cement (1/4 bag) ..... 3/4 cu. ft. (5-1/2 gal.)
2 volumes Flintkote N-13-HPC Emulsion ..... 2 cu. ft. (15 gal.)
2 volumes well graded sand ..... 2 cu. ft. (15 gal.)
6 volumes crushed stone or gravel 6 cu. ft. (45 gal.)
This total quantity will yield at the following thicknesses: 1/2 inch – 160-170 sq. ft.; 3/4 inch – 120-130 sq. ft.; 1 inch – 80-85 sq. ft.

NOTE: WEIGHT OF "FLINTMASTIC" FLOORS—Flintmastic floors, when dry, weigh approximately 5 lbs. per sq. ft. per 1/2 inch of thickness. Actual weights of specific formulae will vary of course with aggregate selected and compacted density of the floor.

MIXING AND PLACING SPECIFICATION

Preparation of Base: The base surface shall be relatively uniform in line and grade (if not, patch with concrete or Flintmastic) and cleaned of all grease, oil, dirt or other foreign matter. Wash with water.

The cleaned base may be damp (no puddles) when primed with Flintkote C-13-HPC asphalt base clay emulsion applied at a rate of 1½ gallons per 100 sq. ft. For ease of application the priming coat may be diluted up to 25% with cool, clean water. Where floors have dusted severely, or are very porous, they should be primed with an asphalt cutback (such as Flintkote No. 267) and allowed to dry, after which the bond coat of Flintkote C-13-HPC Emulsion is applied as above.

Preparation of Mastic: A rotating blade plaster mixer is the preferred method of mechanically mixing the mastic - rotating drum mixers are not recommended since they do not permit the proper mixing of the heavy bodied consistencies required for correct installation. Hand mixing in a mortar box is permissible if care is taken to assure complete mixing.

Mix measured quantities of the cement and aggregates with only sufficient water to make a stiff mixture. Then add the measured quantity of Flintkote Flooring Emulsion (N-13-F or N-13-HPC) and continue mixing until mastic is of uniform color and homogeneous throughout. Use water sparingly for workable consistency - excessive use of water may cause shrinkage cracking on curing. As a guide to mastic water requirements, it has been found that a 1:2:2:4 mix made with dry aggregates requires approximately 1 volume of water for proper consistency.

The amount of mastic mixed at one time should be only a quantity that will be placed within an hour as it cannot be retempered.

Placing and Finishing: Depth guide forms or screed strips should be spaced about 10 ft. apart. After the mixed mastic is deposited on the floor, it is raked to proper level and tamped up with tamping or strikeboard. It is straightedged and floated to contour either by hand or rotary disc machine. Drier mixes are required for machine finish than for hand finishing. Good compaction is essential for best performance of the finished flooring.

Final steel trowel finishing is preferably delayed until the initial set has taken place which may vary an hour or so with the type of cement used. Kneeling boards are used to prevent marring the surface.

Curing: It is extremely important that adequate measures be taken against rapid drying out of newly laid "Flintmastic" as a guard against surface checking from shrinkage. As soon as the surface is hard enough to resist marring, it should be covered with suitable curing paper or other means to retard moisture evaporation. After about 12 hours the surface may be kept wet by fog spray sprinkling. Under normal conditions, the wearing surface may be opened to traffic in 24 to 48 hours as determined by inspection.

PRECAUTIONS

The Flintkote Asphalt Emulsions referred to in this specification are water base and must be protected from freezing, both in storage and during application.

Flintmastic flooring is not recommended for areas subjected to deposits of grease, oil, dairy products, sugar products or petroleum solvents. When Flintmastic is used as underlayment for decorative floor coverings, care must be used in the selection of the cementing medium used to adhere the covering in order to avoid solvent types that will soften the asphalt binder component of the Flintmastic.

The cement referred to in these specifications may be Lumnite or regular Portland Cement. Lumnite provides a more rapid rate of setting. Also, the quantities of cement and aggregates may require slight adjustment depending on the characteristics and grading of local materials.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 252
ISSUE 63-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 30 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTMASTIC BINDER N-13-F

Flintkote N-13-F is an asphalt emulsion of the mineral colloid type which has been fortified with inorganic reinforcing fibers. N-13-F is recommended for use in the preparation of cold laid asphalt mastic mixes which are intended for hand application (N-13-HPC is recommended for power float application). Since hand applied mastics are subject to greater shrinkage stresses than those which have been densified with power compaction equipment, the reinforcing fibers in N-13-F provide greater tensile strength in the uncured mix. The reinforcing fibers are selected to be of the type which will not interfere with the mixing, placing or trowelling of the mastic composition.

PHYSICAL PROPERTIES

Type	Mineral Colloid Emulsion
Vehicle	Water
Fiber	Inorganic Type
Consistency	Medium Paste
Weight, Pounds/Gallon	
Net Weight	8.5 Pounds (Approximate)
Shipping Weight	9.5 Pounds (Approximate)
Application Procedure	See Appropriate Data Sheet
Application Temperature	Avoid freezing during application and while curing. For best results apply and cure at temperatures above 50°F.
Caution	Store at temperatures above freezing
Containers	55 Gallon; 5 Gallon; 1 Gallon

510613

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 253
ISSUE 63-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTMASTIC BINDER N-13-HPC

Flintkote N-13-HPC is an asphalt emulsion of the mineral colloid type which utilizes a base of 50-60 penetration steam refined asphalt. N-13-HPC is recommended for use in the preparation of cold laid asphalt mastic mixes which are intended for power float application (N-13-F is recommended for hand application). The heavy body of N-13-HPC is ideally suited for preparing rich asphalt bearing mastic whose finished properties will embody the desirable properties of warmth and resilience under foot, excellent traction, self healing and freedom from dusting.

PHYSICAL PROPERTIES

Type	Mineral Colloid Emulsion
Vehicle	Water
Consistency	Medium Paste
Weight, Pounds/Gallon	
Net Weight	8.3 (Approximate)
Shipping Weight	9.3 (Approximate)
Application Procedure	See Appropriate Data Sheet
Application Temperature	Avoid freezing during application and while curing. For best results apply and cure at temperatures above 50°F.
Caution	Store at temperatures above freezing
Containers	55 Gallon; 5 Gallon; 1 Gallon

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 254
ISSUE 63-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 410 CENTRAL AVENUE EAST RUTHERFORD N. J.

MASTIC FLOORING BINDER No. 85

Flintkote No. 85 is an asphalt emulsion of the chemical type which is produced from a base of 50-60 penetration steam refined asphalt. No. 85 is especially formulated and recommended for use in the preparation of cold laid asphalt mastic mixes for both hand and power compacted application. The fluid consistency and excellent wetting power of No. 85 emulsion allows for rapid mixing with the dry cement and aggregates of the mastic composition and requires a minimum of additional water for adjusting to the proper workability of the mastic.

PHYSICAL PROPERTIES

Type	Chemical Emulsion
Vehicle	Water
Consistency	Medium Paint
Weight, Pounds/Gallon	
Net Weight	8.4 (Approximate)
Shipping Weight	9.4 (Approximate)
Application Procedure	See Appropriate Data Sheet
Application Temperature	Avoid freezing during application and while curing. For best results apply and cure at temperatures above 50°F.
Caution	Store at temperatures above freezing
Containers	55 Gallon; 5 Gallon; 1 Gallon

510615

NOTICE The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained

MISCELLANEOUS DATA

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 256
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE PREMIX MASTIC

Ready to use, not flammable, asphalt base mastic, easily applied. Used as a leveling course or shallow patching of black-top or concrete.

GENERAL

Flintkote Premix Mastic is ready-mixed, ready-to-use, with nothing to add. Stir thoroughly to distribute filler uniformly. A very small amount of cool, clean water may be used to adjust the trowelling or spreading consistency.

This is an ideal material for repair work on concrete or black-top pavement or floors to level breaks, pot holes, scaled areas or cracks to prepare the base for resurfacing.

CHARACTERISTICS

Flintkote Premix Mastic is a designed mixture of strong bonding asphalt emulsion, graded sand and filler. When troweled or squeegeed in thin section it will dry within a few hours. Single layer applications no more than 1/4 inch thickness are recommended as evaporation of the water vehicle is seriously retarded by greater thickness. It is suggested that standard asphalt mastic mixtures which contain setting powder and which dry more readily be used for thicker sections.

No fire or toxic hazard is encountered in the laying of Flintkote Premix Mastic. It may be used with perfect freedom in confined spaces where odor would be objectionable. Hands of workmen and their tools are readily cleaned with water before the mastic dries.

Flintkote Premix Mastic is black in color.

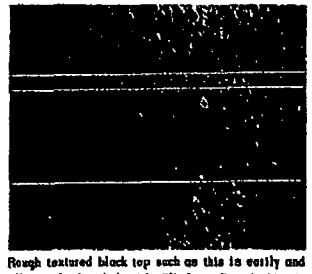
RECOMMENDED USES

Surfaces that have become tough or uneven from excessive wear, scaling, disintegration, or, in the case of wood, from splintering and warping, may be effectively levelled with Flintkote Premix Mastic. This material, however, will not take the place of Industrial Asphalt Mastic Flooring made with Flintkote Flooring Emulsion when conditions indicate the need for a wearing surface thickness of 1/2 inch to 2 inches.

DIRECTIONS FOR APPLICATION

Preparation of Surface:

All surfaces on which Flintkote Premix Mastic is to be applied shall be clean, free from oil, grease, rust scale, dust and other foreign matter. Surface may be damp but not wet.



Rough textured black top such as this is easily and effectively leveled with Flintkote Premix Mastic applied by trowel or squeegee.



Flintkote Premix Mastic levels uneven area of black top or concrete. The base is preferably primed beforehand.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

Priming:

Although the material is sometimes spread over unprimed bases or in breaks and holes, best results are obtained over floor areas primed with a paint-like coat of asphalt emulsion or cut-back. This serves to improve the bond between the mastic and the base. Suggested primers are: Flintkote C-13-HPC Emulsion diluted with water to paint consistency or Flintkote Asphalt Primer, a cutback.

Placing the Mastic:

The common practice found most desirable is: empty the shipping container on the floor or in a mortar box and mix the contents thoroughly. Flintkote Premix Mastic is then spread with a trowel over the primed base and leveled off. Slight over-filling for featheredged patches and holes will allow for normal shrinkage and compaction so that when dry the area will be level.

Long storage of Premix Mastic should be avoided in order to eliminate the possibility of excessive packing in the container. Partially filled containers should have a thin layer of water poured over the remaining mastic to exclude air and prevent drying. Prior to use this water is poured out.

Coverage:

For 1/4" thickness, use approximately 16 gallons per 100 sq. ft.

Drying:

Asphalt emulsion mixtures have a drying time depending on temperature, humidity and the thickness of material applied. Care should be taken to achieve a complete drying before using or resurfacing.

Care of Tools:

Use only clean containers and tools. At the end of each period of work, clean all tools with water if the material has not dried. Dry mastic can be easily removed with kerosene, white gasoline or other petroleum solvent.

Caution:

Flintkote Premix Mastic should not be subjected to freezing weather either in storage or during application. Protect from freezing and rain during laying. Water, freezing weather, heat of the sun etc. will not affect the material when dry.

Containers:

30 gallons, 5 gallons, 1 gallon. Net weight, 16 lbs. per gallon.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 257
ISSUE 63

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE OIL RESISTANT SEALER

OIL AND GREASE RESISTANT SEALER FOR ASPHALT MASTIC FLOORS

GENERAL DESCRIPTION

Flintkote Oil Resistant Sealer is an emulsion of coal tar pitch which has been fortified with reinforcing mineral fillers to provide a tough cohesive oil and grease resistant dried film. Its use over cold laid asphalt mastic floors will provide a protective coating to resist the deteriorating effects of oil, grease and solvent spillage which is frequently encountered in commercial and industrial work areas. On surfaces which are subject to heavy and abrasive wear, the need to recoat the asphalt mastic floor will be recognized due to the rather thin film thickness of the sealer.

PHYSICAL DATA

Type	Mineral colloid emulsion.
Base	Coal tar pitch.
Vehicle	Water
Color	Black
Solids Content, % by weight	52% (approximately)
Consistency	Heavy paint.
Weight, pounds per gallon net weight	10.2 (approximately)
Shipping Weight	11.2 (approximately)
Coverage	200 - 300 sq. ft./ gal / coat.
Application	Floor brush or squeegee.
Caution	Store at temperatures above freezing. For best results apply at temperatures above 50° F.
Container sizes	5, 55 gallons

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NOTE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since techniques and conditions are beyond our control, we do not guarantee the results to be obtained.

SUGGESTED APPLICATION PROCEDURE

SURFACE PREPARATION

If an existing mastic floor is to be coated with Flintkote Oil Resistant Sealer, the base surface must be thoroughly cleaned of all dirt, dust, oil, grease and other foreign matter. The surface should be dry brushed to remove loose dirt and debris, and washed with vigorous brushing then flushed with clean water. The surface should then be primed with a thin wash coat of Flintkote No. 83 (diluted one part emulsion to three parts water). When the prime coat is dry, the Oil Resistant Sealer may be applied.

Freshly applied mastic should be coated with Oil Resistant Sealer as soon as possible after final set has been reached - preferably within 12 hours after installation. Delay of coating can cause possible loss of bond due to laitance which forms on the mastic surface.

APPLICATION

The material, as received, should be diluted with up to 10% of clean, cool water prior to application. Diluting water should be added slowly to the sealer with continuous stirring until a homogeneous mixture is acheived.

The sealer is poured onto the asphalt mastic floor and spread to a uniform thin film by means of a soft hair floor brush or rubber faced squeegee. Application should be at the rate of 200 - 300 square feet per gallon per coat. Two coats are required for complete surface sealing of the mastic. The second coating should be applied as soon as the first coat is dried sufficiently as to not pick-up on workmen's shoes.

CURING

After applying the second coat of sealer the entire area should be allowed to dry thoroughly before subjecting the surface to traffic. Under normal conditions of temperature and humidity this will require 24 - 48 hours. Best results are acheived when Oil Resistant Sealer is applied and cured at temperatures above 50° F.

CARE OF TOOLS

Use only clean containers, brushes, squeegees and other tools should be soaked in water when not being used and brushes should be prewet before spreading sealer. Dried material may be removed with xylene or toluene. Rinse in water before using again.

CAUTION - AVOID FREEZING

Oil Resistant Sealer is an emulsion of coal tar pitch in water and must be protected from freezing in shipping and storage. Apply when temperatures are over 500 F. and protect from rain and freezing until completely dry. The dried film is unaffected by normal variations of atmospheric temperature.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 258
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE LATEX CONCRETE PATCH

A packaged two-component latex binder and cementitious filler mixture for repairing concrete.

GENERAL

Flintkote Latex Concrete Patch is superior to conventional sand, cement and water mixtures because:

1. The Latex binder insures a tight bond.
2. Latex reduces shrinkage to a minimum.
3. No need to chip or enlarge cracks or patching areas.
4. Fast self-curing.
5. Simple to mix and apply-nothing else to buy.

CHARACTERISTICS

Flintkote Latex Concrete Patch consists of latex (liquid binder) and powder (dry, premixed cement and fine aggregates). These two components are supplied in one package—as 40 lbs. of powdered premix and 1 gal. can of specially formulated latex. When mixed together in any clean container, a smooth, mortar-like material is obtained.

Flintkote Latex Concrete Patch is easily applied by trowel and readily finished to a smooth, uniform cement gray colored surface. The applied mixture sets hard and is ready for use much sooner than conventional cement mortar mixtures with virtually no shrinkage to produce cracks in the finished job. Under ordinary conditions Flintkote Latex Concrete Patch is self-curing thus eliminating the need for protecting the surface with a covering or water spray as in ordinary concrete work.

RECOMMENDED USES

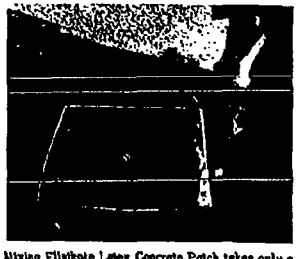
Flintkote Latex Concrete Patch is a general purpose product, formulated primarily for use in area patching of concrete floors, walls, structural parts, beams, columns, foundations, curbs, ceilings etc. It also serves as an easy working, non-shrinking mortar for pointing up joints, filling cracks in masonry construction, for leveling surfaces in machinery placement or correcting bad drainage. It may be finished out to featheredge.

DIRECTIONS FOR APPLICATION

Either mix the full package (40 lbs. of dry premix and 1 gal. of liquid latex) or other amounts in the same proportions, i. e. 1 qt. latex and 10



The easy-to-use Flintkote Latex Concrete Patch. All you need is a trowel to make lasting, inconspicuous repairs.



Mixing Flintkote Latex Concrete Patch takes only a few minutes. Keep a few units on hand for needed spot repair.

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NOTICE. The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

lbs. premix. By volume measure 1 part latex to 3½ parts premix.

Mix only such a quantity as will be used within an hour. Do not attempt to retemper by the addition of latex or water.

Use a clean container. Retain a little liquid and powder for adjusting the consistency desired for your job. Additional latex will produce more fluidity—as for fine cracks or skin coat troweling. Additional powder will provide a drier and stiffer mix for holes, breaks and fills over 1/4 inch thick.

Preparation of Surfaces:

Brush surfaces to be repaired free of all loose particles and dust. Scrub clean if necessary to remove embedded dirt, oil, grease or other foreign matter.

Under most circumstances Latex Concrete Patch may be applied without a primer to clean firm concrete surfaces. Hot and/or dusty masonry should be dampened before application begins. Surfaces which have been subjected to oil or grease absorption should be cleaned with proper chemical cleaners and primed with Flintkote Primer-Sealer No. 979A (a neoprene type) which is allowed to dry before application of the Latex Concrete Patch. Use No. 979A also over wood surfaces prior to using Flintkote Latex Concrete Patch.

Apply Flintkote Latex Concrete Patch, mixed to proper consistency and stake off to approximate contour. The latex in this mixture results in the formation of a surface skin to produce the self curing characteristic of this product. The applied mixture should be troweled smooth to the desired finish immediately after application since troweling of this mixture after drying begins might result in disturbing the surface film referred to above. Wiping the trowel occasionally with a cloth dampened in water will help in obtaining a smooth finish.

Mixed quantities of Flintkote Latex Concrete Patch will cover approximately 1 sq. ft. at 1/8 inch thickness per pound of the dry premix component, or the unit of 1 gal. of latex and 40 lbs. of powder will cover 40 sq. ft. at 1/8 inch thickness.

Drying Time

Rate of hardening depends on the thickness applied and drying conditions. Under normal 70° to 80°F. temperature, for thicknesses under 1/4 inch, Flintkote Latex Concrete Patch will set within 1 to 2 hours, and thicker fills somewhat longer.

Care of Tools

Wash mixing vessels and tools often to prevent the patching material from sticking and bonding.

Caution

The liquid latex in this unit may be damaged by freezing; store above 40°F. keep packages in a dry place to protect the dry powder. Keep all containers closed when not being used.

Do not apply Flintkote Latex Concrete Patch to frozen surfaces, in rain or during freezing weather. When possible, shade from direct hot sun rays during application and setting period.

Containers

Flintkote Latex Concrete Patch unit consists of 1 gal. latex liquid binder and 40 lbs. of powdered premix—total net weight approximately 52 lbs.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 259
ISSUE 61-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

LATEX INDUSTRIAL FLOORING

A two-component product comprising latex binder and dry premixed filler

GENERAL

Flintkote Latex Industrial Flooring is especially designed for heavy duty area resurfacing over a rigid base both outdoors and indoors. Its strength in relatively thin section without brittleness plus its excellent bonding characteristics and chemical resistance, make this an ideal product for many industrial and commercial establishments. It has been successfully employed over steel and wood as well as concrete.

CHARACTERISTICS

A two part product consisting of liquid latex and a designed premix of graded aggregate and Lumnite cement to be mixed for use in the ratio of 1 gal. of latex to 40 lbs. of premix. These proportions provide a trowellable, cohesive mortar which will cover approximately 30 sq. ft. at 1/4 inch thickness.

Flintkote Latex Industrial Flooring is superior to conventional sand and cement mixtures which are mixed with water because the latex binder gives advantages such as greater adhesion with tighter bond to the base, more flexibility and non-brittleness, faster setting and self curing. The fact that it can be applied as thin as 1/8 or 1/4 inch allows resurfacing without problems of drainage or floor level adjustment at sills or meeting other flooring surfaces.

Flintkote Latex Industrial Flooring assures a hard non-slippery surface with low inactive resistance for rolling loads and fork truck power savings. Excellent resistance to a variety of chemicals is shown by the table below:

RESISTANCE OF FLINTKOTE LATEX FLOORING TO VARIOUS SOLUTIONS AND CHEMICALS

TEST SPECIMENS — 1:3 Cement - Sand Premix 40 # Premix — 1 Gallon Latex Binder
TEST METHOD — Shore Hardness Tester
RATING CODE — R = Resistant S = SL. Softened U = Unsatisfactory

Test Solution	Immersion Time in Days					Test Solution	Immersion Time in Days				
	1	7	14	28	103		1	7	14	28	103
Acid, Acetic, 2%	R	R	R	R	R	Linseed Oil	R	R	S	U	U
Acid, Hydrochloric, 5%	U	U	U	U	U	M. E. K. Solvent	U	U	U	U	U
Acid, Lactic, 5%	R	R	R	R	R	Naphtha, VM & P	U	U	U	U	U
Acid, Nitric, 5%	U	U	U	U	U	Oil, #10 Motor	R	R	R	R	R
Acid, Sulfuric, 5%	U	U	U	U	U	Orange Juice	R	R	R	S	U
Alcohol, Ethyl	R	R	R	S	S	Sirrup, 1%	R	R	R	R	R
Ale	R	R	R	R	R	Soap, Fels Naphtha, 2%	R	R	R	R	R
Ammonium Chloride, 5%	R	R	R	R	R	Soap, G. I., 5%	R	R	R	R	R
Ammonium Sulfate, 5%	R	R	R	R	R	Soap, Ivory, 1%	R	R	R	R	R
Apple Juice	R	R	R	R	S	Sodium Hydroxide, 5%	R	R	R	R	R
Brine, 5%	R	R	R	R	R	Sugar, 5%	R	R	R	R	R
Cherry Syrup	R	R	R	R	U	Toluol	U	U	U	U	U
Creosote	U	U	U	U	U	Tomato Juice	R	R	S	U	U
Dazzle Bleach	R	R	R	R	R	T. S. P., 5%	R	R	R	R	R
Fish Oil	R	R	R	R	R	Turpentine	U	U	U	U	U
Formaldehyde 37%	R	U	U	U	U	Urine	R	R	R	R	R
Hershey Syrup	R	R	R	S	U	Vaseline	R	R	R	R	R
Jet Fuel, JP-4	U	U	U	U	U	Vinegar	R	U	U	U	U
Karo Cane Syrup	R	R	R	R	R	Water	R	R	R	R	R
Kerosene	U	U	U	U	U	Water, Charged	R	R	R	R	R
Lard	R	R	R	R	R	Zinc Chloride, 5%	R	R	R	R	R

NOTICE: The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

DIRECTIONS FOR APPLICATION

Preparation of Surfaces:

Concrete floors must be of normal strength, well cured and free from oil, grease, paint or other foreign matter. Steel surfaces must be free of scale or rust. Wood floors must be of double construction securely nailed and braced to prevent deflection or vibration and having no open seams.

Priming:

For sound concrete not normally required, however, dampening with a wet broom is recommended to decrease porosity. Steel and wood surfaces after thorough cleaning (or concrete that has absorbed oil) should receive a prime coat of Flintkote Primer-Sealer No. 979-A (a neoprene base product) applied by brush prior to installation of Flintkote Latex Industrial Flooring mix.

Mixing and Troweling:

Use the unit proportions of 1 gal. Latex to 60 lbs. of Premix (or 1 qt. to 15 lbs.) and combine in a clean container. Mix only such a quantity as will be used within an hour as the material cannot be re-tempered after it begins to set.

For thick applications or filling deep breaks the above mix may be extended by the addition of up to 40 lbs. of coarse aggregate of the hard crushed type where the largest particles do not exceed 50% of the thickness to be applied. Since the coarse aggregate is non-absorbant, no additional liquid Latex will ordinarily be required.

It is advisable in mixing to retain small parts of the Latex and Premix to gage the final mixture to the most desirable troweling consistency. Mix until smooth and homogeneous throughout the batch.

Trowel out carefully, preferably by "scratching in" to wet the base and finish immediately. Unlike concrete and other water base mixtures, Flintkote Latex Industrial Flooring forms a surface skin from the Latex which assists curing and final finishing cannot be delayed. A clean trowel, wiped frequently with a wet cloth will help in getting the smoothest finish.

Drying Time:

Rate of hardening depends on the thickness applied and drying conditions of temperature and humidity. At room temperature and normal humidity, a 1/4 inch thick application will be hard enough for light traffic after drying overnight.

Care of Tools:

Wash mixing containers and tools in cold water as often as necessary to keep clean and prevent the mixture from sticking.

CAUTION:

The Latex liquid component must be protected from freezing and the dry Premix should be stored in a dry place. Keep containers closed securely when not in use.

Do not apply Flintkote Latex Industrial Flooring when temperature is below 40°F. Outdoor or open locations must be protected from rain and shaded from hot sun direct rays.

CONTAINERS:

Liquid binder for Latex Industrial Flooring - 5 gallons, 1 gallon Premix for Latex Industrial Flooring - 60 lb. bags.

Units of 60 lb. Premix and 1 gal. of liquid binder complete in 5 gal. tapered steel pail.

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 260
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

LATEX FLOORING – TROWEL FINISH

GENERAL

Flintkote Latex Flooring combines a special formulation of liquid latex and properly proportioned, dry, premixed aggregates. The premix contains finely graded aggregates suitable for thin application down to featheredge and can be placed over almost any type of firm subfloor or base. It is particularly suited for resurfacing worn, pitted or cracked concrete floors and sound but worn wood flooring.

CHARACTERISTICS

The suitability of trowel applying Flintkote Latex Flooring in thicknesses of 1/8 inch or greater is made possible by the unique combination of latex binder and selected premixed fillers of mineral aggregates and cementitious setting agents. It has exceptional characteristics in toughness, non-brittleness, light weight, and in resistance to traffic wear. It answers sufficient flexibility over firm wood bases to meet the stresses of expansion and contraction. Water, grease, oils, dilute acids and alkalies occasioned by normal spillage have no deteriorating effects. (For a more complete chart on chemical resistance see product data sheet No. 259, *Flintkote Latex Industrial Flooring*). Over rigid bases such as concrete, Flintkote Latex Flooring provides desired resilience for comfort under foot and gives a feeling of warmth as against unsurfaced floors. Its availability in several attractive light reflecting colors increases its value for both new and resurfacing flooring work. The material is supplied in neutral, light and dark gray and in pleasing tones of green and red.

RECOMMENDED USES

Flintkote Latex Flooring has many advantages for use in commercial and industrial applications. It resurfaces existing deteriorated floors in thin sections, giving smooth firmness under rolling loads for power-truck savings. In light traffic areas having standing workers, its resilience is highly important to employee morale. Note: for heavy duty traffic and wearing surfaces, the use of Latex Industrial Flooring is recommended - see product data sheet No. 259.

Flintkote Latex Flooring bonds firmly to prevent separation from the base. Any size area is laid without joints - a desirable feature in places requiring frequent washing and cleaning, as in commercial kitchens, wash rooms, locker rooms, bottling works, food canning and meat packing plants.

For durable, economical wearing surfaces having excellent resistance to all the factors to which industrial and commercial floors are normally subjected, Flintkote Latex Flooring is highly recommended. Its use in thin section down to featheredge requires little or no subfloor preparation of resetting drains, door sills or base boards and its low weight per square foot permits its use in existing structures without expensive strengthening and shoring of base floors. The smooth attractive finish affords sufficient tractive resistance to render it non-slippery, wet or dry. Aisles which receive excessive wear can be resurfaced without the necessity of over all application.

APPLICATION

Preparation of Base

CONCRETE - Concrete base shall be of normal strength, well cured, non-dusty and cleaned free of grease, oil, dirt, paint or other foreign matter. Breaks, cracks or major deviation from line and grade shall be suitably patched prior to application of Latex Flooring finish. (Note: Flintkote Latex Flooring is not recommended on floors subject to hydrostatic pressure.)

WOOD - Wood floors shall be of double, not single, construction, securely nailed and braced to prevent excessive deflection or vibration. The base shall be cleaned free of all grease, oil, dirt, loose paint or other foreign matter and all broken or rotten boards replaced. A minimum of 1/4 inch thickness of latex flooring is required for resurfacing wood floors.

PRIMING - Firm, clean, well cured concrete should be dampened with water, as with a wet broom, to eliminate suction. Most wood surfaces, after cleaning, should be primed with Flintkote No. 979-A (see product data sheet No. 262) to eliminate water absorption by the fibers. Dense, non-absorptive woods can be prepared for resurfacing by a priming coat consisting of 1 part latex and 1½ to 2 parts of premix applied by stiff bristle brush. Bare concrete floors which have been contaminated with grease or oil should be cleaned by means of a detergent or

510624

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

other effective method and allowed to dry after which the surface is sealed and primed with Flintkote No. 979-A.

PREPARATION OF MIX

Empty the contents of one or more bags of Flintkote Latex Flooring premix into a metal or other leak-proof mortar box and add one gallon of latex binder for each bag of premix used. Mix until smooth and homogeneous throughout and gage *slightly* with water if necessary for the desired trowelability. Mechanical mixers may be used but care should be taken so as not to overmix and cause foaming which will interfere with obtaining a dense strong surfacing. The mixing pan or box, trowels and other tools should be cleaned with water at frequent intervals to prevent the accumulation of hardened material. Mix only as much as can be applied before the mix begins to set, normally about one hour, as this mix cannot be retempered.

PLACING AND TROWELLING

Deposit the mixed material and spread to the required thickness taking care to "scratch" the mix into the surface to obtain good wetting for maximum bonding. Screed strips will assist in getting uniform thickness in striking off to the grade level required.

Unlike concrete and other cement bearing mixtures, finish trowelling should not be delayed as latex flooring mixes form a skin which assists curing. A clean trowel, wiped occasionally with a cloth moistened in water will help in getting a smooth finish. For maximum smoothness and elimination of trowel marks a final skin coat consisting of 1 gallon of latex and 1/2 to 2/3 of a bag of premix may be applied over the original application as soon as the first coat has set sufficiently to be worked on.

Flintkote Latex Flooring may be laid up to 3/8 inch thickness in one course. Deeper fills are more satisfactorily placed in two courses with drying between applications. For economy in deep fill applications a modified mix of adding up to an equal volume of coarse aggregate containing no fines may be used and applied slightly below final grade line for later finishing with the regular mix.

Coverage:

Flintkote Latex flooring units consist of 1 gallon of latex binder and 40# of dry premix. Figure on 1 square foot at 1/8 inch thickness for each pound of dry premix or 40 square feet for a unit as supplied.

Drying Time:

The rate at which Flintkote Latex Flooring hardens depends on the thickness of application and drying conditions. Under normal temperature and humidity range, surfacing up to 1/4 inch thickness will be sufficiently hard for light traffic after curing over night. Special precautions for curing are not required as for concrete but care should be taken to prevent excessively rapid drying due to high drafts or direct hot sunlight.

Care of Tools:

The latex flooring mixture should not be allowed to dry on tools or equipment as it is difficult to remove. Wash equipment in cool water as frequently as necessary to keep clean.

CAUTION

Liquid latex binder should be protected from freezing. Store above 40° F. and keep bags of premix in a dry place.

Do not apply Flintkote Latex Flooring when temperature is below 40° F. or in outdoor or open locations when rain or freezing is imminent.

CONTAINERS

Flintkote Latex Flooring binder - 5 gallons, 1 gallon.

Flintkote Latex Flooring premix - 40# bags. Colors normally available - neutral, light and dark, gray, red and green.

Note:

Other Flintkote latex flooring unit sizes are produced: See product data sheet No. 258, Latex Concrete Patch for repair and maintenance of masonry. See product data sheet No. 260, Latex Industrial Flooring for heavy duty wearing surface.

510625

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 261
ISSUE 61-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE LATEX FLOORING BINDER

for field mixes

GENERAL

Flintkote Latex Flooring Binder (No. 773) is a specially compounded synthetic resin latex which can be mixed with portland or hamite cement, sand and coarse aggregates to make easily applied floor surfacing compositions. Properly prepared from good quality aggregates, these mixes demonstrate all of the desirable properties of Flintkote's factory prepared latex flooring units and by use of hard, tough aggregates provide great resistance to abrasive wear and heavy loadings. The use of these field mixes is recommended for sizable areas where the quantity of the various aggregate ingredients justifies the finding of near-by sources of supply and bringing them together at the job site.

CHARACTERISTICS AND RECOMMENDED USES

Latex floor surfacings are characterized by their excellent bonding to most clean, stable, base surfaces. This property permits their use in relatively thin section which often allows worn or broken floors to be repaired without materially changing the floor level. Due to the low shrinkage during curing, it is possible to install large areas without joints or cracks - a desirable feature in places requiring frequent washing and cleaning, as in commercial kitchens, wash rooms, locker rooms, bottling works and food canning plants. Damaged areas can be readily repaired without elaborate procedures.

Latex flooring has many advantages in heavy duty areas such as warehouses and heavy manufacturing, giving smooth firmness under rolling loads for power truck savings. In light traffic areas, its resilience provides under foot comfort for standing workers. Moderate oil and chemical resistance of latex flooring allows its use in a wide variety of industrial applications.

Attractive colors can be readily achieved by the use of lime-proof inorganic pigments which are available in many stores selling masons' supplies.

APPLICATION

Preparation of Base

1. Concrete shall be of normal strength, non-dusty and cleaned free of grease, oil, dirt, paint or other foreign matter. Breaks, cracks or major deviation from line and grade shall be suitably patched prior to application of the finished surfacing mix.

2. Wood floors should be of double, not single, construction securely nailed and braced to prevent excessive deflection or vibration. A minimum of 1/4 inch thickness of latex flooring should be required for wood floor bases.

3. Normally for most base surfaces, no priming is necessary. Dampening with water (as with a wet broom) is recommended for porous concrete. Certain wood surfaces such as interior grade plywood and other soft woods may require priming before surfacing with latex flooring. The use of Flintkote No. 979-A Primer-Sealer applied as a brush coat or a thin trowel-applied scratch coat comprising 1 gal. latex to 20 to 30 lbs. of a 3:1 fine sand-cement premix has been found acceptable as a surface treatment. In either case the surface treatment should be allowed to dry before proceeding with the flooring application.

Oil or grease soaked floors should be thoroughly cleaned by means of a strong alkaline cleaner such as tri-sodium phosphate (TSP) and hot water followed by flushing with clear water and allowed to dry. The clean dry floor should then be sealed with one or more coats of Flintkote No. 979-A before applying the flooring mix.

PREPARATION OF FLOORING MIX

While various mixes can be developed by the applicator to suit individual job requirements, the following two mixes have been found acceptable for many job conditions.

510626

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

Fine Mix
1 bag (94 lb.) regular Portland Cement*
2 to 3 cu. ft. of clean washed, sand (quantity required is dependent on fineness of sand grading)
3½ gallons Flintkote No. 773 Latex Binder
Use adjusting water sparingly if required to make easily placed mix.

Heavy Duty Mix
1 bag (94 lb.) regular Portland Cement* (1 cu. ft.)
10 gallons clean, washed, fine sand (1.3 cu. ft.)
10 gallons clean, washed crushed stone (1.3 cu. ft.)
3½ gallons Flintkote No. 773 latex binder
Use adjusting water sparingly if required to make easily placed mix.

Note* White Portland cement or Lumnite cement may be substituted for regular Portland in this formula.

Place the dry ingredients in a clean mixing vessel and mix until uniform. If aggregates are dry, moisten with a small amount of water and then add all of the latex binder. Adjust to final consistency for best placing and trowelling with additional water.

Do not overmix. Flintkote Latex Binder No. 773 is treated to retard foaming but excessive mixing can cause undesirable air entrainment which will impair the durability of the finished floor.

PLACING AND TROWELLING

Deposit the mixed material and spread to the thickness required. Best adhesion is obtained by holding the trowel at a 45° angle and applying pressure as a "scratch coat" followed by full body thickness. Screed strips will assist in getting uniform thickness in striking off to required grade level.

Unlike concrete and other water cement mixtures, finish trowelling should not be delayed as mixed latex flooring rapidly forms a skin which assists curing. A clean trowel, wiped occasionally with a cloth moistened in water will help in getting the smoothest finish.

Fine grade Premix may be laid up to 3/8 inch thickness and coarse grade Premix to 1 inch thickness in one course. Heavier fills are more satisfactorily placed in two courses with drying between applications. Fine grade Premix finish over coarse grade first course will give greater economy in coverage. Figure on 1 sq. ft. at 1/8 inch thickness for each pound of dry ingredients.

DRYING TIME

The rate at which Latex Flooring hardens depends on the thickness of application and drying conditions. Under normal temperature and humidity range, surfacing up to 1/4 inch thickness will ordinarily be sufficiently hard for light traffic after curing overnight.

CARE OF TOOLS

The Latex Flooring mixture should not be allowed to dry on tools or equipment as it is difficult to remove. Wash equipment in cold water as frequently as necessary to keep clean.

CAUTION

Flintkote Latex Flooring Binder should be protected from freezing. Store above 40°F. and keep Premix materials in a dry place.

Do not apply Flintkote Latex Flooring when temperature is below 40°F. or in outdoor or open locations when rain or freezing is imminent.

CONTAINERS

Flintkote Latex Binder No. 773 for Latex Flooring - 55 gallons, 5 gallons, 1 gallon.

5-0627

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 262
ISSUE 61-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE NO. 979-A PRIMER-SEALER

GENERAL

Flintkote No. 979-A is a Neoprene-resin base solvent vehicle primer and sealer for use in correcting many base floor deficiencies prior to resurfacing with trowel applied composition floorings. Amber in color, it is of thin paint consistency which can be easily applied by brush. The low viscosity results in excellent penetrating and sealing properties and the applied film dries rapidly to a tack-free surface with minimum delay of operations.

CHARACTERISTICS

Flintkote No. 979-A has found wide usage in the field of industrial and commercial flooring applications because of its unique ability to prime and seal floor surfaces against embedded oil or grease. It also has been found effective in penetrating and sealing dusty, porous concrete and soft, absorptive wood floors. Composition floor surfacings such as latex, magnesite and epoxy compounds establish strong bonds with No. 979-A treated surfaces, and in the case of oil contaminated floors, the oil resistant property of neoprene forms an effective seal against subsequent migration and loss of bond.

The many attractive features of this product indicate the desirability of its use whenever a question exists regarding the establishment of good bond between these floor surfacings and the base.

APPLICATION

Preparation of Surfaces:

All surfaces should be cleaned of dirt, dust, loose or poorly bonded paint and other foreign matter, and the floor must be dry. Although Flintkote No. 979-A will penetrate through dust and dirt, maximum efficiency will result from cleaning the floor before priming and sealing.

Floors which have been contaminated by oils or grease should be cleaned by appropriate means to remove the contaminant from the floor surface. Flintkote No. 979-A must be able to make bond with the floor surface in order to properly seal the base for resurfacing. The floor should be dried thoroughly after cleaning and before priming and sealing.

Application:

Apply by brush at rate of 100 to 300 sq. ft. per gallon depending on the type of base and porosity of surface.

Drying:

Flintkote No. 979-A dries rapidly due to the special solvent system - usually less than one hour. Completion of the drying period can be determined by feeling the surface since No. 979-A is non-tacky when dry. The treated surface may be walked on when dry but care should be taken to not cause the floor to become dirty before installing the finished floor.

CAUTION:

Flammable while wet. Keep away from flame. Avoid breathing fumes - use in well ventilated areas. Store below 80°F.

SHELF LIFE:

Rotate inventory so that product is used on "first in-first out" basis. Store in cool place wherever practicable. For best results, this product is recommended for use within 6 months.

NET WEIGHT PER GALLON

About 7.3 pounds per gallon.

CONTAINER SIZES

5 gallons, 1 gallon.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 263
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE EPOXY FLOORING

A specially compounded, trowel applied surfacing material for problem floors

GENERAL

In a number of commercial fields, previously available flooring materials or surface treatments fail to provide the properties required for the service conditions. These are called the problem floors whether they are new or old or whether they are constructed of masonry, steel or wood.

The development and use of epoxy resin in formulations suitable for floor surfacing in large or small areas has provided a solution to many of these important problems. Flintkote Epoxy Flooring is designed especially to meet the principal requirements involved in 1/4 inch surfacing applications.

Resistance to a large variety of normally encountered solvents, petroleum oils, greases, acids, alkaline solutions, high-proof alcohols, food sugars, vegetable oils and conditions of shock and abrasive wear recommends Flintkote Epoxy Flooring to the attention of Industrial, Chemical, Food Processing plants and others who have recurring flooring troubles.

CHARACTERISTICS

Flintkote Epoxy Flooring is supplied in units comprising three separate components, conveniently packaged in metal containers. Each unit will cover approximately 25 square feet at 1/4 inch thickness or 40 square feet at 1/8 inch thickness (for adjusted formula - see No. 6 under mixing). The weight is approximately 60 lbs. per unit, or equal to 2.4 lbs. per square foot per 1/4 inch thickness.

The mixture results in a trowelable material having a working time of approximately one hour. Then set, Flintkote Epoxy Flooring exhibits excellent resistance to wear, abrasion, thermal shock and falling load impact as shown by a comparison of its physical properties to those of concrete.

APPLICATION

Preparation of Sub-Floor:

The surface to be covered with Flintkote Epoxy Flooring must be cleaned *thoroughly* of all paint, oil, rust, grease, millscale, dust or other foreign matter. To clean concrete, a 10% muriatic acid solution is recommended. Wash the acid off with water. Wood may be cleaned by wiping with a paint thinner or solvent. Metal can best be cleaned by sand blasting or caustic solution and wire brushing. Heavy contamination of oil or grease may require additional treatment with alkaline detergents and/or steam cleaning.

Thoroughness of cleaning must be emphasized, followed by *thorough* drying of the surface. Usually in a well ventilated area with normal room temperatures, concrete floors will be surface dry in 2 hours.

A primer is generally not required but where needed, Flintkote No 979-A has been found acceptable.

If the base condition is poor, consult a Flintkote representative.

Mixing and Application:

1. Do not mix the components of Flintkote Epoxy Flooring until the sub-floor is clean and dry.

2. Mix one unit at a time, as a rule, or only as much as can be applied within one hour.

3. Inadequate mixing will not yield satisfactory results. Follow all directions carefully.

4. Empty entire contents of Part "A" into a suitable mixing vessel such as a mortar box or a 5 gallon pail.

5. Slowly, with mixing, add entire contents of Part "B" to Part "A". Mix these liquids together thoroughly, possibly 2 or 3 minutes.

510620

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6. Add slowly, a little at a time, Part "C" (dry premix component) to the mixed "A" and "B" liquid binder. Be sure that all particles of "C" are wetted by, and dispersed in the binder. Mix the three parts together thoroughly, which may require 5 minutes or more. Mechanical mixing such as an electric drill with agitator head geared down to about 200 r.p.m. has proved successful.

For 1/8 inch thick applications, use only 40 lbs. of Part "C" dry premix. For greater than 1/4 inch thickness, additional coarse aggregate of size not exceeding 50% of the flooring thickness being applied might prove more economical. Request information from your Flintkote representative.

7. Apply mixed Flintkote Epoxy Flooring to the surface to be covered. To assist in obtaining the desired thickness, screed strips may be used. Scratch mixture into approximate place with a trowel, checking thickness and grade with a board resting on the screed strips. Final finishing is done with a steel trowel. To obtain a smooth finish, the trowel may be wet slightly with xylene or alcohol.

Clean-Up

Do not allow Flintkote Epoxy Flooring mixture to harden on tools or other equipment. Use alcohol, toluene, xylene or kerosene to clean equipment at once.

Cautions:

Keep work areas well ventilated and temperatures above 60°F. (The setting time is faster with high temperatures-slower with low temperatures and a range of 60°F. to 100°F. is desirable.)

Warning:

The ingredients in parts A and B are toxic. Do not get in eyes, on skin, or on clothes. Avoid prolonged or repeated breathing of vapor. Keep work areas well ventilated. In case of contact with skin, wash with soap and water. For eyes, get medical attention. Remove contaminated clothing at once and wash thoroughly before reuse.

NOTES ON PRODUCT DATA AND USE

Units of Flintkote Epoxy Flooring in three part system comprise:

Part "A" binder - approx. 1 gallon.
Part "B" catalyst - approx. 1 pint.
Part "C" dry premix - 50 lbs. cement gray color.
Primer (if required) Flintkote No. 979-A-2 1 gal. cans, 5 gal. pails.

In application, Flintkote Epoxy Flooring has no shrinkage factor or volume change upon setting. Coverages will vary slightly with different sub-floor conditions and irregular bases.

The floor surface can be opened, depending on temperature, to foot traffic after 6-24 hours and to heavy duty traffic after approximately 2 days. The exact time depending on curing temperature, as determined by inspection.

Do not attempt to featheredge as the minimum depth is about 1/16 inch as governed by the particle size of the premix aggregate. Chemical resistance is dependent also on the use of the supplied premix.

TABLE I
PHYSICAL PROPERTIES COMPARED TO CONCRETE

	Epoxy Mix	Concrete
Rockwell Hardness	M-82	M-64
Shrinkage inch per inch	0.0010	0.0012
Compressive Strength, psi		
7 Days	6500	3500
28 Days	7900	4700
Tensile Strength, psi	1200	350
Adhesion to Concrete, psi	950 (Failure in concrete)	
Adhesion to Steel, psi	1000 +	–
Adhesion to Wood (Oak) psi	600 +	–
Impact Strength 1/2" thickness on 7x7 in. – No crack ing or loss of bond from steel base on 10 drops of 2 lb ball dropped from a height of 6 ft + 10 in. – No get drops after immersion and after 2 weeks at 180°F.		
Abrasion Resistance		
Cleaning	None	Mod.
Loss in Thickness, inches		
5000 cycles with one brush 0.0050		0.0400
Immersion Tests		
1/2" Steel Ball, 100 lb load for 4 hours.		
Room temp cure 1 week	0.01	–
Room temp cure 2 weeks + 1 week at 180°F.	0.01	–

Note: All test specimens were aged 28 days before testing unless otherwise noted

TABLE II
CHEMICAL RESISTANCE OF FLINTKOTE EPOXY FLOORING

Explanation of Rating Symbols
R – Suitable for prolonged contact.
S – Suitable for spillage and splash
P – Not suitable.

Acetic Acid, 20%	P	Citric Acid, 20%	S
Acetone	P	Cottonseed oil	R
Acids, dilute inorganic	R	Detergent(alkaline)	R
Acids, concentrated inorganic	P	Dichloroethylene	P
Alcohol, Amyl	R	Diesel Fuel	R
Ethyl	R	Diethylene Glycol	R
Methyl	R	Ether, Ethyl	S
Aldehydes	S	Formaldehyde, 40%	R
Aliphatic Hydrocarbons	R	Fuel oil	R
Ammonia, 28% Aqueous	R	Gasoline, Regular or Aviation	R
Ammonium Bicarbonate, 5%	R	Glycerine	R
Ammonium chloride, 10%	R	Hexane (C6H14) commercial	R
Ammonium Nitrate	R	Heptane (C7H16) commercial	R
Anhydrous Ammonia	P	Hydrochloric Acid, 10%	R
Benzene	P	Hydrochloric Acid, 37%	P
Boric Acid, 10%	R	Jet Fuels JP-4 or JP-5	R
Butyl Cellosolve	S	Kerosene	R
Carbon Disulfide	P	Lactic Acid	R
Carbon Tetrachloride	P	Linseed Oil	R
Chlorine, 1% Aqueous	P	Methyl Ethyl Ketone	P
		Motor Oil	R
		Nitric Acid, 10%	P
		Nitric Acid, conc	P
		Phosphoric Acid, 75%	R
		Potassium Hydroxide, 10%	R
		Sea Water	R
		Sodium Hydroxide, 10%	R
		Sodium Hydroxide, 50%	R
		Sodium Hypochlorite, 5%	R
		Sugar, 20% soln	R
		Sulfuric Acid, 10%	R
		Sulfuric Acid, 20%	R
		Sulfuric Acid, 50%	R
		Toluene	P
		Trichloroethylene	P
		Turpentine	R
		Vinegar	R
		Water, cold or hot	R
		Wine, bottled	R
		Xylene	P

510630

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FLINTKOTE INDUSTRIAL PRODUCTS

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PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

THE USE OF FLINTKOTE EPOXY BINDER IN PREPARING FIELD MIXES

The development by Flintkote of a new low viscosity epoxy resin binder for flooring purposes has enhanced the possibilities of considering the use of this binder in combination with locally available aggregates where job sizes warrant the effort in developing proper sources of supply and establishing acceptable mix formula.

An example of the use of this idea in developing a low cost topping material resulted in the following mix:

1 gallon Flintkote epoxy resin - catalyst
60# Dry Premix (60% 20-40 mesh silica sand, 38% 28-65 mesh silica sand, 2% Red Iron Oxide e.g. C. K. Williams #1599)

This mix, while low in cost, produces a very easily placed mastic that finishes with a minimum of effort and yields a smooth yet slip-resistant floor.

In developing other local mixes for specific end uses there are a few rules that must be observed in selecting local aggregates and establishing a mix formula. Some of these precautions are noted below as a guide to prospective users:

1. The aggregates must be clean of all foreign matter and completely dry.

2. The aggregates should be sharp and angular for maximum resistance to loads. Rounded particles produce easily placed mixes but result in reduced compressive strengths.

3. The chemical resistance of the floor is partly affected by the chemical make up of the aggregates, thus limestone chips could hardly be expected to produce an acid resisting surfacing.

4. The harder and tougher the aggregates the more durable the finished floor. In general, silica, granite and trap rock are examples of good potential aggregate types.

5. Make one or more trial mixes with the selected aggregates to determine the proper balance of liquid binder with dry ingredients. Do not overextend the mix in an effort to achieve greatest economy - there must be enough resin available to "wet" and establish bond with the base surface.

6. Once an aggregate and formula has been established, the rules for base surface preparation, mixing of ingredients and application and finishing as discussed in Flintkote Data Sheet No. 263 will apply the same as for regular Flintkote Epoxy Flooring.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 271
ISSUE 62-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 180 CENTRAL AVENUE EAST RUTHERFORD, N. J.

ASPHALT MASTIC FLOORING SPECIFICATION OVER CONCRETE BASES

GENERAL

Cold-laid Asphalt Mastic made with a binder of Flintkote asphalt base clay emulsion (mineral colloid type) is the ideal, heavy-duty, economical wearing surface for use over old or new concrete bases. On the one hand, it serves to restore worn, broken or uneven concrete floors by resurfacing to level, wear resistant and dustless surface. Asphalt mastic is also desirable for topping or finishing screeded slabs for building occupancies requiring a resilient type of heavy duty floor surface. This saves the trowel finishing of the base as the single finishing operation of the mastic is sufficient. In many cases the comfortable, insulating, malleable qualities of mastic are preferable to bare concrete finishes.

As an overlay or resurface, the Asphalt Mastic may be as thin as one-half-inch, thus eliminating in large measure the need for setting new grades for drainage, for meeting steps or door sills. The weight factor is approximately 10 lbs. per sq. ft. per inch of thickness. If damaged by minor cuts or scrapes, the Asphalt Mastic is self healing. For serious damage, it is easily repaired with the same mixture, making such patches inconspicuous.

SUGGESTED SPECIFICATIONS

GENERAL

1. The contractor shall provide all labor, materials and equipment required, including rotary blade type mortar mixer or mixing box, hoes, shovels, 5-gallon pails or other suitable devices for measurement of material quantities, wood float, steel trowel, straight-edge for leveling mastic, screed strips for depth control, wheelbarrow or buckets for carrying mix, brooms, brush, chalk line, level, roller, power compactor, etc.

MATERIALS

1. The setting agent shall be Portland or Lumnite cement which shall comply with current A. S. T. M. specifications for this material.

2. The asphalt emulsions used for prime coat and mastic binder shall comprise asphalt dispersed in water by means of a mineral colloid. The emulsions shall be Flintkote C-13-HPC Emulsion for primer, and Flintkote N-13-F or N-13-HPC Flooring Emulsion for binder.

2a. Flintkote N-13-F, an emulsion containing reinforcing fibers for greater mastic tensile strength, is recommended for those installations in which hand application methods will be used.

Flintkote N-13-HPC, a non-fibrated emulsion is recommended for installations in which power compactors will be used to obtain maximum mastic density.

3. Aggregates shall be clean, free from vegetable matter, hard, durable and well graded. The stone chips or grit used as coarse aggregate shall have a maximum size not more than 60% nor less than 40% of the thickness of the mastic to be laid.

4. Water shall be clean and free of impurities.

PREPARATION OF BASE

1. The floor shall be swept or scrubbed clean of all dirt and foreign matter, particularly oil or grease.

2. Uneven or broken areas, or holes, if deeper than twice the thickness of the surfacing to be laid, shall be primed and filled with mastic mixture to the level of the base and be allowed to set before application of the primer for the surfacing layer.

3. The cleaned base shall be dampened with water (but not flooded), then primed with a coating of Flintkote C-13-HPC Emulsion, applied at the rate of 1½ gallons per 100 sq. ft. and allowed to dry. For ease of application the priming coat may be diluted up to 15% with clean, cool water. Where floors have dusted severely, or are very porous, they should be primed with an asphalt cutback (such as Flintkote No. 267) and allowed to dry, after which the bond coat of Flintkote C-13-HPC is applied as above.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

PREPARATION OF MASTIC MIXTURE

1. Mix measured quantities of cement and aggregates with water to a stiff consistency, then add measured quantity of Flintkote Flooring Emulsion and continue mixing until mastic is of uniform color and homogeneous throughout. Do not overmix. Avoid excessive water; (not over one volume of water is required when using dry aggregates). Batches may be mixed by mechanical mixer of the rotating blade type or by hoes in a mortar box. The mastic should be mixed only in such quantities as will be placed within 1 hour.

2a. Hand Application

Suggested mix for wearing surface using hand application.

The following mixture will cover an area of approximately 65 to 70 sq. ft. 1 inch thick. Prepare lesser or greater quantities by volume.

1 volume - 1 bag (7½ gal.) cement
2 volume - 2 cu. ft. (15 gal.) Flintkote Flooring Emulsion N-13-F
2 volume - 2 cu. ft. (15 gal.) well graded sand
4 volume - 4 cu. ft. (30 gal.) crushed stone or gravel.

2a. Power Floated Application

Suggested mix for wearing surface using power compaction.

The following mixture will cover an area of approximately 80 to 85 sq. ft. 1 inch thick.

3/4 volume - 3/4 bag (5½ gal.) cement
1 volume - 2 cu. ft. (15 gal.) Flintkote N-13-HPC Flooring Emulsion
2 volume - 2 cu. ft. (15 gal.) well graded sand
6 volume - 6 cu. ft. (45 gal.) crushed stone or gravel.

NOTE: The amounts of aggregate may require adjustment, slightly more or less for each, depending on the characteristics and grading of local materials. Best proportioning and grading improves density and workability. The above measurements are for dry sand. Where sand is damp, up to 20% increase in volume should be made.

PLACING AND FINISHING

1. Screed strips are placed on the floor at suitable intervals to serve as depth guides for leveling the surfacing. After the mastic is deposited on the floor and raked to proper depth, a strikeboard is worked back and forth in a saw-like motion to level and straight-edge the surface, with final leveling done by darby or wood float.

2. Final compacting and steel troweling is preferably delayed until the initial set has taken place as in conventional concrete construction. Compacting may be accomplished by wood floats or power compactors.

CURING

It is extremely important that adequate means be taken to guard against rapid drying of the newly laid asphalt mastic flooring which may result in surface checking or cracking from shrinkage. As soon as the surface is hard enough to resist marring, it should be covered with suitable curing paper or other means to retard moisture evaporation. After about 12 hours, the mastic may be kept wet by fog spray sprinkling. Under normal conditions, the wearing surface may be opened to traffic in 24 to 48 hours as determined by inspection.

CAUTION

The Flintkote Asphalt Emulsions referred to in this specification are water vehicle and must be protected from freezing, both in shipping, storage and during application.

Flintkote cold-laid asphalt mastic flooring is not recommended for areas subjected to deposits of grease, oil, dairy products, sugar products or petroleum solvents unless sealed against the effects of such products.

510633

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 272
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

ASPHALT MASTIC FLOORING SPECIFICATION – UNDERLAYMENT –

For installations of decorative coverings in sheet or tile over any firm structural base.

GENERAL

Cold laid Asphalt Mastic made with a binder of Flintkote asphalt base clay emulsion (mineral colloid type) provides a resilient, shock-resistant, sound-deadening underlayment for decorative floor coverings in all types of buildings including industrial plants. It is economical and presents exceptional savings in construction or remodeling.

In the construction of new concrete floors which are to receive decorative coverings, the application of Flintkote Asphalt Mastic Underlayment may be placed directly on the screeded slab, eliminating the need for fine trowel finishing of the concrete. Small irregularities are taken up in the underlayment and final grade and smoothness are obtained in just the one finishing operation on the topping.

As mastic has a shorter curing period than concrete, time for laying the tile or other floor covering may be cut shorter.

For concrete slabs on grade or below, the use of Flintkote Asphalt Mastic Underlayment aids in sealing off dampness which is attracted by capillary action. The presence of such moisture is often detected by efflorescence stains or alkali deposits on the surface of the concrete.

The use of Flintkote Asphalt Mastic Underlayment over suitable wood floors eliminates the need for board type bases and felt. The mastic may be placed in the thickness desired.

SUGGESTED SPECIFICATIONS

GENERAL

1. The contractor shall provide all labor, materials and equipment required, including rotary blade type mortar mixer or mixing box, hoes, shovels, 5-gallon pails or other suitable devices for measurement of material quantities, wood float, steel trowel, straight-edge for leveling mastic, screed strips for depth control, wheelbarrow or buckets for carrying mix, brooms, brush, chalk line, level, roller, power compactor, etc.

MATERIALS

1. The setting agent shall be Portland or Lumnite cement which shall comply with current A.S.T.M. specifications for this material.

2. The asphalt emulsions used for prime coat and mastic binder shall comprise asphalt dispersed in water by means of a mineral colloid. The emulsions shall be Flintkote C-13-HPC Emulsion for primer, and Flintkote N-13-F or N-13-HPC Flooring Emulsion for binder.

2a. Flintkote N-13-F, an emulsion containing reinforcing fibers for greater mastic tensile strength, is recommended for those installations in which hand application methods will be used.

Flintkote N-13-HPC, a non-fibrated emulsion is recommended for installations in which power compactors will be used to obtain maximum mastic density.

3. Aggregates shall be clean, free from vegetable matter, hard, durable and well graded. The stone chips or grit used as coarse aggregate shall have a maximum size not more than 60% nor less than 40% of the thickness of the mastic to be laid.

4. Water shall be clean and free of impurities.

PREPARATION OF BASE (RIGID TYPES)

1. The base shall present a surface cleaned of all grease, oil, dirt and other foreign matter by the proper use of water, lye, solvents, etc., and washed with water.

2. Uneven or broken areas, or holes, if deeper than twice the thickness of the underlayment to be laid, shall be primed and filled with mastic mixture to the level of the base and be allowed to set before application of the primer for the surfacing layer.

3. The cleaned base shall be dampened with water (but not flooded), then primed with a coating of Flintkote C-13-HPC Emulsion, applied at the rate of 1½ gallons per 100 sq. ft. and allowed to dry. For ease of application the priming coat may be diluted up to 15% with clean, cool water. Where floors have dusted severely, or are very porous, they should be primed with an asphalt cutback (such as Flintkote No. 267) and allowed to dry, after which the bond coat of Flintkote C-13-HPC is applied as above.

If the base is concrete on the ground or below grade, added protection may be obtained by the application of a waterproofing material such as

510634

NOTICE: The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

membrane, penetrating primer etc., as determined by the architect or engineer in charge.

PREPARATION OF BASE (WOOD FLOORS)

1. The entire floor shall be examined and any unsound portions replaced. Loose boards shall be securely nailed, wide seams filled and holes patched. The floor shall be clean and dry.

2. The dry wood floor shall be primed with a coat of Flintkote No. 267 high melt point asphalt cutback, brush applied, care being taken to make certain the surface is thoroughly coated. The prime coat should be given sufficient time to dry.

3. Over the surface thus prepared, poultry wire or 2-inch wire mesh, well nailed to the floor with large headed nails spaced not over 6 inches apart in both directions, may be used.

4. The prepared floor shall then be given a bond coat of Flintkote C-13-HPC Emulsion applied at the rate of 1½ gallons per 100 sq. ft. and be allowed to dry.

(NOTE: All underlayments over wood shall be ½ inch thick or thicker. Weight factor is approximately 10 pounds per sq. ft. per inch of thickness.)

PREPARATION OF MASTIC MIXTURE

1. Mix measured quantities of cement and aggregates with water to a stiff consistency, then add measured quantity of Flintkote Flooring Emulsion and continue mixing until mastic is of uniform color and homogeneous throughout. Avoid excessive water; not over 1 volume of water is required when using dry aggregates. Do not overmix. Batches may be mixed by mechanical mixer of the rotating blade type or by hoes in a mortar box. The mastic should be mixed only in such quantities as will be placed within 1 hour.

2. Suggested mix for underlayments 3/8 inch thick or thicker:

The following mixture will cover an area of approximately 130 to 150 sq. ft. ½ inch thick. Prepare lesser or greater quantities by volume.

1 vol. - 1 bag (7½ gal.) of cement
2 vol. - 2 cu. ft. (15 gal.) of Flintkote Flooring Emulsion (N-13-F or N-13-HPC)
3 vol. - 3 cu. ft. (22½ gal.) of well graded sand.
4 vol. - 4 cu. ft. (30 gal.) of crushed stone or gravel.

2a. Suggested mix for underlayments less than 3/8 inch thick:

The following mixture will cover an area of approximately 140 to 160 sq. ft. 3/8 inch thick.

Prepare lesser or greater quantities by volume.

1 vol. - 1 bag (7½ gal.) of cement.
2 vol. - 2 cu. ft. (15 gal.) of Flintkote N-13-F Flooring Emulsion
3 vol. - 3 cu. ft (22½ gal.) of well graded sand.

(NOTE: The volumes or proportions given may require slight adjustment, slightly more or less for each, depending on the characteristics and grading of local materials. Best proportioning and grading improves density and workability. The above measurements are for dry sand. Where sand is damp, up to 20% increase in volume should be made.)

PLACING AND FINISHING

1. Screed strips are placed on the floor at suitable intervals to serve as depth guides for leveling the underlayment. After the mastic is deposited on the floor and raked to proper depth, a strikeboard is worked back and forth in a saw-like motion to level and straight-edge the surface, with final leveling done by darby or wood float.

2. Final compacting and steel trowelling is preferably delayed until the initial set has taken place as in conventional concrete construction. Compacting may be accomplished by wood floats or power compactors.

CURING

1. It is extremely important that adequate measures be taken against rapid drying out of newly laid Mastic underlayment as a guard against surface checking from shrinkage. As soon as the surface is hard enough to resist marring, it should be covered with suitable curing paper or other means to retard moisture evaporation. After about 12 hours the surface may be kept wet by fog spray sprinkling. Under normal conditions, the mastic surface may be allowed to begin drying out in 24-48 hours as determined by inspection.

2. The decorative flooring contractor shall assume the responsibility of determining when the mastic underlayment is sufficiently dry and hard for application of the particular type of covering specified.

PRECAUTIONS

The Flintkote Asphalt Emulsions referred to in this specification must be protected from freezing in shipping, storage and during application.

Asphalt Mastic Underlayment is not recommended for areas subjected to excessive oil, grease, petroleum solvents or dairy or sugar products which are allowed to penetrate joints or seams in the floor covering. Adhere floor coverings with emulsion type cements.

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 273
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

ASPHALT MASTIC FLOORING SPECIFICATIONS
- PATCHING INDUSTRIAL FLOORS -

GENERAL

If industrial floors are to serve with full efficiency, they must be kept in smooth condition so that workers may walk with safety and materials may move with dispatch. Many industrial floors become pitted or gouged, spalled and broken due to the heavy wear and abuse they receive, resulting in costly accidents and production losses. Cold-laid Asphalt Mastic which is made of prescribed aggregates and cement with a blender of Flintkote asphalt base clay emulsion (mineral colloid type) is eminently suited for quick, economical and durable floor patching.

This sheet deals with small area repair. For resurfacing, refer to Product Data Sheet No. 271 (over concrete) and No. 274 (over wood). The occasional resurfacing other types of bases such as steel, brick, stone or compositions will follow the same pattern. Repairs of any of these work floors is relatively easy with Asphalt Mastic since it is pliable when being put in place, then hardens. No chipping, squaring of edges or extensive cleaning preparation is required. The mastic mix can be troweled on any size or shape of patch, regardless of depth, and may be featheredged to meet adjacent surfaces.

The following specifications include provisions for fine and coarse mixes. In general, larger, deeper patching will use coarse mixes and shallow patches or featheredging, the fine mix.

SUGGESTED SPECIFICATIONS

GENERAL

Equipment needed includes a rotary blade type mortar mixer (for extensive work) mortar box, hoe and shovel (for occasional small patching), brush for applying primer, pails for measuring materials and carrying the mix, wood float, tamper and finishing trowel.

MATERIALS

1. The setting agent shall be Portland or Lumnite cement.

2. The asphalt emulsions shall comprise asphalt dispersed in water by means of a mineral colloid. These shall be Flintkote C-13-HPC Emulsion for primer and Flintkote N-13-F Emulsion for binder.

Flintkote N-13-F contains reinforcing fibers and is recommended over non-fibered emulsion.

3. Aggregates shall be clean, free from vegetable matter, hard, durable and well graded. The stone chips or gravel used in coarse mix shall have a maximum size not more than 60%, nor less than 40% of the thickness of the mastic patch.

4. Water shall be clean and free of impurities.

PREPARATION OF BASE

1. The floor shall be swept or scrubbed clean of all dirt and foreign matter, particularly oil or grease. It should be slightly damp.

2. Prime the area to be patched and extending 2 inches out on the floor with a brush coat of Flintkote C-13-HPC Emulsion, diluted up to 15% with cool, clean water.

PREPARATION OF MASTIC MIXTURE

Mix measured quantities of cement and aggregates with water to a stiff consistency, then add the measured quantity of Flintkote N-13-F Emulsion and continue mixing until mastic is of uniform color and homogeneous throughout. Do not overmix. Avoid excessive water (not over 1 volume of water when using dry aggregate). The mastic should be mixed only in such quantity as will be used within 1 hour.

Suggested fine aggregate mix as follows will yield about 105 sq. ft. at 1/2 inch average thickness. Prepare lesser or greater quantity by volume:

NOTICE: The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

1 vol. - 1 bag (7½ gal.) of cement
2 vol. - 2 cu. ft. (15 gal.) Flintkote N-13-F Emulsion
4 vol. - 4 cu. ft. (30 gal.) well graded sand.

Suggested coarse aggregate mix as follows will yield about 150 sq. ft. at 1 2 inch thickness.

1 vol. - 1 bag (7½ gal.) of cement
2 vol. - 2 cu. ft. (15 gal.) Flintkote N-13-F Emulsion
2 vol. - 2 cu. ft. (15 gal.) well graded sand
4 vol. - 4 cu. ft. (30 gal.) stone chips

PLACING AND FINISHING

Deposit mixed mastic on primed area and strike off slightly high to allow for small shrinkage and compaction. Compact with vigorous wood floating. For quick hardening patches keep water at a minimum and tamp in place.

Final steel troweling is preferably delayed until after initial set has taken place. Do not overtrowel.

CURING

Guard against rapid drying by covering with curing paper to retard moisture evaporation. If necessary to use patched area cover temporarily with steel plate or wood planking.

Under normal conditions, the patch may be opened in 24 hours or less for light traffic.

CAUTION

The Flintkote Emulsions referred to in this specification are water base and must be protected from freezing, in shipping, storage and during application.

Cold-laid asphalt mastic is not recommended for areas subject d to deposits of oil, grease, dairy products, sugar lacts or petroleum solvents unless sealed aga... he effects of such products.

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 274
ISSUE 61-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

ASPHALT MASTIC FLOORING SPECIFICATIONS OVER WOOD FLOORS

GENERAL

Industrial floors, including those constructed of wood, are subject to heavy traffic abuse. They present a serious and recurring problem in maintaining a satisfactory surface for operations. Asphalt Mastic provides a very economical material for wearing surface with relatively easy application and a type also easy to restore if damaged. It is wear resistant, non-slippery and deadens; also resilient and comfortable under foot.

Cold laid Asphalt Mastic made with a binder of Flintkote asphalt base clay emulsion (mineral colloid type) may be laid over any of a variety of flat structural bases, including wood. Some particular precautions must be observed, however, for wearing surface installation over wood.

One advantage of using Asphalt Mastic Flooring over wood is non-brittleness, hence higher resistance to cracking than other type toppings. Another is that a thickness down to 1 inch may be used; weight factor is approximately 10 lbs. per sq. ft. per inch of thickness. It may be patched if necessary with the same material, making such repairs inconspicuous.

SUGGESTED SPECIFICATIONS

GENERAL

1. The contractor shall provide all labor, materials and equipment required, including rotary blade type mortar mixer, or mixing boxes, hoes, shovels, 5 gal. pails or other suitable devices for measurement of material quantities, wood float, steel trowel, straight-edge for leveling mastic, screed strips for depth control, wheelbarrows or buckets for carrying mix, brooms, brush, chalk line, level, tallies, power compactor, etc.

MATERIALS

1. The setting agent shall be Portland or Lumnite cement which shall comply with current A.S.T.M. specifications for this material.

2. The asphalt emulsions used for prime coat and mastic binder shall comprise asphalt dispersed in water by means of a mineral colloid. The emulsions shall be Flintkote C-13-HPC Emulsion for primer, and Flintkote N-13-F or N-13-HPC Flooring Emulsion for binder.

2a. Flintkote N-13-F, an emulsion containing reinforcing fibers for greater mastic tensile strength, is recommended for those installations in which hand application methods will be used.

Flintkote N-13-HPC, a non-fibrated emulsion is recommended for installations where power compactors will be used to obtain maximum mastic density.

3. Aggregates shall be clean, free from vegetable matter, hard, durable and well graded. The stone chips or grit used as coarse aggregate shall have a maximum size not more than 60% nor less than 40% of the thickness of the mastic to be laid.

4. Water shall be clean and free of impurities.

PREPARATION OF BASE (WOOD FLOOR)

1. The entire floor shall be examined and any unsound portions replaced. Loose boards shall be securely nailed, wide seams filled, and holes patched. The floor shall be clean and dry.

2. The dry wood floor shall be primed with Flintkote No. 267 high melt point asphalt cutback, brush applied, care being taken to make certain the surface is thoroughly coated. The prime coat should be given sufficient time to dry.

3. Over the surface thus prepared, poultry wire or 2 inch wire mesh, well nailed to the floor with large headed nails, spaced not over 6 inches apart in both directions, may be used.

4. The prepared floor shall then be given a hand coat (over wire if used) of Flintkote C-13-HPC Emulsion, applied at the rate of 1½ gal. per 100 sq. ft. and allowed to dry.

(NOTE: All asphalt mastic applications over wood shall be a minimum of 1 inch thickness).

510638

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

PREPARATION OF MASTIC MIXTURE

1. Mix measured quantities of cement and aggregates with water to a stiff consistency, then add measured quantity of Flintkote Flooring Emulsion and continue mixing until mastic is of uniform color and homogeneous throughout. Do not overmix. Avoid excessive water; (not over one volume of water is required when using dry aggregates). Batches may be mixed by mechanical mixer of the rotating blade type or by hoes in a mortar box. The mastic should be mixed only in such quantities as will be placed within 1 hour.

2a. Hand Application

Suggested mix for wearing surface using hand application.

The following mixture will cover an area of approximately 65 to 70 sq. ft. 1 inch thick. Prepare lesser or greater quantities by volume.

1 volume - 1 bag (7½ gal.) cement
2 volume - 2 cu. ft. (15 gal.) Flintkote Flooring Emulsion M-13-F
2 volume - 2 cu. ft. (15 gal.) well graded sand
4 volume - 4 cu. ft. (30 gal.) crushed stone or gravel.

2a. Power Floated Application

Suggested mix for wearing surface using power compaction.

The following mixture will cover an area of approximately 80 to 85 sq. ft. 1 inch thick.

½ volume - ½ bag (5½ gal.) cement
2 volume - 2 cu. ft. (15 gal.) Flintkote M-13-HPC Flooring Emulsion
2 volume - 2 cu. ft. (15 gal.) well graded sand
6 volume - 6 cu. ft. (45 gal.) crushed stone or gravel.

NOTE: The amounts of aggregate may require adjustment, slightly more or less for each, depending on the characteristics and grading of local materials.

Best proportioning and grading improves density and workability. The above measurements are for dry sand. Where sand is damp, up to 20% increase in volume should be made.

PLACING AND FINISHING

1. Screed strips are placed on the floor at suitable intervals to serve as depth guides for levelling the surfacing. After the mastic is deposited on the floor and raked to proper depth, a strikeboard is worked back and forth in a saw-like motion to level and straight-edge the surface, with final levelling done by darby or wood float.

2. Final compacting and steel troweling is preferably delayed until the initial set has taken place as in conventional concrete construction. Compacting may be accomplished by wood floats or power compactors.

CURING

It is extremely important that adequate means be taken to guard against rapid drying of the newly laid asphalt mastic flooring which may result in surface checking or cracking from shrinkage. As soon as the surface is hard enough to resist marring, it should be covered with suitable curing paper or other means to retard moisture evaporation. After about 12 hours, the mastic may be kept wet by fog spray sprinkling. Under normal conditions, the wearing surface may be opened to traffic in 24 to 48 hours as determined by inspection.

CAUTION

The Flintkote Asphalt Emulsions referred to in this specification are water base and must be protected from freezing, both in shipping, storage and during application.

Flintkote cold-laid asphalt mastic flooring is not recommended for areas subjected to deposits of grease, oil, dairy products, sugar products or petroleum solvents unless sealed against the effects of such products.

519639

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 275
ISSUE 42-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 280 CENTRAL AVENUE EAST RUTHERFORD N. J.

ASPHALT MASTIC FLOORING SPECIFICATIONS WITH CHEMICAL EMULSION BINDER

GENERAL

Cold-laid asphalt mastic made with Flintkote chemical emulsion binder (Flintkote No. B5) produces a dense, rugged wearing surface which resists displacement or cutting under traffic yet is sufficiently resilient to absorb shock and provide comfort under foot. It has high traction and non-slip value wet or dry. If damaged, it may be repaired easily with the same materials.

Asphalt mastic flooring may be used as a final surface on a new concrete base floor, as a resurfacer on worn or broken floors and as a levelling underlayment prior to the application of decorative floor coverings. In each instance it provides a wear resistant and dustless surface which can be installed rapidly and economically over most firm bases. No special equipment is required for mixing or finishing. Since the asphalt mastic can be applied as thin as one-half inch (one inch recommended for wood or steel bases), its use frequently does not require changes in door sills or setting new grades for drainage. The weight factor of approximately 10 lbs. per sq. ft. per inch of thickness recommends its use in existing structures where dead load weight on floors must be considered in renovation plans.

SUGGESTED SPECIFICATIONS

GENERAL

The contractor shall provide all labor, materials and equipment required, including rotary blade type mortar mixer or mixing box, hoes, shovels, pails for measurement of material quantities, wood float, steel trowel, straight edge for leveling mastic, screed strips for depth control, wheelbarrow or buckets for carrying mix, brooms, brush, chalk line, level, etc.

MATERIALS

1. The setting agent shall be portland or lumnite cement which shall comply with current ASTM specifications for this material.

2. The asphalt emulsions used for primer and bond coat shall be Flintkote C-13-HPC. Flintkote No. B5 shall be used as the binder for the mastic mix. Flintkote No. 267 shall be used where a cutback asphalt primer is required.

3. Aggregates shall be clean, free from vegetable matter, hard, durable and well graded. The stone chips or grit used as coarse aggregate shall have a maximum size not more than 60% not less than 40% of the thickness of the mastic to be laid.

4. Water shall be clean and free of impurities.

PREPARATION OF BASE

1. The floor shall be swept or scrubbed clean of all dirt and foreign matter, particularly oil and grease.

2. Uneven or broken areas, or holes, if deeper than twice the thickness of the surfacing to be laid, shall be primed and filled with mastic mixture to the level of the base and be allowed to set before complete surfacing work begins.

3a. Rigid base (concrete)

The cleaned base shall be dampened with water (but not flooded), then primed with a coating of Flintkote C-13-HPC emulsion, applied at the rate of 1½ gallons per 100 sq. ft. and allowed to dry. For ease of application the priming coat may be diluted up to 15% with clean cool water. Where floors have dusted severely, or are very porous, they should be primed with an asphalt cutback (such as Flintkote No. 267) and allowed to dry before applying the bond coat of C-13-HPC.

3b. Semi-rigid bases (wood or steel plate)

The cleaned base shall thoroughly dry before priming with Flintkote No. 267, a high melt point asphalt cutback. For ease of application the primer may be diluted with up to 10% of petroleum naphtha or white gasoline. The primer should be allowed to dry thoroughly.

If wire reinforcement is required poultry wire or 2 inch wire mesh well nailed to the floor with large headed nails, (or clip fastened to steel) spaced not over 6 inches apart in both directions, may be used.

The prepared floor shall then be given a bond coat (over wire if used) of Flintkote C-13-HPC emulsion applied at the rate of 1½ gallons per 100 sq. ft. and allowed to dry.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

PREPARATION OF MASTIC MIXTURE

Mix measured quantities of cement and aggregates with water to a stiff consistency, then add measured quantity of Flintkote binder emulsion and continue mixing until mastic is of uniform color and homogeneous throughout. Do not overmix. Avoid excessive water (approximately one-half volume of water is required when using dry aggregates). The mastic should be mixed only in such quantities as will be placed within one hour.

SUGGESTED MIXES

1. Over rigid base (concrete)

   1 volume - 1 bag (7⅕ gallon) cement
   1 volume - 7½ gallon Flintkote No. 85 emulsion
   2 volumes - 2 cu. ft. (15 gallons) well graded sand
   4 volumes - 4 cu. ft. (30 gallons) crushed stone or gravel

   The above mixture will cover an area of approximately 65-70 sq. ft. 1 inch thick.

2. Over semi-rigid base (sand or steel plate)

   1 volume - 1 bag (7⅕ gallon) cement
   1 volume - 7½ gal. & Flintkote No. 85 Emulsion
   2 volumes - 2 cu. ft (15 gals.) well graded sand
   3 volumes - 3 cu. ft. (22½ gals.) crushed stone or gravel

   The above mixture will cover an area of approximately 55-60 sq. ft. 1 inch thick.

3. Underlayment Fills

   1 vol. - 1 bag (7⅕ gals.) cement
   1 vol. - 7½ gals. Flintkote No. 85 emulsion
   2 vols. - 2 cu ft. (15 gals.) well graded sand
   5 vols. - 5 cu. ft. (37½ gals.) crushed stone or gravel

   The above mix will cover an area of approximately 75-80 sq. ft. 1 inch thick.

NOTE: The amounts of aggregate may require adjustment, slightly more or less for each, depending on the characteristics and grading of local materials. Best proportioning and grading improves density and workability. The above measurements are for dry aggregates. Where sand is damp, up to 20% increase in volume should be made.

PLACING AND FINISHING

1. Screed strips are placed on the floor at suitable intervals to serve as depth guides for leveling the surfacing. After the mastic is deposited on the floor and raked to proper depth, a strikeboard is worked back and forth in a saw-like motion to level and straight-edge the surface, with final leveling done by darby or wood float.

2. Final compacting and steel trowelling is preferably delayed until the initial set has taken place as in conventional concrete construction. Compacting may be accomplished by wood floats or power compactors.

CURING

It is extremely important that adequate means be taken to guard against rapid drying of the newly laid asphalt mastic flooring which may result in surface checking or cracking from shrinkage. As soon as the surface is hard enough to resist marring, it should be covered with suitable curing paper or other means to retard moisture evaporation. After about 12 hours, the mastic may be kept wet by fog spray sprinkling. Under normal conditions, the wearing surface may be opened to traffic in 24 to 48 hours as determined by inspection.

CAUTION

The Flintkote Asphalt Emulsions referred to in this specification are water vehicle and must be protected from freezing, both in shipping, storage and during application.

Flintkote cold-laid asphalt mastic flooring is not recommended for areas subjected to deposits of grease, oil, dairy products, sugar products or petroleum solvents unless sealed against the effects of such products.

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 302
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES: THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTDEK* ANTI-SLIP COATING

(Listed under Underwriters' Laboratories Classification Type STR–4–abrasive–grit–bearing liquid.)

Resinous Plastic, spray or trowel applied, makes Floors, Steps, Ramps and other Hazardous Surfaces Safe and Non-slip when Wet, Dry or Oily – Available in Colors

*Reg. U.S. Pat. Off.

GENERAL

Safety is one of the first considerations wherever people must walk or stand. Falls due to slippery surfaces cause untold suffering, large losses in time and thousands of fatalities each year. Many of these deaths, injuries and other losses, however, can be prevented by properly safeguarding the slippery areas which are responsible. And a highly effective method of protection is a coating of Flintdek applied to such areas.

It is not practicable to make all walking surfaces non-slip when they are built. In modern construction of course, most of the known danger spots are protected, but changes in use, excessive wear, exposure and spillage create new hazards every day. Even areas that have been given protection treatment need renewal as time goes on.

Steel, aluminum, galvanized iron, marble, tile and smoothly finished wood or concrete offer dangerous footing, especially when wet. These materials are all used in a variety of ways, on a variety of walking surfaces.

Flintdek was developed only after exhaustive research and testing; first, for steel decks of ships. Now, it is also widely used in homes, schools, hospitals, stadia, office buildings and industrial plants. A few of the many places where this versatile material is reducing slippery floor hazards are:

Around machinery

On steps and ladder treads

On inclined ramps and platforms

On steel decks and floors

In kitchens and laundries

Around swimming pools and shower baths

In garages, food packing and manufacturing plants.



Flintdek anti slip coating assures sure footing on steep ramps.



This red color Flintdek is both attractive and protects owners from accident liability claims.

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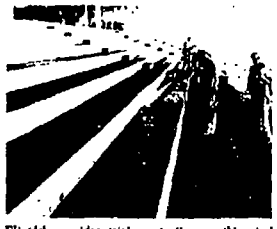
[illegible] of Flintkote Products are based on tests believed to be [illegible] conditions controlled, we do not guarantee the results to be obtained.



Flintdek provides triple protection on this steel plate grandstand – against slipping, weather and corrosion. Green color Flintdek was applied here.

CHARACTERISTICS

Flintdek is a synthetic resin plastic coating incorporating a mineral type filler which imparts a toughness to meet wear and a tractive resistance against slipperiness when wet. It is applied easily by spreading with an ordinary plasterer's trowel at the rate of approximately 50 sq. ft. per gallon or it may be sprayed with suitable equipment. The weight of Flintdek is negligible. The dry coating will not support combustion and is resistant to water, gasoline, dilute acids and alkalies, oil, alcohol, fats and greases under ordinary conditions. Foot traffic may be applied 24 hours after application under normal drying conditions. Maximum resistance of this coating is obtained however, after several days of *thorough* drying. Applied properly, Flintdek will not chip, crack or peel.

The anti-slip properties of Flintdek are well established by test on many installations. In addition, Flintdek has been classified as a slip-resistant coating according to the standards of Underwriters' Laboratories, Inc.

The dry film of Flintdek is resistant to flow or sagging at temperatures up to 170 degrees F., equal to exposed decks. When used over clean, bare steel Flintdek also provides protection against corrosion. For excessively corrosive exposures a primer may be required. Ask for additional information regarding application under all special conditions.

COLORS

Flintdek is manufactured in red, green, blue, cement gray and high visibility yellow. Colors may be intermixed for additional shades.

Storage: Proper storage at or near room temperature and conditioning by thorough mixing before use is conducive to ease of handling and ready application of Flintdek. Storage at below freezing temperatures has no permanent harmful effect upon the material. A good method to assure even distribution of the filler material is to invert the containers for about 48 hours at room temperature before application. As the abrasive particles or filler in Flintdek tend to settle when the material stands for long periods. *Always stir thoroughly before applying.*

DIRECTIONS FOR APPLICATION

Preparation of Surfaces:

All types of surfaces to which Flintdek is applied must be clean and dry, free from oil, grease, wax, loose paint or other foreign matter.

Steel:

Paint, or oil and grease may be removed by means of alkaline cleaners or high flash solvents and wire brushing. Rust may be removed by sand blasting or wire brushing. After removing foreign matter, the surfaces shall be thoroughly rinsed and dried.

Galvanized Iron:

Oil, grease, old paint or the like may be removed by scrubbing with soap and water or Oakite, followed by flushing with clear water and drying. When plates are thoroughly dry they should be given a coating of phosphate or chromate solution (manufacturer's or use over galvanizing under various trade names). This primer, in turn, is allowed to dry before Flintdek is applied.

Wood, Concrete, Marble and Tile:

Surfaces of these materials which are not softened by solvents should be dry and free from foreign matter to assure good bond. However, Flintdek is not recommended for application over asphaltic concrete or asphalt mastic surfaces.

Application:

Flintdek is supplied in a consistency suitable for trowel application in thin coats. One or two coats may be applied, depending on the severity of wear. Thick coats are not recommended because the solvent in Flintdek dries slowly from the bottom of the film. Application is best made by holding the trowel at 45° angle and scraping on to the surface.

With suitable pressure equipment and nozzles, Flintdek can be applied by spray. Request information as to the method from The Flintkote Company.

Care of Tools:

Keep tools when not being used in a pail of kerosene or other petroleum solvent. After applications, clean them immediately with solvent as the Flintdek is difficult to remove after it has dried and hardened.

Caution:

Flintdek is flammable in a liquid state. Keep away from fire and flame. In applying Flintdek in enclosed areas, adequate ventilation should be provided and smoking restricted. Do not apply to wet or frozen surfaces, and protect the newly laid areas until completely hard. Avoid use on below grade or concrete slabs on ground which might be subject to capillary moisture from below. After setting, rain, snow or low temperatures will not affect the surface coating of Flintdek.

Containers:

1 gallon, 5 gallons.

PROTECTIVE COATINGS

ASPHALT EMULSIONS

Product	Data Sheet	Applicable Specification	Description
Emulsion Coatings	201		General description mineral colloid asphalt emulsion coatings.
C-13-MPC	202	ASTM-D-1187-56 Type B	Unfibrated coating for brush, spray or trowel. Weather resistant coating for metal and masonry.
C-13-E	203	ASTM-D-1187-56 Type A	Unfibrated coating for brush, spray or trowel. Resists excessive water exposure such as marine applications.
C-13-C4	204	ASTM-D-1227-59 MIL-R-3472	Fibrated coating for brush, spray or trowel. Fiber reinforcement resists cracking due to structural stresses.
No. 54 Insulation Coating	211		Cork filled emulsion coating for brush, spray or trowel. Insulates, controls moisture condensation and deadens sound.

ASPHALT CUTBACKS

Cutback Coatings	231		General description of cutback asphalt coatings.
Asphalt Primer	232	SS-A-701	Penetrating primer for dusty and porous surfaces. Brush or Spray.
No. 241	236		Heavy bodied enamel-like primer. High melting asphalt base provides resistance to elevated temperatures.
No. C-19	237		Fibrated heavy bodied coating for brush, spray or trowel. Apply up to 1/8" thickness without sag for heavy duty protection to weather and corrosion.
Trowel Mastic	239	SS-C-153 Type I	Heavy bodied fibrated coating for trowel application. Use for caulking, flashing and extra heavy duty service.
No. 69 Insulation Coating	241		Cork filled cutback coating for brush, spray or trowel. Insulates, controls moisture condensation and deadens sound.

SPECIALTIES

Aluminum Paint (Cutback)	301		Aluminum pigmented asphalt cutback paint for brush or spray. Provides economical bright aluminum finish.
Decorail	303 304		Colored acrylic latex coating, for brush or spray on structures, bituminous pavements and play areas.
Yellowjacket	515	HH-C-466b	Glass fabric reinforcing membrane with distinctive yellow finish, for use with heavy duty coating applications.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 201
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 280 CENTRAL AVENUE EAST RUTHERFORD N. J.

ASPHALT BASE CLAY EMULSION — COATINGS

Applied without heating, non-flammable, non-toxic protection against weather, water and corrosive fumes

Characteristics

The unique method of manufacturing Flintkote Asphalt Emulsions by means of a mineral colloid emulsifying agent (a form of clay) creates a non-flammable semi-liquid asphaltic coating product with internal stability. The dried film of this type of emulsified asphalt is characterized by an internal reinforcing which takes the shape of a honeycomb structure. The composition is:

(1) The vehicle (outer phase) is water
(2) The dispersed particles (inner phase)are asphalt
(3) The emulsifying agent is a prescribed type of mineral colloid (clay).

A primary advantage of Flintkote Asphalt Emulsions is that no hazards are encountered in using them as protective coatings, either from fire or toxicity - including confined or enclosed areas.

The stability characteristic is of vital importance also, because it overcomes the principal weaknesses of asphalt; namely, its tendency to flow under heat, crack at low temperature, *craze*, alligator and oxidize when exposed to the elements.

The reinforcing formed by the mineral colloid used in the emulsification process eliminates thermoplastic flow which takes place in an ordinary film of asphalt exposed to the elements and which causes progressive oxidation, leading ultimately to complete deterioration.

The complete elimination of flow under heat is a property which is possessed only by a film of this nature, and may easily be put to a practical test on the following lines:

The emulsion shall be spread upon a steel plate to an approximate wet thickness of 3/32" and allowed to dry at room temperature for 48 hours.

The film so prepared shall not melt and flow or drip off the panel when the flame of a Bunsen Burner is directed against the back of the plate, and as the action of the flame is continued, the mass of the film shall char in place. (See photo)

Flintkote Asphalt Base Clay Emulsions are made from selected steam refined asphalts meeting prescribed test requirements for penetration, softening point and ductility to assure a finished product which will exhibit all of the properties expected of a Flintkote protective coating.

The dried film of this type emulsion undergoes a natural process of curing which definitely improves with age. The time element of the curing process varies, of course, with the film thickness



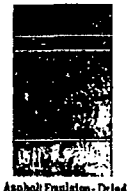
Asphalt Emulsion - wet film.



Asphalt Emulsion - film coalescing.



Asphalt Emulsion - film clay structure.



Asphalt Emulsion - Dried Film.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

applied, and the useful life in years of protection increases with the thickness. Flintkote Asphalt Base Clay Emulsion coatings on steel have withstood continuous outdoor exposure on our Research Laboratory's weathering decks for more than thirty years, with no evidence rusting of the steel which it protects.

Flintkote Asphalt Base Clay Emulsions have no odor and are not toxic, either in the wet state or after drying. The applied film of clay emulsions result in so called breathing films with respect to the passage of water vapor. This characteristic is of particular value in preventing blistering of applied films due to vapor movement from surfaces such as thermal insulation. No fire hazard is encountered in their use. The dried film remains pliable and ductile.

Types Available

C-13-HPC (meets specification ASTM D-1187-56-Type B) - A basic asphalt base clay emulsion without fillers or fibers; applicable by brush, trowel or spray to provide a stable protective coating of moderate thickness for protection against a wide variety of corrosion causing exposures.

C-13-C4 (meets ASTM D-1227-52T-Type 1 and SBL - R - 3472) - Similar to C-13-HPC but lightly fibrated with asbestos fibers for use as a reinforced coating in the protection of steel and masonry. highly recommended for surfaces exposed to abrasive and corrosive atmospheres; widely used as a high quality roof coating because of its resistance to outdoor weathering.

C-13-E - A basic emulsion which has been treated to give greater resistance to re-emulsification and continuous exposure to water. It is usually recommended for below ground masonry, steel, or other surfaces exposed to excessive dampness or severe weather. Complies with requirements of specification A. S. T. M. - D-1187-56 Type A.

C-13-A - Heavily fibrated with asbestos for relatively thick coating work applied by trowel; very useful as a breathing type, moisture resistant coating over insulation and an odorless material for refrigerated areas. Excellent as a heavy duty abrasion resistant protective coating for steel or masonry surfaces.

N-13-HPC - This asphalt base clay emulsion is made from a higher softening point, lower penetration asphalt, than the previous coatings described. It is particularly appropriate in hot climates or surfaces subjected to elevated temperatures to assure non-tacky finish protective coating work.

(Note: This sheet does not describe rates or methods of application, or the preparation of surfaces to be coated, but individual data sheets are available for each of the Flintkote Asphalt Base Clay Emulsions giving this information.)

Avoid Freezing

Emulsion type products must be protected from freezing in the containers and during application. Use at temperatures above 45°F. After the coating has dried, neither heat, cold nor dampness will affect it provided the thickness of film is not less than the manufacturer's recommendation for the exposure.

Containers - 55 gal., 30 gal., 5 gal., 1 gal.

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 202
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE C-13-HPC EMULSION

Non-fibrated, non-flammable, cold-applied protective coating for metal and masonry

GENERAL

Flintkote C-13-HPC is an asphaltbase clay emulsion coating which contains no fillers or fibers. It has a semi-paste consistency which is easily brushed and may be applied in thick films in a single application. No heating is required and for some uses may be adjusted for workability by the addition of cool, clean water.

CHARACTERISTICS

Emulsification of asphalt by means of a mineral colloid (a form of clay) results in a product having a dried film which will not flow or sag when exposed to elevated temperatures. This characteristic permits the use of softer and more ductile steam refined asphaltus than is possible with other methods of manufacture and greatly enhances the life expectancy of the coating.

Flintkote C-13-HPC Emulsion resists alligatoring and crazing when exposed to outdoor weathering and cracking due to cold. The dried film of this coating meets moisture and weather exposure without equal in bituminous materials.

The advantages of using Flintkote C-13-HPC Emulsion over chemical emulsions, cutback and hot asphalt are in it's stability, non-toxicity and non-flammability. The dried film retains its elasticity by remaining resistant to oxidation. The advantage of soft, ductile steam refined asphalt in its composition is apparent in this product's ability to resist the effects of exposure to rain, snow and heat as well as corrosive and abrasive industrial atmospheres.

Since it is an emulsion type coating, Flintkote C-13-HPC can be applied to most clean surfaces, either wet or dry, including green or damp masonry. Since clay emulsions do not skin over on drying, Flintkote C-13-HPC will not entrap moisture in the film during periods of rapid surface drying.

No hazard is encountered in it's use, either from fire or toxicity - even in confined areas. The dried film does not support combustion and is odorless.

TYPICAL PROPERTIES

CODE	C-13-HPC
Type	Mineral colloid asphalt emulsion. General purpose protective and weather resistant coating.
Volatile Vehicle	Water
Weight, pounds per gallon @ 77°F	8.2 - 8.4
Consistency	Brush or spray
Solids Content, % by wt., Minimum	55
Typical Ash Content, % by wt.	2.0
Average Coverage, Sq. Ft. per gallon of coating per 1/16" dry film.	15
Build.	1/8" wet films on vertical surface show no sloping.
Drying time of 1/8" wet film, 60% R. H., 77°F.	
To touch	5
Firm	12
Flash Point	Not flammable
Outdoor Weathering Performance	Excellent. Films do not check or crack and remain intact on long exposure.
Flow of Cured Film at 300°F.	None
Water Resistance, 24 hr. soak of cured film (ASTM D-1010)	
Softening	Films not recommended for water immersion
Re-emulsification	Films not recommended for water immersion
Loss of adhesion to panel	Films not recommended for water immersion
Film flexibility at 77°F over 1/2" mandrel, through arc of 180°, 2 sec; cracking, flaking, or loss of adhesion (ASTM D-1010)	Films not recommended for water immersion
	None
Water Vapor permeability at 90°F, perms, 1/16" dry film:	
Before Weathering	1.0 to 2.5
After 60 days outdoor weathering	0.5 to 1.0
Resistance of Cured Film	
To oils, grease, solvents	Not resistant
To splash and spillage of dilute acids and mild alkalies.	Not suggested
To abrasion by scrubbing.	Excellent. On 3½ sandblasting passes, 90 psi, film decreases less than 10% in thickness.

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CHAMPION DATA
MISCELLANEOUS DATA

NUMBER 203

ISSUE 61-B

FLINTKOTE

INDUSTRIAL PRODUCTS

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY • CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE C-13-E EMULSION

GENERAL

Flintkote C-13-E is an asphalt base clay emulsion coating which is manufactured by the same process used on all Flintkote Clay emulsion protective coatings, but in addition has been treated to provide greater insensitivity to water and resistance to re-emulsification. The dried film is thus capable of withstanding the chemical action of salt or hard water under sustained contact or immersion. Emulsification of asphalt by means of a mineral colloid (a form of clay) results in a product the dried film of which is stable and does not flow or sag due to heat. This property permits the use of softer, more ductile, steam refined asphalts than is possible with other methods of manufacture and greatly enhances the life expectancy of the dried film.

CHARACTERISTICS

The freshly applied film of Flintkote C-13-E Emulsion dries from the bottom outward with complete freedom from the skinning over demonstrated by many bituminous coatings. The dried film, further, is of the breathing type to allow escape of moisture vapor, but restricts passage of free water. The mineral colloid, which surrounds the asphalt particles, forms a network of clay film during the drying cycle and the reinforcing effect of this honeycomb-like structure produces a dried film which does not flow or sag at elevated temperatures and resists alligatoring and cracking upon exposure to weathering.

The use of soft ductile asphalts gives excellent resistance to cracking or embrittlement at low temperatures without excessive tackiness at higher temperatures. Experiences over many years have shown that a film of Flintkote C-13-E Emulsion undergoes less deterioration from the ravages of weather than other forms of bituminous coatings and gives long-lived protection to metal or masonry surfaces which are exposed to fog, rain, ice, snow, salt spray or corrosive industrial smoke and fumes.

Being an emulsion type coating, Flintkote C-13-E will bond satisfactorily to virtually all types of clean surfaces, including green or damp concrete. In addition it is non-static and odorless both during application and after drying. It can be applied in confined areas with no objection by the applicators. The dried film does not support combustion and of course is non-flammable in the wet state thus offering no fire hazard from it's use.

TYPICAL PROPERTIES OF FLINTKOTE ASPHALT BASE CLAY EMULSION

Code	C-13-E
Type:	Mineral colloid asphalt emulsion said to have protective films which do not re-emulsify on long time contact with water and aqueous solutions.
Volatile Vehicle	Water
Weight, pounds per gallon @ 77°F.	8.5-8.8
Consistency	Brush or spray
Solids Content, % by wt., Minimum	50
Typical Ash Content, % by wt.	7.0
Average Coverage, Sq. Ft. per gallon of coating per 1/16" dry film.	13
Build	1/8" wet films on vertical surface show no slump or sag.
Drying time of 1/8" wet film, 60% R. H., 77°F.	
To touch	5
Firm	12
Flash Point	Not inflammable
Outdoor Weatherlit Performance	Excellent. Films do not check or crack and remain intact on long exposure.
Flow of cured films at 300°F.	None
Water Resistance, 24 hr. soak of cured film (ASTM D-1000)	
Blistering	None
Re-emulsification	None
Loss of adhesion to panel	None
Film flexibility at 77°F over 1/2" mandrel, through arc of 180°, 2 sec.; cracking, flaking, or loss of adhesion (ASTM D-1910)	None
Water Vapor permeability at 90°F., perms, 1/16" dry films:	
Before Weathering	0.5 to 1.0
After 60 days outdoor weathering	0.5 to 0.6
Resistance of Cured Films	
To oils, grease, solvents	Not resistant
To splash and spillage of dilute acids and mild alkalies.	Excellent
To abrasion by sandblast	Excellent. On 50 sandblasting passes, 90 psi, film decreases less than 10% in thickness.

NOTE: The recommendations for use of Flintkote Products are based on tests believed to be [illegible] and which are beyond our control, we do not guarantee the results to be obtained.

RECOMMENDED USES:

Flintkote C-13-HPC Emulsion is especially recommended as a weather resistant protective coating for both metal and masonry surfaces. The quality of thick film application makes it a desirable coating for heavy duty industrial use since the required thickness is easily obtained with minimum application expense and time.

Flintkote C-13-HPC, while completely resisting the passage of water in not a vapor barrier and thus is ideally suited for use as a dampproofing on exterior masonry walls or as a protective coating for certain structures such as grain elevators.

The general utility of this product is further demonstrated by it's use as a bonding coat for asphalt mastic floorings, a primer coating for certain insulations before they are protected by heavily fibrated emulsions, and as an adhesive for bonding lightweight fibrous or porous materials such as wallboard, cork, insulation board and felts.

DIRECTIONS FOR APPLICATION:

Preparation of Surfaces:

All metal must be thoroughly cleaned of all rust, mill scale, dirt, oil, grease or other foreign matter. Concrete or masonry surfaces should be clean and brushed free of loose particles and dust. Surfaces may be damp but not wet.

Priming:

Flintkote C-13-HPC Emulsion may be used as a primer by thinning with up to 15% of clean, cool water. This system has been found to be particularly useful on porous concrete, masonry and certain insulations. For excessively corrosive exposures in and around some industrial installations, the use of Flintkote No. 267 cutback asphalt primer, is recommended. It may be used as received or diluted with up to 10% of mineral spirits depending on the temperature of application. Wash primer, zinc chromate alkyd and federal specification grade red lead have been found acceptable as primers if properly applied and cured prior to the application of the C-13-HPC Emulsion.

Application Rate:

Best results are obtained by the use of not less than 3 gallons per 100 sq. ft. when used as a dampproofing or masonry protective coating. For protection of metal or masonry surfaces to corrosive exposures of severe weathering, it is recommended that two coats of 3 gallons per 100 sq. ft. each be applied at right angles to each other. This method will effectively eliminate "pinholing" and give increased serviceability.

Application Methods:

Flintkote C-13 HPC may be applied by brush, trowel or spray. For trowel application the material should be used as received. In brushing C-13-HPC it must be remembered that this is essentially a spreading operation. A soft bristled brush, is recommended to minimize the variable film thickness due to brush marks. It is particularly important to avoid the use of brushes having occasional stiff or "wild" bristles which cut the wet film and reduce the effectiveness of the coating.

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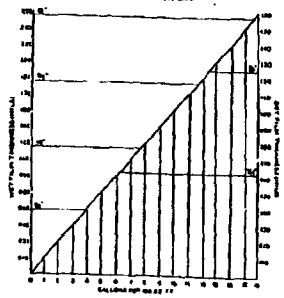
For spray application, Flintkote C-13-HPC Emulsion may require slight thinning with approximately 5% of cool, clean water. The coating may be moved to the gun by means of either a pressure tank or a drum pump. Pressure tanks which are capable of operating at pressures up to 90 psi. are generally satisfactory while drum pumps having a ratio of approximately 8:1 are best suited for this application. A 3/4" I. D. material hose is recommended but may be reduced to 1/2" at 15 to 25 feet behind the gun for ease of handling. A 1/4" I.D. air hose is preferred for most applications. A number of guns are recommended by their manufacturers for applying Flintkote emulsion coatings but in general an external atomizing gun with a 3/32" nozzle is acceptable.

COVERAGE CHART



Drying:

Asphalt emulsion coatings "set" by dehydration. The rate of drying is dependent upon the thickness of application, temperature, humidity and rate of air movement. Poorly ventilated or interior spaces will take considerably longer than exposed surfaces and it is desirable to provide a sufficient volume of moving air for complete drying. This can be accomplished by the use of heaters and blowers capable of moving large volumes of air.

Care of Tools:

Use only clean containers. Brushes, spray equipment and other tools should be soaked in water before using and immersed in water while not in use. At the end of the work, clean away all dried material by the use of kerosene or petroleum naphtha. Allow to dry and rinse in water before using again.

CAUTION:

Flintkote C-13-HPC Emulsion is a water vehicle product and must be protected from freezing in shipping and storage. Apply at temperatures above 40°F. and the coating must be protected from rain until dry. Water, freezing weather, snow or ice will not affect the dried coating.

Containers:

55 gal., 30 gal., 5 gal., 1 gal.*

*6 per case.

RECOMMENDED USES

The many unique properties which are characteristic of Flintkote C-13-E suggests it's use in diverse fields as a waterproofing or protective coating where resistance to moisture, weather or mildly corrosive chemical exposures is required. It is widely used, either alone or in combination with fabric reinforcing membranes, as a below-grade waterproofing for foundation walls and footings. It is also successfully used as a protective coating for underground masonry structures such as tunnels and retaining walls and as a corrosion proof coating for buried steel tanks and similar surfaces. The excellent resistance of the dried film to salt water and salt spray accounts for it's long history of use as a general purpose protective coating by the Marine industry. As an industrial protective coating, it's ability to withstand outdoor weathering and exposure to many corrosive fumes and smoke makes it the ideal choice for long lived trouble free applications.

DIRECTIONS FOR APPLICATION

Flintkote C-13-E may be applied by brush or spray. The emulsion is supplied in a consistency which does not require thinning before application. If it is necessary to dilute in order to prepare a priming or wash coat, use only clean cool water and stir thoroughly to eliminate all undispersed emulsion.

Brush applied, as received, Flintkote C-13-E is essentially a spreading operation. The use of soft bristled brushes, like whitewash brushes, is recommended to minimize the variable film thickness due to brush marks. It is particularly important to avoid the use of brushes having occasional stiff or "wild" bristles which cut the wet film and reduce the effectiveness of the coating.

Most manufacturers of spray equipment have units which are recommended for applying Flintkote emulsion coatings but the following suggestions may be used as a guide in selecting equipment: -

Pressure tank - operate at up to 90 psi.

Drum Pump - approximately 8:1 ratio

Material Hose - 3/4" I. D., may be reduce to 1/2" I.D. 15-25 feet behind gun for ease of handling.

Air Hose - 1/2" I. D.

Spray Gun - External atomizing with 3/32" nozzle.

PREPARATION OF SURFACES

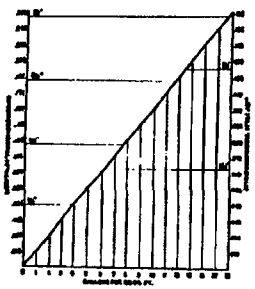
Metal and masonry must be clean and free of all rust, mill scale, dirt, mortar splashes, oil, grease and other foreign matter. Concrete surfaces may preferably be dampened with water or primed with emulsion diluted with approximately 15% of water and thoroughly scrubbed into the surface.

Metal surfaces should be cleaned by sandblasting, scraping, wire brushing or other appropriate methods.

No special primer is required when the coating is only intended to provide weathering resistance. For protection against corrosive exposures a primer applied to the cleaned metal is recommended. Flintkote No. 267 primer applied as received or diluted with up to 10% of mineral spirits, depending on the temperature of application, has been found to be an extremely effective system with a coating of C-13-E. Other primers which have been satisfactorily used are federal specification grade red lead, zinc chromate-alkyd and wash primer. It is particularly important to allow adequate drying, curing and weathering time, when using red lead as a primer, before coating the surface with any asphaltic material.

Rates of Coverage and Methods of Application

The rate of coverage with Flintkote C-13-E will vary with the nature of the application and the severity of the exposure conditions. The following suggestions may be used as a guide in determining the coverage required for a particular application.



Waterproofing below grade masonry

A minimum of 3 gallons per 100 sq. ft. is suggested for the least critical applications. For excessively wet conditions, two coats of 2½ gallons per 100 sq ft. each should be applied with glass fabric reinforcing membrane embedded into each coat, followed by a top coating of neat emulsion at a rate of 2½ gallons per 100 sq. ft. This system has been tested and found resistant to a 10 foot hydrostatic head. Each additional 10 feet of hydrostatic head requires an additional coating of C-13-E at the rate of 2½ gallons per 100 sq. ft. and a layer of glass fabric membrane. With excessively granular backfill, the top coating may be replaced or augmented by an armor coat consisting of a mixture of 1 part cement, 2 parts emulsion and 3 parts sand trowelled over the entire surface. All measurements for the above mix are by volume.

Underground steel

A minimum of two coats of 3-gallons per 100 sq. ft. each is required to eliminate pinholing. For corrosive soils a primer of Flintkote No. 267 should be applied to the clean metal and allowed to dry thoroughly. As protection against film damage by mechanical handling or granular backfill, the film may be reinforced by embedded glass fabric.

Above Ground Protective Coating

Same as underground steel coating.

Drying

Asphalt Emulsion coatings have a drying time which is dependent upon temperature, humidity, air movement and the thickness of coating. It is essential that good drying conditions be observed to completely eliminate the water vehicle for thorough drying of the film. Enclosed or confined areas usually require high volume ventilating fans to provide proper circulation of air for complete removal of water from the applied film. Heaters may be required in conjunction with blowers or fans when the atmosphere is cold or cool and damp.

Care of Tools

Use only clean containers, brushes, spray equipment and other tools should be soaked in water when not being used. Dried material may be removed with kerosene or petroleum naphtha. Rinse in water before using again

CAUTION - AVOID FREEZING

Asphalt Emulsion must be protected from freezing in shipping and storage. Apply when temperatures are over 45°F. and protect from rain or freezing until completely dry. The dried film is unaffected by extremes of temperature - either heat or cold.

Containers

55 gal., 30 gal., 5 gal., and 1 gal.*

*6 per case.

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 204

ISSUE 61-8

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE C-13-C4 EMULSION

Lightly fibrated with asbestos, non-flammable, cold-applied coating to resist weather and corrosion

GENERAL

Flintkote C-13-C4 is an asphalt base clay emulsion coating containing a nominal amount of asbestos fibers which can be applied in relatively heavy films. The reinforcing effect of the asbestos fibers helps to prevent shrinkage and cracking when the wet film is subjected to very rapid drying conditions and also increases the resistance of the dried film to heavy surface movement or vibration. Available in two consistencies, one for brush or trowel application and one for spray, this cold-applied emulsion provides exceptional weather, corrosion and abrasion resistance to roofs, structural steel, metal buildings and similar exposed surfaces.

CHARACTERISTICS

The unique method of manufacture, using a mineral colloid emulsifier, produces a stable film of asphalt which will not flow or sag due to heat. It permits the use of softer, more highly ductile, steam refined asphalts than is possible with other methods of manufacture and greatly enhances the life expectancy of the dried film. It is also an outstanding characteristic of asphalt base clay emulsions to resist alligatoring and crazing due to outdoor exposure and cracking at low temperatures. Elimination of thermoplastic flow by the stabilizing action of the mineral colloid considerably retards the progressive oxidation which is found in most other bituminous films.

No hazard is encountered in the use of Flintkote C-13-C4 Emulsion either from fire or toxicity - even in confined areas. The dried film does not support combustion and is given a Class C rating by the Underwriter's Laboratories, Inc.

TYPICAL PROPERTIES

CODE	C-13-C4
Type	Mineral colloid asphalt emulsion fibrated with asbestos to give lightly reinforced films.
Volatile Vehicle	Water
Weight, pounds per gallon @ 77°F.	8.3-8.5
Consistency	Brush or spray
Solids Content, % by wt., Minimum	45
Typical Ash Content, % by wt.	4.0
Average Coverage, Sq. Ft. per gallon of coating per 1/16" dry film.	13
Build.	1/8" wet films on vertical surface show no slump or sag.
Drying time of 1/8" wet film, 60% R. H., 77°F.	
To touch	5
Film	12
Flash Point	Not flammable
Outdoor Weathering Performance	Excellent. Films do not check or crack and remain intact on long exposures.
Flow of Cured film at 300°F.	None
Water Resistance, 24 hr. soak of cured film (ASTM D-1010).	
Blistering	None
Re-emulsification	None
Loss of adhesion to panel	None
Film flexibility at 77°F. over 1/2" mandrel, through arc of 180°. 1 sec. cracking, flaking, or loss of adhesion (ASTM D-1910)	None
Water Vapor permeability at 90°F. perms, 1/16" dry film:	
Before weathering	0.7 to 2.0
After 60 days outdoor weathering	0.4 to 0.8
Resistance of Cured Film	
To oils, grease, solvents	Has Resistance
To splash and spillage of dilute acids and solid alkalies.	Excellent.
To abrasion by sandblast.	Excellent. On 30 sandblasting passes, 90 psi, film decreases less than 10% in thickness.

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

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DAMPPROOFING

RESEARCH DATA

NUMBER 211

ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N J

FLINTKOTE NO. 54 INSULATION COATING

Heavy bodied non-flammable liquid asphalt emulsion containing insulation materials – designed for spray application.

GENERAL

Flintkote No. 54 Insulation Coating is an asphalt base liquid made in a consistency which is readily sprayed at normal atmospheric temperatures. It is designed to provide protection for interior and exterior surfaces from acids, alkalies and corrosive fumes, moisture condensation, vibration noise, high temperatures and humid atmospheres.

All types of surfaces – steel, wood, concrete and compositions – coated with Flintkote No. 54 Insulation Coating have high resistance to decay, deterioration and corrosion induced by moisture and fumes.

On light steel or other metal, this type coating gives a degree of thermal insulation and acts as a sound dampener to vibration noises. The rough texture of the applied film will retain an appreciable amount of condensed moisture without dripping, thus Flintkote No. 54 functions also as an anti-sweat for areas which need such protection.

Flintkote No. 54 Insulation Coating is recommended for use on air conditioning ducts, ventilator housings, tanks and the like to protect the metal from moisture which collects as dew on cool surfaces. It also minimizes the noise from fans and vibration set up in sheet metal.

Buildings constructed of metal corrugated sheets, flat plates or panels are effectively protected on the interior with Flintkote No. 54 Insulation Coating to resist corrosion attack and minimize sweating and heat losses. It may also be applied to concrete or wood surfaces where it provides similar advantages.

CHARACTERISTICS

Flintkote No. 54 Insulation Coating adheres tightly to prepared surfaces, over a wide range of temperatures. It resists checking, alligatoring or peeling from minus 40°F. up to plus 200°F. In addition, because of its special formulation it is resistant to shock and abrasion. Flintkote No. 54 Insulation Coating has a thermal conductivity ("K" value) of 0.68 BTU's per hour per sq. ft. per °F. temperature difference per one inch thickness. The sound decay value is 9.3 decibels per second at 70°F. for a coverage of 1/10 inch thickness (0.5 pound per square foot).

RECOMMENDED APPLICATION

While primarily intended for spray application, Flintkote No. 54 may be applied by brush or trowel in small areas. No fire or toxicity hazards are encountered with its use as it contains no solvents, being a water emulsion base. The coating will dry readily at normal temperatures wherever good ventilation is provided it must be protected from rain, freezing or water splash, however, until dry.

Spray equipment which has been reported satisfactory for this product includes Johnstone Pump Model 8600, 4:1 ratio; Graco Pump Mogul Model, 8:1 ratio or standard pressure pot (such as De Vilbiss) in conjunction with an Eclipse spray gun modified model AK 46 and the Johnstone Special Pole Gun. A feed diameter of 1/2 inch is suggested; and an orifice diameter of 5/8 inch for the Eclipse gun and 1/2 inch for the Johnstone.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since conditions of use are beyond our control, we do not guarantee the results to be obtained.

RECOMMENDED USES:

Flintkote C-13-C4 Emulsion is especially recommended for coating weathered asphalt roofing, including built-up or roll roofing, corrugated or galvanized steel roofs and sidings. Masonry parapet walls or metal facings, where a fibrated coating is desirable to resist abrasion or industrial fumes, are effectively protected. Structural steel building frames or bridge sections may also be given excellent corrosion protection. This product is not recommended, however, for application over tar roofings, tar-base coatings or wood shingles.

DIRECTIONS FOR APPLICATION

Flintkote C-13-C4 Emulsion is available in two consistencies; formulated for brush or spray application. At room temperature, this emulsion does not normally require thinning, but if necessary, allow no more than 5% dilution with clean, cool water and thorough stirring. For normal conditions the use of not less than 3 gallons per 100 sq. ft., is recommended. For protection of most surfaces to corrosive or industrial atmospheres, it is desirable to apply two coats at a rate of note less than 3 gallons per 100 sq. ft. per coat. When the coats are applied at right angles to each other, "pinholing" will be effectively eliminated.

PREPARATION OF ASPHALT ROOF SURFACES:

Clean off all dust, dirt, old loose or scaling coatings or other foreign matter and wash down with water.

Inspect roof for defective flashings, copings, cracks and open seams. (1) Repair flashings and copings by applying one heavy coat of Flintkote Trowel Mastic and embedding in the wet-coating a strip of glass fabric. Work the membrane until the coating comes through the open mesh to the surface. Such fabric should extend six inches in all directions beyond the defective area or break. (2) Repairs of cracks and open seams in roofing may be made as described above with Trowel Mastic, or can be made using Flintkote C-13-C4 and glass fabric. Repairs made with Trowel Mastic should be allowed to dry at least 48 hrs. before coating with C-13-C4. Raised nails in roll roofing must be driven tight; loose nails should be replaced by longer nails.

Checked or alligatored coatings which are firm and not powdery may be treated with a prime coat of this emulsion diluted 10% to 20% with water well scrubbed in. If the roofing material has lost its pliability it should be treated with Flintkote Asphalt Primer to re-saturate. Badly deteriorated roofing, however, should be replaced completely.

PREPARATION OF METAL OR MASONRY SURFACES:

Clean off rust, scale, loose paint or other coatings by sandblasting, scraping, wire brushing or other acceptable practice. Dusty or porous masonry should be first dampened with water. Excessively dusty or porous masonry should be primed with Flintkote Asphalt Primer and allowed to dry thoroughly before coating with emulsion.

Cleaned metal surfaces can be effectively primed with Flintkote No. 267 cutback asphalt primer. Other primers which have been satisfactorily used are Federal Specification grade red lead, zinc chromate alkyd and wash primer. It is particularly important to allow adequate drying time, when using red lead as a primer, before coating the surface with any bituminous materials.

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APPLICATION METHODS

Flintkote C-13-C4 Emulsion (regular) may be applied by trowel or brush. Soft brushes free from stiff bristles which cut the film should be used and the material applied in a spreading manner taking care to keep brush marks to a minimum. Spray grade C-13-C4 Emulsion may be applied, as received, by either a pressure tank or air operated drum pump. Most manufacturers of spray equipment have units which are recommended for applying Flintkote emulsion coatings but the following suggestions may be used as a guide in selecting equipment: -

Pressure tank - Operated at up to 90 psi.

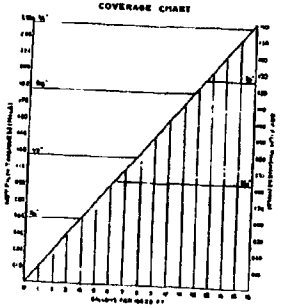
Drum Pump - approximately 8:1 ratio.

Material Hose - 3/4" I. D., may be reduced to ½" 15-25 feet behind gun for ease of handling.

Air Hose - ½" I. D.

Spray Gun - Internal atomizing with ¼" nozzle.

COVERAGE CHART



Drying:

Asphalt Emulsion coatings have a drying time dependent upon temperature, humidity, air movement and the thickness of coating applied. It is essential that good drying conditions be observed in order to eliminate the possibility of loss of film due to wash off by early rainfall. If rain is imminent - do not apply.

Care of Tools:

Use only clean containers. Brushes, spray equipment and other tools should be soaked in water and kept immersed when not being used. Dried material may be removed with kerosene or petroleum naphtha. Rinse in water before using again.

Caution - Avoid Freezing:

Asphalt emulsion coatings must be protected from freezing in shipping and storage. Apply when temperatures are over 45°F. and protect from rain or freezing until completely dry. The dried coating is unaffected by freezing temperatures.

Containers:

55 gal., 30 gal., 5 gal., 1 gal.*

*6 per case.

Preparation of Surfaces:

All surfaces should be cleaned thoroughly of any mill scale, rust, plaster, dirt, oil and grease, using a wire brush, sandblast, or other methods in accordance with good coating practice. Rusted metal should be spot primed; porous ordinary concrete and wood should be primed with a thin penetrating cutback asphalt (such as Flintkote Asphalt Primer). Clean metal and dense concrete ordinarily do not require a primer but wood must be primed to reduce its absorption of the water vehicle in Flintkote No. 54 Insulation Coating.

Application:

Apply evenly with full coverage of approximately 1/4 inch thickness (wet), either in one coat or in two of 1/8 inch. each. Coverage of 1/4 inch total thickness (wet) amounts to about 16 gallons per 100 sq. ft.

Drying:

Asphalt emulsion base coatings have a drying time depending on temperature, humidity, and the thickness applied. Enclosed areas or confined spaces will take longer, and the use of ventilating fans and heaters should be considered as an aid to accelerating drying when necessary.

Care of Tools:

Use only clean containers. Brushes and tools should be soaked in water before using and immersed in water when not being used. Occasional rinsing of spray guns and other equipment will gemming. Follow the recommendations of spray equipment manufacturer in cleaning spray pumps, lines and guns.

Caution:

Flintkote No. 54 Insulation Coating must be protected from freezing in storage as well as during application. After the coating is thoroughly dry, water or freezing weather will not affect it.

Containers:

55 gallons, 30 gallons, 5 gallons. Net weight per gallon, approximately 8 lbs.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 231
ISSUE 61-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY • CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE ASPHALT CUTBACKS

Applied without heating, water and corrosion resistant vapor barrier coatings.

The Flintkote Company manufactures a full line of cutback asphalt coatings produced by "cutting back" or dissolving selected asphalt bases in petroleum naphtha. These basic cutback products are either offered in unmodified form as thin penetrating primers and full bodied coatings or formulated with reinforcing mineral fillers and asbestos fibers to produce heavy bodied protective coatings for waterproofing, metal protection and weather and vaporproofing of thermal insulation.

By the careful selection of basic ingredients and the many years of manufacturing experience, Flintkote is able to offer a group of products which are easy to apply and are tailored to give the maximum of service for their recommended usage. Being cutbacks, these products are not subject to freezing and will form strong bonds with most clean dry surfaces.

In addition to their acceptance in cold weather application, Flintkote Asphalt Cutbacks exhibit an extremely low vapor transmission rate. This vapor barrier characteristic is of value in such applications as weatherproofing thermal insulation when the tank, pipe or vessel is below ambient temperature or forming a non-breathing coating on the interior surface of exterior structural walls. The addition of asbestos fibers and other reinforcing fillers makes these coatings ideally suited for heavy duty protection of steel and masonry and as well as below grade waterproofing compounds.

TYPES AVAILABLE

Asphalt Primer No. 269 - A thin penetrating primer, unmodified by fillers or fibers; applicable by brush or spray to a wide variety of surfaces to prepare same to receive a further full bodied protective coating. Two types are available to meet Federal or ASTM specifications.

Flintkote No. 211 - A full bodied coating of asphalt and solvent without fillers or fibers. May be applied by brush or spray as a dampproofing or waterproofing coating, also used as an unfibrated protective coating for walls and roofs of metal structures.

Flintkote No. 217 - An asphaltic enamel composed of high melting asphalt (180° - 190° F.) in petroleum solvent. Recommended as a heavy duty primer for relatively high temperature service and as a glossy black tack-free protective coating.

Semi-mastic No. 214 - A brush or spray consistency cutback containing asbestos fibers in sufficient amount to allow moderately thick coatings to be applied to vertical surfaces without flow or sag. Useful as a below grade waterproofing and vapor-proofing interior faces of exterior walls.

Flintkote No. C-19 - A heavily fibrated coating containing a high melting asphalt base; applicable by brush, trowel or spray to provide a heavy duty protective coating for thermal insulation or for metal

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NOTICE: [illegible] Flintkote Products are based on tests believed to be reliable. [illegible] we do not guarantee the results to be obtained.

and masonry surfaces in corrosive industrial exposures. Can be applied in thick films to vertical surfaces without sagging.

Flintkote Trowel Mastic - A heavy bodied trowel applied coating for use as a below grade waterproofing and for thermal insulation protection. Highly reinforced with asbestos fibers and mineral fillers to provide the maximum in film durability. It is widely used as a flashing and asphaltic caulking cement in construction

Flintkote Binderseal No. 252 - A fibrated and plasticized coating for use as a protective coating on the exterior of structures into which colored granules are embedded for decorative and weather-proofing purposes.

Flintkote Underbody Coating No. 213 - A quick drying, heavy bodied, fibrated coating for use in protecting the undersurfaces of motor vehicles. High asbestos content gives excellent resistance to abrasion from flying road gravel. High melt asphalt base resists corrosion from water and ice melting chemicals. A special formulation is available to meet the requirements of Federal and Military specifications.

CAUTION

Flintkote Asphalt cutbacks are flammable mixtures. Keep containers covered when not in use. Do not apply near open flame and allow adequate ventilation to protect applicators from solvent fumes.

CONTAINERS

55 gal., 30 gal., 5 gal., 1 gal.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 232
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE ASPHALT PRIMER

General purpose, thin asphalt primer in solvent vehicle — used on all types of surfaces in preparing them for asphalt coatings — applied by brush or spray.

MEETS FEDERAL SPECIFICATION SS-A-701

GENERAL

Flintkote Asphalt Primer is a solution of highly ductile, soft asphalt of about 40 penetration. It is a general priming coat for concrete, gypsum, cinder block, brick and metal surfaces over which built-up roofing, waterproofing, dampproofing or other asphalt coatings are to be applied. The thin solution readily penetrates the pores and seals dusty surfaces of masonry to provide a firm bond for such coatings—hot or cold, cutback or emulsion types. Steel is likewise effectively prepared for asphalt protective coatings by the application of Flintkote Asphalt Primer.

This primer is not intended as a coating or as a finish. For a heavier, harder asphalt primer which is also a coating, Flintkote No. 267, a glossy asphalt enamel, is recommended.

DIRECTIONS FOR APPLICATION

Preparation of Surfaces: All surfaces to be primed with Flintkote Asphalt Primer must be dry and free from oil, grease, rust, scale, loose paint and dirt.

Applications: Apply by brush or spray at the rate of 200 to 500 sq. ft. per gallon depending on the nature of the surface.

Care of Tools: Brushes, spray equipment and other tools may be cleaned and dried material removed by the use of Varnol or white gasoline.

Caution: Flintkote Asphalt Primer is inflammable. Do not use near open flame and provide adequate ventilation to protect applicators from solvent fumes. Keep containers covered when not in use.

Containers: 1 gallon, 5 gallons, 40 gallons, 55 gallons.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

PROTECTIVE COATINGS

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 234
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE NO. 267

Hard, glossy asphalt enamel — used as heavy primer or protective finish coating for metal and masonry — provides good resistance to water and weather.

GENERAL

Flintkote No. 267 has wide application as general purpose asphaltic paint where a hard glossy finish is desirable. It will withstand sustained high temperatures (up to 180°F.) without sagging or softening. It protects surfaces against weather and corrosion with a measure of durability in relation to the type of exposure and thickness of coating applied.

CHARACTERISTICS

This product is made from specially selected asphalt of high melting point. It contains a higher percentage of solids in its solvent vehicle than many asphaltic enamels or so called asphaltic "Varnishes."

Flintkote No. 267 is used to prime steel decks, metal lath and clips when magnesite is to be laid over them. It is also recommended as a priming coat for steel prior to application of hot mastic surfacing and as a sealer for wood floors upon which asphaltic mastic wearing surface is to be installed.

Flintkote No. 267 is likewise used as a prime coat over masonry. The material will penetrate into the pores and will assure a good bond on masonry surfaces. It is particularly effective as a primer under the various Flintkote Protective Coatings such as C-13-HPC, C-13-E, C-13-C4, C-13-A, because of the fact that in some cases these emulsions do not penetrate the fine pores and the dusty surface of masonry. The combination of Flintkote No. 267 and Flintkote clay emulsion asphalt protective coatings gives a long-lived protective coating having low moisture vapor transmission.

When aluminum window frames and other metals are placed in contact with masonry, the alkali from the concrete and mortar may corrode the metal. Flintkote No. 267 is an excellent protective coating for metal under these conditions.

DIRECTIONS FOR APPLICATION

Preparation of Surface:

All surfaces to be primed or coated with Flintkote No. 267 must be clean and dry, free from rust, oil, grease and dust.

Application:

Apply by brush or spray at the rate of one gallon to 200 to 500 sq. ft. Exposed surfaces should receive two coats with full coverage and uniform film thickness. If more than one coat is applied, allow approximately six hours drying time between coats.

This product may be thinned if necessary for ease of application by the addition of Varsol or white gasoline.

Caution:

Flintkote No. 267 is FLAMMABLE and suitable precautions must be taken during application to avoid sparks or flame and provide adequate ventilation for workmen: Keep container covered when not in use.

Containers:

1 gallon, 5 gallons, 30 gallons, 55 gallons.

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NOTICE: [illegible] recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such uses are beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 227
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 280 CENTRAL AVENUE, EAST RUTHERFORD N. J.

FLINTKOTE NO. C-19

Vapor barrier coating for protection of insulation and heavy duty corrosion resistant coating for industrial use.

GENERAL

Flintkote No. C-19 is a medium consistency cutback made from a blend of special asphalts and reinforced with a relatively high percentage of asbestos fibers. It is designed to give an extremely tough moisture vapor barrier when applied as a coating over dry, clean surfaces. It is formulated for smooth, fast application by conventional spray equipment (brush and trowel methods may also be used) to provide a protective film many times the thickness of paint.

CHARACTERISTICS

The base asphalts of Flintkote No. C-19 have been selected for ductility and softening point to provide a coating which demonstrates exceptional durability under severe exposure and a tough elasticity to withstand shock and vibration as well as normal expansion and contraction without cracking. It is not subject to brittleness or checking under cold and resists sagging or flow at reasonably high temperatures of 250°F. to 300°F. The dried

TYPICAL PROPERTIES

CODE	C-19
Type	Solvent type asphalt mastic fibrated with asbestos.
Volatile vehicle[a]	Mineral Spirits.
Weight, pounds per gallon at 77°F.	8.5.
Consistency	Spray, light trowel, or brush.
Temperature range for application	50° - 120°F.
Solids content, % by wt., average	63.5.
Film appearance	Black mastic type.
Average coverage, sq. ft./gal. of coating for 1/16" dry film	16.
Build	3/32" wet film on vertical surfaces at 85°F does not slump or sag. Practical to spray to 1/8" wet film excepting on hot surfaces.
Average drying time of 3/32" wet film, 60% R. H., 77°F[a]	
To touch	3 hrs.
Firm	24 hrs.
Flash point, Tag Open Cup, °F[a]	100 min.
Outdoor weathering performance	Excellent. Films do not check or crack and remain intact on long exposure.
Flow of cured film at 325°F	None, but films not recommended for continuous exposure above 225°F.
Salt fog resistance, 1/16" dry film complete protection of steel panel, hours, minimum	500.
Cracking or disbonding of 1/16" dry film on steel plate, rapid temperature change from 140°F to -60°F	None.
Water vapor permeability at 90°F, perms, 1/8" dry film	Less than 0.02.
Resistance of cured film:	
To oils, grease, solvents	Not resistant.
To splash and spillage of dilute acids and mild alkalies	Excellent.
To abrasion by sand-blast	Excellent. On 50 sandblasting passes, 90 psi, film decreases less than 10% in thickness.
Estimated Thermal Conductivity of cured film, Btu/sq. ft. °F-inch	1.0
Flame resistance of cured film, 6" Bunsen flame applied for 5 minutes	Excellent. No film flow or falling of asphalt. Flame duration of film less than one minute after Bunsen flame is removed.

a) Except New Orleans product is prepared with VM&P naphtha and has a minimum flash of 40°F TOC, and a dry time to touch of 1-1/2 hours, and film of 14 hours.

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

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film of this coating is fire retardant to the degree that it does not support combustion.

Flintkote No. C-19 is classed as a vapor barrier as indicated by the values in the table of typical properties above. Due to the internal reinforcing of the coating by asbestos fibers the dried film is highly resistant to abrasion and physical damage such as is likely to be encountered in industrial applications.

The manufacture of Flintkote No. C-19 is carefully controlled to produce a smooth, homogeneous product, free from lumps. Careful attention is given to providing excellent working properties, capable of application in thick coatings without flowing or slumping when applied to vertical surfaces.

RECOMMENDED USES

Insulation Protection - This coating is especially suited for application over thermal insulations when the surface temperature of the vessel line or tank is below ambient when these conditions prevail the moisture vapor flow is inward through the protective coating and applied insulation. The use of a vapor barrier coating such as C-19 will prevent moisture condensation in the insulation and corrosion of the metal surface. The resistance of the applied film to mild chemical attack and abrasion offers further protection to the insulation under actual service conditions.

Steel and Masonry Protection - Flintkote No. C-19 is highly recommended for use as an industrial protective coating in corrosive exposures and where abrasion or other physical damage is likely to be encountered. The strong reinforcement of the film by asbestos fibers affords the use of thick, durable coatings which will withstand the attack of many corrosive chemicals and will not sag or slump when exposed to moderately high temperatures.

Where required, the application of Flintkote Asphalt Base Aluminum Paint to Flintkote No. C-19 gives a durable, weather resistant, reflective finish.

APPLICATION

Surface Preparation

Metal - Must be clean and dry, free from oil, grease, rust and other foreign matter. Sandblasting is preferred but when not available, other accepted cleaning methods such as flame cleaning, scaling or wire brushing may be used if accepted by the engineer in charge. Flintkote No. 267 (asphalt cutback) is a recommended primer where temporary protection of cleaned metal is required in corrosive atmospheres.

Masonry - Must be clean and dry, free from oil, grease, laitance and other foreign matter. Flintkote Asphalt Primer should be used on dusty or porous surfaces before applying coating.

Insulation - Must be dry and free from dust and dirt. Porous surfaces should be sealed with a thin primer coat of Flintkote Asphalt Primer. Then joints or crevices occur in insulation, such as in blocks or boards, these should be caulked or filled smoothly with Flintkote Trowel Mastic prior to applying the coating.

COVERAGE

Rate of application shall be determined by the severity of the anticipated exposure; however, 8 gallons per 100 sq. ft. (1/8" wet film) is generally recommended for most applications. For areas involving impact or other physical damage the use of a glass reinforcing membrane such as Flintkote "Yellow Jacket" may be required. In such cases the membrane must be completely embedded in the coating.

COVERAGE CHART – FLINTKOTE NO. C-19

THICKNESS		COVERAGE	
WET FILM	DRY FILM	GALS. PER 100 S. F.	S. F. PER GAL.
1/32"	.022"	2	50
1/16"	.044"	4	25
3/32"	.065"	6	16.6
1/8"	.087"	8	12.5

EQUIPMENT

Flintkote No. C-19 may be applied directly from the drum without addition of other materials. If low temperatures cause a thickening, the product may be diluted with a small quantity of mineral spirits. Flintkote No. C-19 may be sprayed, using a standard air operated drum pump of a 10 or 12 to 1 ratio. A mastic type spray gun with a 1/4 inch round nozzle of the internal atomizing type is recommended. Air hose shall be 1/2" I. D. and material hose shall be 3/4" I. D. Best spraying consistency is achieved when material temperature is about 70°F.

CARE OF TOOLS

Spray equipment and other tools may be cleaned and dried material removed with petroleum solvents, mineral spirits, kerosene or white gasoline.

CAUTION

Flintkote No. C-19 is a flammable mixture. Keep container covered when not in use. Do not spray near open flame and allow adequate ventilation to protect applicators from solvent fumes.

CONTAINERS

55 gallons, 5 gallons.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 239

ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE, EAST RUTHERFORD N. J.

FLINTKOTE TROWEL MASTIC

Trowel consistency solvent type asphalt coating containing asbestos and mineral stabilizers.

Meets Fed. Spec. SS-C-153 Type 1

GENERAL

Flintkote Trowel Mastic is made from selected asphalts, asbestos fibers, mineral stabilizers and petroleum solvents. It is supplied in a smooth, easy working, plastic consistency, adheres to brick, mortar, concrete and steel and remains elastic, expanding and contracting with the surface on which it is applied.

RECOMMENDED USES

This product is especially recommended for trowel application to the interior surfaces of exterior masonry walls above grade and to back up various facing materials used in construction. It serves to provide a barrier to moisture and water vapor which may penetrate the walls. It retards the entrance of water through joints, cracks or porous mortar.

Flintkote Trowel Mastic is likewise recommended for coating exterior masonry walls below grade for strength and adhesion serves to retard the entrance of ground water into or through such walls. It is not intended, however, to bridge open joints or settlement cracks.

The installation of spandrel cloth or reinforcing membrane to protect beams, metal sash, skylights, flashings or effecting various roof repairs is facilitated by the use of Flintkote Trowel Mastic as an adhesive under the membrane and for coating over it. The dried film has high resistance to weathering and excellent durability to all stresses and wear to which such coatings will normally be exposed.

Flintkote Trowel Mastic finds many uses in industrial installations for weatherproofing thermal insulations. Its unique cohesive working properties recommends it for coating irregular surfaces such as valves, fittings and caulking joints and cracks prior to final coating of large surfaces. Due to its vapor tight dried film, it has been widely used as a heavy bodied coating on boiler settings to retard the ingress of air.

COVERAGE CHART – FLINTKOTE TROWEL MASTIC

WET FILM THICKNESS	GALS. PER 100 SQ. FT.	SQ. FT. PER GAL.
1/16"	6	25
3/32"	8	16
1/8"	8	12
5/32"	10	10
3/16"	12	8

APPLICATION DIRECTIONS

Preparation of Surfaces - All masonry or steel surfaces must be clean and dry, free from rust, loose paint, dust and other foreign matter. Masonry which is porous can be primed advantageously with Flintkote Asphalt Primer before applying Flintkote Trowel Mastic. Thermal insulation should likewise be primed before final coating.

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[illegible] Products are based on tests believed to be [illegible] do not guarantee the results to be obtained.

Application Rate - Thickness requirements depend on the type of job and expected service conditions but, in general, Flintkote Trowel Mastic should be applied at a rate of approximately 8 gals. per 100 sq. ft. in one or more coatings. The use of a reinforcing membrane such as Flintkote "Yellowjacket" Glass Fabric is recommended where extra film strength is required on applications such as severe waterproofing problems and protecting certain thermal insulation installations. Where trowelling is impracticable, Flintkote Semi-Mastic No. 214 or Flintkote No. C-19 for brush or spray application is recommended (see product data sheet Numbers 236 and 237).

Care of Tools - Dried material may be removed with petroleum solvents such as white gasoline or kerosene.

CAUTION:

Flintkote Trowel Mastic is flammable and suitable precautions must be taken during application to provide adequate ventilation for workmen. Keep containers covered and away from flames.

Containers - 55 gallons, 30 gallons, 5 gallons, 1 gallon.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 241
ISSUE 62-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N J

FLINTKOTE No. 69 INSULATION COATING.

Heavy Bodied Solvent Type Coating – Provides Corrosion Protection, Thermal Insulation and Anti-Drip from Condensation.

GENERAL

Flintkote No. 69 Insulation Coating is an asphalt cutback which has been filled with granulated cork particles and asbestos fibers to a consistency which is easily sprayed at normal atmospheric temperatures. It is designed to provide thermal insulation and corrosion resistance to most industrial atmospheric fumes. It is highly effective as a vibration dampening coating and the rough texture of the applied film will retain an appreciable amount of condensed moisture when used as an anti-sweat surface in humid atmospheres.

The base for No. 69 Insulation Coating is a selected asphalt blend having a high softening point, for elevated temperature service, yet is not brittle when subjected to cold. The blend of this unique asphalt and insulation particles produces a coating which can be applied in thick films without sag or flow of the dried film at temperatures up to 200°F.

Flintkote No. 69 Insulation Coating is recommended for use on air conditioning ducts, ventilation housings and the interior of metal panel buildings to protect the metal from moisture and corrosion. It also is effective as a noise dampener and thermal insulator in this type of installation. It is an effective insulation when used on tanks and vessels whose operating temperatures do not exceed 200°F.

Steel, wood, concrete and numerous composition surfaces can be coated with Flintkote No. 69 Insulation Coating to provide the type of protection described above.

CHARACTERISTICS

Flintkote No. 69 Insulation Coating bonds tightly to prepared surfaces over a wide range of temperatures. It resists checking, peeling or alligatoring from minus 20°F to plus 200°F. It has excellent resistance to outdoor weathering and acids, alkalies and corrosive industrial fumes. Flintkote No. 69 Insulation Coating has a thermal conductivity ("K" value) of 0.65 - 0.70 BTU's per hour per sq. ft. per °F temperature difference per one inch thickness. The sound decay value is 3.5 decibels per second at 70°F for a coverage of 1/10 inch thickness.

RECOMMENDED APPLICATION

While primarily intended for spray application, Flintkote No. 69 may be applied by brush or trowel in small areas. Due to the solvents present in the formulation, ventilation must be provided for workmen when coating is being installed in confined areas and protection from fires or open flames must be taken to prevent flashing of the volatile solvents.

Spray equipment which has been reported satisfactory for this product includes Johnstone Pump Model B500, 4:1 ratio; Grace Pump Mogul Model, 8:1 ratio or a standard pressure pot (such as De Vilbiss) in conjunction with an Eclipse spray gun modified Model AE46 or the Johnstone Special Pole Gun. A feed diameter of 1/2 inch is suggested, and an orifice diameter of 3/8 inch for the Eclipse gun and 1/2 inch for the Johnstone.

PREPARATION OF SURFACES

All surfaces should be cleaned thoroughly of any mill scale, rust, plaster, dirt, oil and grease, using a wire brush, sandblast, or other methods in accordance with good coating practice. Rusted metal should be spot primed; porous or dusty concrete and wood should be primed with a thin penetrating cutback asphalt (such as Flintkote Asphalt Primer). Clean metal and dense concrete ordinarily do not require a primer but wood must be primed to reduce its absorption of the solvent vehicle in Flintkote No. 69 Insulation Coating.

APPLICATION

Apply evenly with full coverage of approximately 1/4 inch thickness (wet), either in one coat or in two of 1/8 inch each. Coverage of 1/4 inch total thickness (wet) amounts to about 16 gallons per 100 sq. ft.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

DRYING

Asphalt cutback coatings have a drying time which is dependent on temperature, humidity, thickness of application and rate of air movement over the exposed surface. Enclosed areas or confined spaces will take longer, and the use of ventilating fans should be considered as an aid to accelerating drying when necessary. Complete drying of heavy films will usually require 30 - 60 days under normal conditions.

CARE OF TOOLS:

Use only clean containers. Brushes and tools should be soaked in solvent such as kerosene when not being used. Occasional rinsing of spray guns and other equipment will prevent gumming. Follow the recommendations of spray equipment manufacturer in cleaning spray pumps, lines and guns.

CAUTION

Flintkote No. 69 Insulation Coating contains flammable solvent. Do not use or store near open flames. For best results, application should be made at a temperature of 60°F or higher.

CONTAINER

55-gallons and 5-gallons. Net weight per gallon, approximately 6.7 lbs.

519664

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER301
ISSUE61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE ALUMINUM PAINT

(Asphalt Base) High light reflectivity — decorative paint. Use on roofs and tanks reduces interior temperatures — protects metal from corrosion.



Flintkote Aluminum Paint applied over steel for corrosion protection and reduced interior temperature.



"Brighten Up" with Flintkote Aluminum Paint. Shown here applied to both metal and masonry.

GENERAL

An asphalt base type of aluminum paint is especially recommended, because of its flexible film and high weather resistance, wherever a light reflective paint is desired. As the vehicle is compatible with asphaltic coatings, perfect bonding of the paint film is assured when applied over asphalt coatings and roofs. Excellent water vapor resistance is also obtained. Flintkote Aluminum Paint is recommended also for use over metal and masonry, and primed wood.

CHARACTERISTICS

Flintkote Aluminum Paint is made with selected asphalts, the finest grade of aluminum flake and solvents, all combined chemically and physically to provide a brilliant, durable, decorative paint, requiring no further color treatment. It is factory mixed and ready to apply by spray or brush merely requiring stirring. It was designed originally for use over thoroughly dried asphalt emulsion type protective coatings and smooth surfaced or granule coated roofing in order to give high light reflectivity over these normally dark surfaces.

RECOMMENDED USES

Where a light color or light reflective surface is desired in long-term anti-corrosion steel protection, it is recommended that Flintkote Aluminum Paint be applied over a relatively heavy film of Flintkote asphalt base clay emulsion protective coating.

An excellent system of preventing moisture vapor transmission through masonry walls is to apply Flintkote Emulsion Protective Coating (Type C-13-HPC) or (Type C-13-F) at the rate of not less than 3 gallons per 100 sq. ft. of surface. When the emulsion is thoroughly dry, a spray application of Flintkote Aluminum Paint at a coverage of 1 gallon per 300 to 400 sq. ft. will give a durable, water resistant and beautiful finish plus [illegible] having

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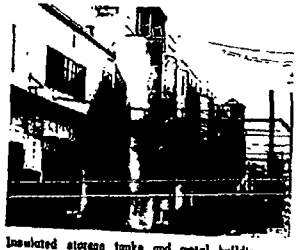
Brighter interiors and better resistance to corrosive elements are obtained by use of Flintkote Aluminum Paint on steel framing and underside of roof.

an extremely low moisture vapor transmission rate. Such a system is particularly applicable to buildings where air conditioning equipment or refrigeration is installed.

Flintkote Aluminum Paint may be applied directly to asphalt roof coating, smooth surfaced or granule coated roofs. The high reflectivity of the paint will materially reduce the temperature inside the building. Moreover, it will serve to prolong the service expectancy of composition roofing and asphalt coatings because of offers additional protection against direct contact with sun, wind and rain.

For decorative purposes and corrosion protection equal to paint film thickness, Flintkote Aluminum Paint may be applied directly to steel or concrete, or



Insulated storage tanks and metal buildings are protected and given better appearance with Flintkote Aluminum Paint.

to wood and porous masonry over a thin sealer of cutback asphalt primer. It is not recommended, however, for direct application to steam or hot water pipes or radiators.

DIRECTIONS FOR APPLICATION

Preparation of Surfaces:

All surfaces must be thoroughly dry and free from dirt, dust and loose material. It is essential that asphalt coatings, either emulsion or cut-back types, should be allowed to *dry thoroughly* (at least a week) under good drying conditions before application of the paint.

Application:

Flintkote Aluminum Paint is factory mixed and ready to apply. *Like any paint, stir thoroughly before using.*

It may be applied by brush or spray, using conventional equipment. Best results in uniform film coverage and brilliance, however, are obtained by spray. For brush application, it is preferable to apply the paint in two coats in order to avoid holidays in the film due to brush marks.

Caution:

Flintkote Aluminum Paint is a combustible mixture. Do not apply near open flames. The flash point is over 100 degrees F., therefore, not hazardous to use when proper precautions are observed. In applying the paint in enclosed areas and unventilated spaces, adequate ventilation should be provided.

Containers: 5 gallons and 1 gallon.



Sheet steel structures are given longer life and lower inside temperature with Asphalt Protective Coating followed by Flintkote Aluminum Paint.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 303
ISSUE 42-C

PRODUCT DATA

GENERAL OFFICE: • THE FLINTKOTE COMPANY, 30 CENTRAL AVENUE EAST RUTHERFORD N. J.

DECORALT*

Specially compounded latex base, heavy-duty seal coating for masonry building restoration

* Reg. U. S. Pat. Off.

GENERAL

Flintkote DECORALT is a heavy bodied, compounded acrylic latex base coating fortified with minerals and asbestos. It has superior low temperature flexibility and high strength bonding properties which adapts it to coating fresh or old concrete and to use over cured asphalt. In addition, it provides excellent resistance to oil, grease and many normal chemicals.

CHARACTERISTICS

This product is supplied in concentrated paste form which is diluted for use as a coating with cool, clean water prior to its application. Dilution for spray may vary from that required for brushing due to the nature of the equipment. (See product label for specific diluting instructions.)

Two separate functions exist for DECORALT, (1) Wall surfacing and (2) walking surfaces such as floors, drives, tennis courts and patios. (See Product Data Sheet No. 304 for details of coating pavements).

RECOMMENDED USES (Wall and Masonry Coatings)

Flintkote DECORALT is applied to masonry walls or structures as a sealer and decorative coating to resist weather and enhance appearance through choice of color. Two coats are recommended.

Leaky Masonry Walls:

Spalled, cracked, excessively porous or purge coated masonry may be effectively sealed. First, open cracks and joints must be repaired as with a waterproof asphalt mastic and glass cloth fabric. Second, a thin penetrating coat of Asphalt Primer is applied. Third, a heavy bodied coat of Flintkote C-13-HPC Emulsion (cold applied clay emulsion) for complete surface dampproofing. After thorough drying of the asphalt coating, Flintkote



Flintkote Decoralt was used over restored terra cotta facing of this New York building.



Application of Decoralt on building shown at left provided a weather resistant coating of uniform color.

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

DECORALT is applied as a seal and color coat. Unlike many paints which cannot be applied over asphalt, DECORALT creates no solvating action to cut or soften asphalt which in itself is not oil-resistant.

Color coating Insulation Weatherproofing.

Many tanks, silos, bins and pipelines which are insulated require asphalt coatings for weather resistance. To obtain a color coat on these normally black surfaces, Flintkote DECORALT is ideally suited as an alternate to aluminum finish coatings. If such aluminum coating is used, asphalt base may effect an undesirable vapor barrier coating when a breathing type coating is required.

DIRECTIONS FOR APPLICATION

Mix DECORALT as recommended, stirring well to put all fillers in suspension.

Preparation of Surfaces:

Must be clean and free of dirt, oil, grease and other foreign matter. (Dampening the base is recommended to equalize suction particularly of semi-porous masonry).

Coverage will vary with the porosity and texture of the base. Smooth, non-porous bases will give coverage of up to 300 sq. ft. per gallon of mixed DECORALT. Two coats are recommended.

Coating Application:

For brush, use a short bristle, wide brush, applying coating liberally for uniform coverage. For spray, pressure pot equipment has been found suitable. Fluid pressure 20 - 60 lbs (depending on hose length and height of lift) and atomization pressure 25 - 30 lbs; DeVilbiss MBC Gun No. 326 air cap; AS-N nozzle 3/16" orifice; AS needle. A second coat may be applied as soon as the first is touch dry.

Drying Time:

In normally warm, sunny weather, Flintkote DECORALT will dry in two to three hours, slightly longer in shade or high humidity. Lapping will not be a problem if sufficient coating has been applied.

Care of Tools:

Rinse brushes and other tools in water before using and immediately afterwards. Keep containers clean. If DECORALT dries on tools, it may be removed with lacquer solvent.

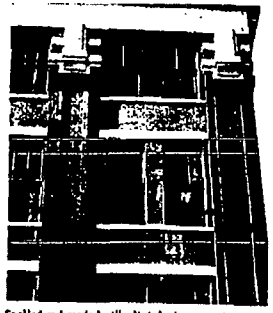
CAUTION:

Do not apply DECORALT Seal Coating to frozen or excessively wet surfaces. Best results will be obtained when temperatures are 60°F. and above. Protect newly coated surfaces from rain until thoroughly dry.

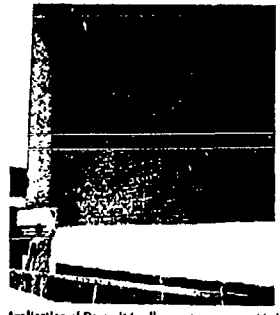
Avoid freezing in containers by storing indoors. Keep containers covered when not in use. Proportion and mix carefully to avoid color change.

CONTAINERS

55 gal; 5 gal; 1 gal.



Spalled and eroded sills, lintels, beams and cornices were patched and given a seal coating of Decoralt in cement color.



Application of Decoralt to all concrete areas provided uniform appearance as part of the restoration of this 25 year old building.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 304
ISSUE 62-P

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

DECORALT*

Colored Seal Coatings for Asphalt Tennis Courts, Walks, Drives, Parking Areas, Roof Decks and Playgrounds.

* Reg. U. S. Pat. Off.



DECORALT is the ideal for coating asphalt paved tennis courts.



Asphalt patio pavements may be coated with DECORALT to create pleasing color effects.

Flintkote DECORALT Coatings are heavy bodied, fortified compounds, having an acrylic latex base. They are intended to be diluted with water prior to application. Mineral reinforcing fillers impart toughness to the coatings which make them resistant to a considerable amount of wear under traffic.

These coatings provide excellent bond to asphalt surfaces and completely change the color of the base. The superior low temperature flexibility and high strength binding properties of the latex provide resistance to weather and water, crazing and cracking. DECORALT Coatings also resist oil, grease, anti-freeze solutions and many chemicals.

USES

There are many instances where it is desirable to impart color to asphalt surfaces, as on tennis courts, playgrounds, patio paving, driveways, walks, platforms, roof decks or other surfaces. Flintkote DECORALT Coatings have also found use for coating exposed concrete such as walls, piers, bridge rails, etc.

When liquid bituminous coatings are heavily pigmented to obtain red, green or gray colored toppings, they lose considerable strength from the amount of pigment required to overcome the black color. Flintkote DECORALT Coatings, on the other hand, being of latex base, permit better retention of the color pigment without weakening the binder. In the case of tennis court toppings the color does not track or dust off on tennis balls as is often the case with pigmented asphalt.

Flintkote DECORALT Coatings are applied in a film thickness which is many times the thickness of paint, and this thickness together with the abrasion resistant materials in the compound assures long wear and durability under ordinary traffic.

The use of green DECORALT as a finish coating on asphalt paved tennis courts and playgrounds will result in a marked reduction of temperature due to solar heat.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.



Prior to application of Flintkote DECORALT the asphalt surface is cleaned thoroughly by hosing with water.

APPLICATION

Supplied in concentrated form, Flintkote DECORALT Coatings are diluted or thinned to application consistency by the addition of up to one-half volume of water. (See product label for specific diluting instructions.)

Coverage will vary somewhat with porosity and texture of the base. For smooth, dense-graded surfaces, DECORALT should be applied to a total coverage of 100 to 150 sq. ft. per gallon. Two coats of DECORALT are recommended and on this basis, the diluted coating should be applied at the rate of 200 to 300 sq. ft. per gallon, per coat. In spots of greatest wear, such as at the base lines of tennis courts, one or more extra coats is desirable.

Preparation of Surface: Asphalt surfaces should be well cured, clean, free from grease, oil, dirt and other foreign matter. Flushing with water under pressure from a hose and brushing will remove embedded dirt. The asphalt surface may be damp but not wet (no puddles) when the DECORALT Coating is applied.

Brush Application of DECORALT: Stir the mixture when diluting with water. Additional stirring occasionally will keep the ingredients in uniform distribution throughout the liquid.

A short bristle brush (tampico or nylon) or push broom, are preferred applicating tools. Brush only enough coating to obtain uniform coverage. The second coat may be applied almost immediately after the first, or as soon as all tackiness has disappeared. Drying time in shade or on humid days will be slightly longer than in sunny weather. The newly coated surface may be opened to traffic in a few hours, normally.

Spray Application: DECORALT may be sprayed with specially selected pressure pot equipment. Request information from the manufacturer on types and dilution of material.



DECORALT seal coatings are easily applied. The "Fullerqtipt Blade Sweep" brush shown here is preferred for rapid, economical coverage. (Consult a Flintkote representative about availability of these tools.)

Care of Tools: Rinse brushes and other tools in water before and immediately after using. Dried material can be removed with lacquer solvent.

CAUTION:

Do not apply when temperature is below 55°F. (preferably 60°F. or higher). Avoid rain or freezing weather, and protect from both until thoroughly dry. Keep from freezing in the container by storing indoors.

Colors: Red, green, cement gray, white.

Containers: 55 gallons, 30 gallons, 5 gallons, 1 gallon.

519670

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 313
ISSUE 61 - C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

YELLOW JACKET
MEETS FED. SPEC. HH-C-466b
20 x 10 mesh

GENERAL

Flintkote Yellow Jacket is a woven glass mesh reinforcing membrane of distinctive color for easier application. It is manufactured to meet the requirements of Federal Specification HH-C-466b.

It is recommended for use wherever internal reinforcement of applied coatings is required such as waterproofing, dampproofing, industrial protective coatings and similar applications.

CHARACTERISTICS AND USES

Flintkote Yellow Jacket is manufactured with a coating of synthetic resin which is compatible with cold-applied coatings of asphalt and coal tar and resins. It's distinctive yellow color is of great assistance to the applicator in making certain that the fabric does not "float" to the top of the coating and that complete coverage is obtained in applications made under conditions of poor lighting. The resin coating is non-tacky even at elevated temperatures assuring no sticking in the rolls - permits easy knife coating and no swelling.

The strong glass fibers provide the reinforcement needed in waterproofing and protective coatings for bridging cracks caused by structural movement and building vibrations. The woven mesh construction is also of assistance in obtaining greater wet film build for heavy duty applications. Widely used in thermal insulation applications, it is of value in reinforcing weatherproof coating films and in protecting valves, fittings and other irregular surfaces. The presence of glass fabric greatly increases the resistance to impact of applied films.

PROPERTIES

Type:

Woven glass mesh treated with synthetic resin coating.

Color:

Yellow.

Mesh Size:

20 x 10.

Breaking Strength:

M. D. – Warp 75# Min.
C. D. – Filling 75# Min.

Packaging

Units:

1 – 48" x 150' Roll (600 sq. ft.)

1 – 36" x 150' Roll

3 – 12" x 150' Rolls (450 sq. ft.)

6 – 6" x 150' Rolls

12 units per carton.

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NOTICE: The foregoing statements for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.



WATERPROOFING/DAMPPROOFING

BELOW GRADE

Product	Data Sheet	Applicable Specification	Description
C-13-E	203	ASTM-D-1187-56 Type A	Unfibrated asphalt emulsion for wet exposures. Brush or spray for primer and protection coats.
Asphalt Primer	232	SS-A-701	Penetrating cutback asphalt. Brush or spray for priming dusty and porous surfaces.
No. 211	235	SS-A-701	Unfibrated heavy bodied cutback asphalt. Brush or spray for priming and waterproofing.
Semi-Mastic No. 214	238	SS-R-451	Fibrated cutback asphalt for brush or spray.
No. C-19	237		Fibrated heavy bodied cutback asphalt for spray or trowel. Can be applied up to 1/8" thickness without sag.
Trowel Mastic	239	SS-C-153 Type I	Fibrated heavy bodied cutback asphalt for trowel application.
Yellowjacket	313	HH-C-466b	Distinctive yellow glass fabric reinforcing membrane. Proper embedding assured due to bright color.

ABOVE GRADE

C-13-HPC	208	ASTM-D-1187-56 Type B	Unfibrated asphalt emulsion for protection against water and dampness.
C-13-A	205		Brush, spray or trowel. Heavily fibrated asphalt emulsion for trowel application. Bonds insulation to wall exteriors and protects against water and dampness.
Asphalt Primer	232	SS-A-701	Penetrating cutback asphalt. Brush or spray for priming dusty and porous surfaces.
No. 211	235	SS-A-701	Unfibrated heavy bodied cutback asphalt. Brush or spray for priming and dampproofing.
Semi-Mastic No. 241	238	SS-R-451	Fibrated cutback asphalt for brush or spray. For use on interior or exterior walls. To control moisture movement.
Trowel Mastic	239	SS-C-153 Type I	Fibrated heavy bodied cutback asphalt for trowel application. For use in moisture control and with spandrel cloth and membranes around building openings.
Spandrel Cloth	311		Saturated and fully coated heavy duty membrane.
Yellowjacket	313	HH-C-466b	Distinctive yellow glass fabric reinforcing membrane. Proper embedding assured due to bright color.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 202
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE C-13-HPC EMULSION

Non-fibrated, non-flammable, cold-applied protective coating for metal and masonry

GENERAL

Flintkote C-13-HPC is an asphalt base clay emulsion coating which contains no fillers or fibers. It has a semi-paste consistency which is easily brushed and may be applied in thick films in a single application. No heating is required and for some uses may be adjusted for workability by the addition of cool, clean water.

CHARACTERISTICS

Emulsification of asphalt by means of a mineral colloid (a form of clay) results in a product having a dried film which will not flow or sag when exposed to elevated temperatures. This characteristic permits the use of softer and more ductile steam refined asphalts than is possible with other methods of manufacture and greatly enhances the life expectancy of the coating.

Flintkote C-13-HPC Emulsion resists alligatoring and crazing when exposed to outdoor weathering and cracking due to cold. The dried film of this coating resists moisture and weather exposure without equal in bituminous materials.

The advantages of using Flintkote C-13-HPC Emulsion over chemical emulsions, cutback and hot asphalt are in it's stability, non-toxicity and non-flammability. The dried film retains its elasticity by remaining resistant to oxidation. The advantage of soft, ductile steam refined asphalt in its composition is apparent in this product's ability to resist the effects of exposure to rain, snow and heat as well as corrosive and abrasive industrial atmospheres.

Since it is an emulsion type coating, Flintkote C-13-HPC can be applied to most clean surfaces, either wet or dry, including green or damp masonry. Since clay emulsions do not skin over on drying, Flintkote C-13-HPC will not entrap moisture in the film during periods of rapid surface drying.

No hazard is encountered in it's use, either from fire or toxicity - even in confined areas. The dried film does not support combustion and is odorless.

TYPICAL PROPERTIES

CODE	C-13-HPC
Type	Mineral colloid asphalt emulsion. General purpose protective and weather resistant coating.
Volatile Vehicle	Water
Weight, pounds per gallon @ 77°F.	8.2 - 8.4
Consistency	Brush or spray
Solids Content, % by wt., Minimum	55
Typical Ash Content, % by wt.	2.0
Average Coverage, Sq. Ft. per gallon of coating per 1/16" dry film.	15
Build.	1/16" wet films on vertical surface show no sloughing.
Drying time of 1/8" wet film, 60% R. H., 77°F.	
To touch	1
Firm	12
Flash Point	Not flammable
Outdoor Weathering Performance	Excellent. Films do not check or crack and remain intact on long exposure.
Flow of Cured Film at 100°F.	None
Water Resistance, 24 hr. soak of cured film (ASTM D-1616)	Films not recommended for water immersion
Blistering	Films not recommended for water immersion
Re-emulsification	Films not recommended for water immersion
Loss of adhesion to panel	Films not recommended for water immersion
Film flexibility at 77°F over 1/2" mandrel, through arc of 180°, 2 secs. cracking, flaking, or loss of adhesion (ASTM D-1919)	None
Water Vapor permeability at 90°F, perms, 1/16" dry film	
Before Weathering	1.0 to 2.1
After 60 days outdoor weathering	0.5 to 1.0
Resistance of Cured Film	
To oils, grease, solvents	Not resistant
To splash and spillage of dilute acids and mild alkalies.	Not suggested
To abrasion by sandblast.	Excellent. On 3½ sandblasting passes, 90 psi, film decreases less than 10% in thickness.

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such uses are beyond our control, we do not guarantee the results to be obtained

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 203
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE C-13-E EMULSION

GENERAL

Flintkote C-13-E is an asphalt base clay emulsion coating which is manufactured by the same process used on all Flintkote Clay emulsion protective coatings, but in addition has been treated to provide greater insensitivity to water and resistance to re-emulsification. The dried film is thus capable of withstanding the chemical action of soft or hard water under unrestricted contact or immersion. Emulsification of asphalt by means of a mineral colloid (a form of clay) results in a product the dried film of which is stable and does not flow or sag due to heat. This property permits the use of softer, more ductile, steam refined asphalts than is possible with other methods of manufacture and greatly enhances the life expectancy of the dried film.

CHARACTERISTICS

The freshly applied film of Flintkote C-13-E Emulsion dries from the bottom outward with complete freedom from the shrinking over demonstrated by many bituminous coatings. The dried film, further, is of the breathing type to allow escape of moisture vapor, but resists passage of free waters. The mineral colloid, which surrounds the asphalt particles, forms a network of clay film during the drying cycle and the reinforcing effect of this honeycomb-like structure produces a dried film which does not flow or sag at elevated temperatures and resists alligatoring and crazing upon exposure to weathering.

The use of soft ductile asphalts gives excellent resistance to cracking or embrittlement at low temperatures without excessive tackiness at higher temperatures. Experiences over many years have shown that a film of Flintkote C-13-E Emulsion undergoes less deterioration from the ravages of weather than other forms of bituminous coatings and gives long-lived protection to metal or masonry surfaces which are exposed to fog, rain, ice, snow, salt spray or corrosive industrial smoke and fumes.

Being an emulsion type coating, Flintkote C-13-E will bond satisfactorily to virtually all types of clean surfaces, including green or damp concrete. In addition it is non-toxic and odorless both during application and after drying. It can be applied in confined areas with no objection by the applicators. The dried film does not support combustion and of course is non-flammable in the wet state thus offering no fire hazard from it's use.

TYPICAL PROPERTIES OF FLINTKOTE ASPHALT BASE CLAY EMULSION

Code	C-13-E
Type:	Mineral colloid asphalt emulsion treated to have protective films which do not re-emulsify on long time contact with water and aqueous solutions.
Volatile Vehicle	Water
Weight, pounds per gallon @ 77°F.	8.5-8.8
Consistency	Brush or spray
Solids Content, % by wt., Minimum	50
Typical Ash Content, % by wt.	7.0
Average Coverage, Sq. Ft. per gallon of coating per 1/16" dry film.	13
Build	1/8" wet films on vertical surface show no slump or sag.
Drying time of 1/8" wet film, 60% R. H., 77°F.	
To touch	5
Film	12
Flash Point	Not inflammable
Outdoor Weathering Performance	Excellent. Films do not check or crack and remain intact on long exposure.
Flow of Cured Film at 165°F.	None
Water Resistance, 24 hr. soak of cured film (ASTM D-1970)	
Blistering	None
Re-emulsification	None
Loss of adhesion to panel	None
Film flexibility at 77°F over 1/2" mandrel, through arc of 180°, 2 sec.; cracking, flaking, or loss of adhesion (FSM D-1910)	None
Water Vapor permeability at 90°F. perms, 1/16" dry film:	
Before Weathering	0.5 to 1.0
After 60 days outdoor weathering	0.5 to 0.6
Resistance of cured film:	
To oils, grease, solvents	Not resistant
To splash and spillage of dilute acids and mild alkalies.	Excellent
To abrasion by sandblast	Excellent. On 50 sandblasting passes, 90 psi, film decreases less than 10% in thickness.

NOTICE: The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since conditions under which products are used, we do not guarantee the results to be obtained.

RECOMMENDED USES:

Flintkote C-13-HPC Emulsion is especially recommended as a weather resistant protective coating for both metal and masonry surfaces. The quality of thick film application makes it a desirable coating for heavy duty industrial use since the required thickness is easily obtained with minimum application expense and time.

Flintkote C-13-HPC, while completely resisting the passage of water is not a vapor barrier and thus is ideally suited for use as a dampproofing on exterior masonry walls or as a protective coating for certain structures such as grain elevators.

The general utility of this product is further demonstrated by it's use as a bonding coat for asphalt mastic floorings, a primer coating for certain insulations before they are protected by heavily fibrated emulsions, and as an adhesive for bonding lightweight fibrous or porous materials such as wallboard, cork, insulation board and felts.

DIRECTIONS FOR APPLICATION:

Preparation of Surfaces:

All metal must be thoroughly cleaned of all rust, mill scale, dirt, oil, grease or other foreign matter. Concrete or masonry surfaces should be clean and brushed free of loose particles and dust. Surfaces may be damp but not wet.

Priming:

Flintkote C-13-HPC Emulsion may be used as a primer by thinning with up to 15% of clean, cool water. This system has been found to be particularly useful on porous concrete, masonry and certain insulations. For excessively corrosive exposures in and around some industrial installations, the use of Flintkote No. 267 cutback asphalt primer is recommended. It may be used as received or diluted with up to 10% of mineral spirits depending on the temperature of application. Wash primer, zinc chromate alkyd and federal specification grade red lead have been found acceptable as primers if properly applied and cured prior to the application of the C-13-HPC Emulsion.

Application Rate:

Best results are obtained by the use of not less than 3 gallons per 100 sq. ft. when used as a dampproofing or masonry protective coating. For protection of metal or masonry surfaces to corrosive exposures of severe weathering, it is recommended that two coats of 3 gallons per 100 sq. ft. each be applied at right angles to each other. This method will effectively eliminate "pinholing" and give increased serviceability.

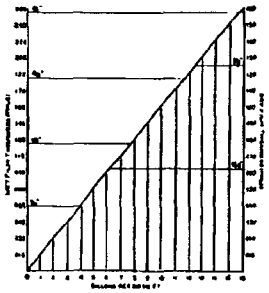
Application Methods:

Flintkote C-13-HPC may be applied by brush, trowel or spray. For trowel application the material should be used as received. In brushing C-13-HPC it must be remembered that this is essentially a spreading operation. A soft bristled brush, is recommended to minimize the variable film thickness due to brush marks. It is particularly important to avoid the use of brushes having occasional stiff or "wild" bristles which cut the wet film and reduce the effectiveness of the coating.

5196?4

For spray application, Flintkote C-13-HPC Emulsion may require slight thinning with approximately 5% of cool, clean water. The coating may be moved to the gun by means of either a pressure tank or a drum pump. Pressure tanks which are capable of operating at pressures up to 90 psi. are generally satisfactory while drum pumps having a ratio of approximately 8:1 are best suited for this application. A 3/4" I. D. material hose is recommended but may be reduced to 1/2" or 15 to 25 feet behind the gun for ease of handling. A 5/16" I.D. air hose is preferred for most applications. A number of guns are recommended by their manufacturers for applying Flintkote emulsion coatings but in general an external atomizing gun with a 3/32" nozzle is acceptable.

COVERAGE CHART



Drying:

Asphalt emulsion coatings "set" by dehydration. The rate of drying is dependent upon the thickness of application, temperature, humidity and rate of air movement. Poorly ventilated or interior spaces will take considerably longer than exposed surfaces and it is desirable to provide a sufficient volume of moving air for complete drying. This can be accomplished by the use of heaters and blowers capable of moving large volumes of air.

Care of Tools:

Use only clean containers. Brushes, spray equipment and other tools should be soaked in water before using and immersed in water while not in use. At the end of the work, clean away all dried material by the use of kerosene or petroleum naphtha. Allow to dry and rinse in water before using again.

CAUTION:

Flintkote C-13-HPC Emulsion is a water vehicle product and must be protected from freezing in shipping and storage. Apply at temperatures above 45°F. and the coating must be protected from rain until dry. Water, freezing weather, snow or ice will not affect the dried coating.

Containers:

55 gal., 30 gal., 5 gal., 1 gal.*

*6 per case.

5196?5

RECOMMENDED USES

The many unique properties which are characteristic of Flintkote C-13-E suggests it's use in diverse fields as a waterproofing or protective coating where resistance to moisture, weather or mildly corrosive chemical exposures is required. It is widely used, either alone or in combination with fabric reinforcing membranes, as a below-grade waterproofing for foundation walls and footings. It is also successfully used as a protective coating for underground masonry structures such as tunnels and retaining walls and as a corrosion proof coating for buried steel tanks and similar surfaces. The excellent resistance of the dried film to salt water and salt spray accounts for it's long history of use as a general purpose protective coating by the Marine industry. As an industrial protective coating, it's ability to withstand outdoor weathering and exposure to many corrosive fumes and smoke makes it the ideal choice for long lived smoke free applications.

DIRECTIONS FOR APPLICATION

Flintkote C-13-E may be applied by brush or spray. The emulsion is supplied in a consistency which does not require thinning before application. If it is necessary to dilute in order to prepare a priming or wash coat, use only clean cool water and stir thoroughly to eliminate all undispersed emulsion.

Brush applied, as received, Flintkote C-13-E is essentially a spreading operation. The use of soft bristled brushes, like whitewash brushes, is recommended to minimize the variable film thickness due to brush marks. It is particularly important to avoid the use of brushes having occasional stiff or "wild" bristles which cut the wet film and reduce the effectiveness of the coating.

Most manufacturers of spray equipment have units which are recommended for applying Flintkote emulsion coatings but the following suggestions may be used as a guide in selecting equipment:

Pressure tank - operate at up to 90 psi.

Drum Pump - approximately 8:1 ratio

Material Hose - 3/4" I. D., may be reduce to 1/2" 15-25 feet behind gun for ease of handling.

Air Hose - 1/2" I. D.

Spray Gun - External atomizing with 5/32" nozzle.

PREPARATION OF SURFACES

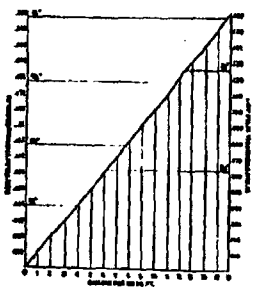
Metal and masonry must be clean and free of all rust, mill scale, dirt, mortar splashes, oil, grease and other foreign matter. Concrete surfaces may preferably be dampened with water or primed with emulsion diluted with approximately 15% of water and thoroughly scrubbed into the surface.

Metal surfaces should be cleaned by sandblasting, scraping, wire brushing or other appropriate methods.

No special primer is required when the coating is only intended to provide weathering resistance. For protection against corrosive exposures a primer applied to the cleaned metal is recommended. Flintkote No. 267 primer applied as received or diluted with up to 10% of mineral spirits, depending on the temperature of application, has been found to be an extremely effective system with a coating of C-13-E. Other primers which have been satisfactorily used are federal specification grade red lead, zinc chromate-alkyd and wash primer. It is particularly important to allow adequate drying, curing and weathering time, when using red lead as a primer, before coating the surface with any asphaltic material.

Rates of Coverage and Methods of Application

The rate of coverage with Flintkote C-13-E will vary with the nature of the application and the severity of the exposure conditions. the following suggestions may be used as a guide in determining the coverage required for a particular application.



Waterproofing below grade masonry

A minimum of 3 gallons per 100 sq. ft. is suggested for the least critical applications. For excessively wet conditions, two coats of 2½ gallons per 100 sq. ft. each should be applied with glass fabric reinforcing membrane embedded into each coat, followed by a top coating of neat emulsion at a rate of 2½ gallons per 100 sq. ft. This system has been tested and found resistant to a 10 foot hydrostatic head. Each additional 10 feet of hydrostatic head required an additional coating of C-13-E at the rate of 2½ gallons per 100 sq. ft. and a layer of glass fabric membrane. With excessively granular backfill, the top coating may be replaced or augmented by an armor coat consisting of a mixture of 1 part cement, 2 parts emulsion and 5 parts sand trowelled over the entire surface. All measurements for the above mix are by volume.

Underground steel

A minimum of two coats of 3-gallons per 100 sq. ft. each is required to eliminate pinholing. For corrosive soils a primer of Flintkote No. 267 should be applied to the clean metal and allowed to dry thoroughly. As protection against film damage by mechanical handling or granular backfill, the film may be reinforced by embedded glass fabric.

Above Ground Protective Coating

Same as underground steel coating.

Drying

Asphalt Emulsion coatings have a drying time which is dependent upon temperature, humidity, air movement and the thickness of coating. It is essential that good drying conditions be observed to completely eliminate the water vehicle for thorough drying of the film. Enclosed or confined areas usually require high volume ventilating fans to provide proper circulation of air for complete removal of water from the applied film. Heaters may be required in conjunction with blowers or fans when the atmosphere is cold or cool and damp.

Care of Tools

Use only clean containers. Brushes, spray equipment and other tools should be soaked in water when not being used. Dried material may be removed with kerosene or petroleum naphtha. Rinse in water before using again.

CAUTION - AVOID FREEZING

Asphalt Emulsion must be protected from freezing in shipping and storage. Apply when temperatures are over 45°F. and protect from rain or freezing until completely dry. The dried film is unaffected by extremes of temperature - either heat or cold.

Containers

55 gal., 30 gal., 5 gal., and 1 gal.*

*6 per case.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 205
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY • 30 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE C-13-A EMULSION

Fibrated with asbestos, cold-applied coating for thick film protection

GENERAL

Flintkote C-13-A Emulsion is a basic mineral colloid asphalt emulsion fibrated with selected asbestos. It is produced in a suitable consistency for easy trowel application of thick films having high resistance to weather, water, corrosion and abrasion. The dried film, when used as a protective coating for insulation, is permeable to water vapor but does not permit the passage of free water. As with other mineral colloid emulsions produced by Flintkote, C-13-A is made of soft ductile steam refined asphalts yet does not flow at high temperatures. Its resistance to oxidation due to weather is not equalled by other forms of bituminous coatings.

CHARACTERISTICS

Flintkote C-13-A emulsion is used whenever a heavy duty protective coating is required. It permits a greater film thickness than non-fibrated or lightly fibrated coatings. The mineral colloid clay structure, which surrounds the asphalt particles in the dried film, permits an unusual stability to both high and low temperatures. Since this emulsion dries from the "bottom-up", residual moisture cannot be trapped in the film. The dried film is sufficiently permeable to water vapor to be classed as a breathing membrane but does not permit the ingress of free water such as rain, splash or spillage.

This coating is applied cold to either dry or slightly damp surfaces. If a priming coat is required for excessively porous or dusty surfaces either Flintkote C-13-HPC Emulsion (non-fibrated) or Flintkote Asphalt Primer (a cutback) should be used. Allow adequate drying of a cutback primer before applying C-13-A Emulsion.

Flintkote emulsion protective coatings are non-hazardous, both for application and in use. The dried coatings will not support combustion. In addition, mineral colloid emulsions contain no solvent, are odor free, non-flammable and non-toxic.

PROPERTIES AND PERFORMANCE CHART

Type	Mineral colloid asphalt Emulsion fibrated with asbestos
Volatile Vehicle	Water
Weight, pounds per gallon at 77°F	8.7-9.0
Consistency	Trowel or heavy brush
Solids content, % by weight minimum	45
Coverage, sq. ft per gallon of coating per 1/16" dry film	12
Build	1/4" wet films on vertical surface show no slump or sag
Drying Time of 1/8" wet film. 60% R. H., 77°F To touch	8 hours
Firm Dry	24 hours
Flash Point	Non-flammable*
Outdoor weathering performance	Excellent
Flow of cured film at 300°F	None
Water vapor permeability at 90°F, perms. 1/16" dry film. initial before weathering	0.5 to 1.0
After 60 days outdoor weathering	0.2 to 0.5
Resistance to oils, greases, solvents	Not resistant
Resistance to dilute acids and to mild alkalies	Excellent
Resistance to abrasion by sand blast	Excellent. On fifty sandblasting passes, 90 psi, film decreases less than 10% in thickness.

NOTICE: [illegible] not guarantee the results to be obtained.

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NUMBER 232

ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE ASPHALT PRIMER

General purpose, thin asphalt primer in solvent vehicle – used on all types of surfaces in preparing them for asphalt coatings – applied by brush or spray

MEETS FEDERAL SPECIFICATION SS-A-701

GENERAL

Flintkote Asphalt Primer is a solution of highly ductile, soft asphalt of about 40 penetration. It is a general priming coat for concrete, gypsum, cinder block, brick and metal surfaces over which built-up roofing, waterproofing, dampproofing or other asphalt coatings are to be applied. The thin solution readily penetrates the pores and seals dusty surfaces of masonry to provide a firm bond for such coatings – hot or cold, cutback or emulsion types. Steel is likewise effectively prepared for asphalt protective coatings by the application of Flintkote Asphalt Primer.

This primer is not intended as a coating or as a finish. For a heavier, harder asphalt primer which is also a coating, Flintkote No. 267, a glossy asphalt enamel, is recommended.

DIRECTIONS FOR APPLICATION

Preparation of Surfaces: All surfaces to be primed with Flintkote Asphalt Primer must be dry and free from oil, grease, rust, scale, loose paint and dirt.

Application: Apply by brush or spray at the rate of 200 to 500 sq. ft. per gallon depending on the nature of the surface.

Care of Tools: Brushes, spray equipment and other tools may be cleaned and dried material removed by the use of Varnol or white gasoline.

Caution: Flintkote Asphalt Primer is inflammable. Do not use near open flame and provide adequate ventilation to protect applicators from solvent fumes. Keep containers covered when not in use.

Containers: 1 gallon, 5 gallons, 40 gallons, 55 gallons.

NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

319679

COVERAGE AND FILM THICKNESS FOR FLINTKOTE C-13-A APPLICATION

Wet Film Thickness, Inches	Gallons Per 100 Sq. Ft.	Square Feet Per Gallon
1/16	4	25
1/8	8	13
3/16	12	8.5
1/4	16	6.4

RECOMMENDED USES

Performance properties of C-13-A Emulsion films are such that this coating is especially suited for application over thermal insulations when the surface temperature of the vessel, line or tank is above ambient. Then the moisture vapor flow will be outward through the insulation. Blistering and disbonding of the protecting film over the insulation under such conditions can be avoided by the use of C-13-A Emulsion since the film after curing is a breathing type. Liquid water is prevented from entering the insulation by the C-13-A film. The breathing property combined with the unexcelled weatherability and over-all durability of the film results in a long-life, of service and trouble-free installation. Of interest, the permeability of the film decreases with age: a perm value of 0.25 to 0.5 perms is found for a 1/16" dry film after 60 days outdoor weathering, the barrier effect thus becomes improved so that in periods of shutdown moisture vapor movement into the insulation is retarded, but with sufficient breathing property being retained to prevent blistering.

Application of Flintkote Aluminum Paint over a cured film of C-13-A Emulsion reduces the water vapor transmission rating to a value of 0.2 perms, or after weathering to the very low value of 0.05 perms, based again on 1/16" dry film. The vapor transmission measurements were made on films with the paint applications at the rate of 350 sq. ft. per gallon to give a highly reflective finish.

In cold rooms, Flintkote C-13-A Emulsion is ideal for coating and sealing insulation against air and moisture particularly because of its non-toxicity and freedom from odor. In this field, it is common practice for applicators to mix 1 or 2 pounds of clean, fine sand per gallon of the coating to give a harder surface wherever it may be subject to bumping or other abrasive action.

Flintkote C-13-A Emulsion is extremely effective when used as an adhesive for bonding insulation blocks and base coats to masonry structures which require thick films due to base surface irregularities. Generally, the film has sufficient wet strength grab as to eliminate the need for shoring the insulation during the drying period.

APPLICATION

Preparation of Surfaces: All surfaces should be cleaned thoroughly of dirt, oil, grease and loose particles prior to application of the priming coat.

Priming: (Insulation Materials) Porous materials should be adequately covered with one coat of Flintkote C-13-HPC Emulsion (non-fibrated), thinned to satisfactory application consistency of brush or spray with up to 15% with cool, clean water.

(Masonry): Cement plaster or masonry that is porous or dusty should be primed with Flintkote Asphalt Primer or Flintkote C-13-HPC (thinned up to 15% with clean cool water). Allow complete drying of cutback primer.

(Metal): Surface may be primed with either Flintkote C-13-HPC Emulsion or with Flintkote Asphalt Primer Cutback. For wire held insulation, prime over the wire.

Application: (by Trowel) Apply Flintkote C-13-A Emulsion over the primed surface to a wet thickness of not less than 1/8 inch. The coverage at this rate will approximate 8 gallons per 100 sq. ft. The dry thickness will be proportionately less upon evaporation of the liquid present in the product. For a dry coating thickness of 1/8 inch, apply approximately 12 to 14 gallons per 100 sq. ft. Heavier coats over insulation on sloping or vertical surfaces should be applied over wire for a strong mechanical key.

Drying: Asphalt emulsion coatings have a drying time depending on temperature, humidity and the thickness of coating applied. Poorly ventilated areas or interior spaces will take longer and it is desirable to provide a sufficient volume of moving air for drying.

Care of Tools: Use only clean containers. Brushes, trowels and other equipment should be soaked in water before using and immersed in water while not in use. At the end of the work, clean away all dried material by the use of kerosene, white gasoline or other petroleum solvent. Allow to dry and rinse in water before using again for asphalt emulsion coating.

CAUTION:

Flintkote C-13-A Emulsion (fibrated) and C-13-HPC Emulsion (non-fibrated) are water vehicle asphalt emulsions and must be protected from freezing in shipping and storage. Likewise, they should not be applied in freezing weather and must be protected from rain until dry. Water, freezing weather, ice or snow will not affect the dried coating.

Containers: 55 gallons, 30 gallons, 5 gallons.

319678

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 205
ISSUE 61-D

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE C-13-A EMULSION

Fibrated with asbestos, cold-applied coating for thick film protection

GENERAL

Flintkote C-13-A Emulsion is a basic mineral colloid asphalt emulsion fibrated with selected asbestos. It is produced in a suitable consistency for easy trowel application of thick films having high resistance to weather, water, corrosion and abrasion. The dried film, when used as a protective coating for insulation, is permeable to water vapor but does not permit the passage of free water. As with other mineral colloid emulsions produced by Flintkote, C-13-A is made of soft ductile steam refined asphalts yet does not flow at high temperatures. Its resistance to oxidation due to weather is not equalled by other forms of bituminous coatings.

CHARACTERISTICS

Flintkote C-13-A emulsion is used whenever a heavy duty protective coating is required. It permits a greater film thickness than non-fibrated or lightly fibrated coatings. The mineral colloid clay structure, which surrounds the asphalt particles in the dried film, permits an unusual stability to both high and low temperatures. Since this emulsion dries from the "bottom-up", residual moisture cannot be trapped in the film. The dried film is sufficiently permeable to water vapor to be cleansed as a breathing membrane but does not permit the ingress of free water such as rain, splash or spillage.

This coating is applied cold to either dry or slightly damp surfaces. If a priming coat is required for excessively porous or dusty surfaces either Flintkote C-13-HPC Emulsion (non-fibrated) or Flintkote Asphalt Primer (a cutback) should be used. Allow adequate drying of a cutback primer before applying C-13-A Emulsion.

Flintkote cold .sphalt protective coatings are non-hazardous, both for application and in use. The dried coatings will not support combustion. In addition, mineral colloid emulsions contain no solvent, are odor free, non-flammable and non-toxic.

PROPERTIES AND PERFORMANCE CHART

Type	Mineral colloid asphalt Emulsion fibrated with asbestos
Volatile Vehicle	Water
Weight, pounds per gallon at 77°F	8.7/9.0
Consistency	Trowel or heavy brush
Solids content, % by weight minimum	45
Coverage, sq. ft. per gallon of coating per 1/16" dry film	12
Build	1/4" wet films on vertical surface show no slump or sag
Drying Time of 1/8" wet film, 60% R. H., 77°F To touch	8 hours
Film Dry	24 hours
Flash Point	Non-flammable*
Outdoor weathering performance	Excellent
Flow of cured film at 300°F	None
Water vapor permeability at 90°F, perms, 1/16" dry film, initial before weathering	0.5 to 1.0
After 60 days outdoor weathering	0.2 to 0.5
Resistance to oils, greases, solvents	Not resistant
Resistance to dilute acids and to mild alkalies	Excellent
Resistance to abrasion by sand blast	Excellent. On fifty sandblasting passes, 90 psi, film decreases less than 10% in thickness.

NOTICE: The Recommendations for use of Flintkote products are believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

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RECOMMENDED USES

The many unique properties which are characteristic of Flintkote C-13-E suggests it's use in diverse fields as a waterproofing or protective coating where resistance to moisture, weather or mildly corrosive chemical exposures is required. It is widely used, either alone or in combination with fabric reinforcing membranes, as a below-grade waterproofing for foundation walls and footings. It is also successfully used as a protective coating for underground masonry structures such as tunnels and retaining walls and as a corrosion proof coating for buried steel tanks and similar surfaces. The excellent resistance of the dried film to salt water and salt spray accounts for it's long history of use as a general purpose protective coating by the Marine industry. As an industrial protective coating, it's ability to withstand outdoor weathering and exposure to many corrosive fumes and smoke makes it the ideal choice for long lived trouble free applications.

DIRECTIONS FOR APPLICATION

Flintkote C-13-E may be applied by brush or spray. The emulsion is supplied in a consistency which does not require thinning before application. If it is necessary to dilute in order to prepare a priming or wash coat, use only clean cool water and stir thoroughly to eliminate all undispersed emulsion.

Brush applied, as received, Flintkote C-13-E is essentially a spreading operation. The use of soft bristled brushes, like whitewash brushes, is recommended to minimize the variable film thickness due to brush marks. It is particularly important to avoid the use of brushes having occasional stiff or "wild" bristles which cut the wet film and reduce the effectiveness of the coating.

Most manufacturers of spray equipment have units which are recommended for applying Flintkote emulsion coatings but the following suggestions may be used as a guide in selecting equipment: -

Pressure tank - operate at up to 90 psi.

Drum Pump - approximately 8:1 ratio

Material Hose - 3/4" I. D., may be reduce to 1/2" 15-25 feet behind gun for ease of handling.

Air Hose - 1/2" I. D.

Spray Gun - External atomizing with 3/32" nozzle.

PREPARATION OF SURFACES

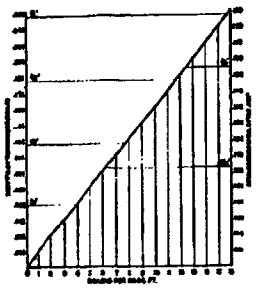
Metal and masonry must be clean and free of all rust, mill scale, dirt, mortar splashes, oil, grease and other foreign matter. Concrete surfaces may preferably be dampened with water or primed with emulsion diluted with approximately 15% of water and thoroughly scrubbed into the surface.

Metal surfaces should be cleaned by sandblasting, scraping, wire brushing or other appropriate methods.

No special primer is required when the coating is only intended to provide weathering resistance. For protection against corrosive exposures a primer applied to the cleaned metal is recommended. Flintkote No. 267 primer applied as received or diluted with up to 10% of mineral spirits, depending on the temperature of application, has been found to be an extremely effective system with a coating of C-13-E. Other primers which have been satisfactorily used are federal specification grade red lead, zinc chromate-alkyd and wash primer. It is particularly important to allow adequate drying, curing and weathering time, when using red lead as a primer, before coating the surface with any asphaltic material.

Rates of Coverage and Methods of Application

The rate of coverage with Flintkote C-13-E will vary with the nature of the application and the severity of the exposure conditions. The following suggestions may be used as a guide in determining the coverage required for a particular application



Waterproofing below grade masonry

A minimum of 3 gallons per 100 sq. ft. is suggested for the least critical applications. For excessively wet conditions, two coats of 2½ gallons per 100 sq. ft. each should be applied with glass fabric reinforcing membrane embedded into each coat, followed by a top coating of neat emulsion at a rate of 2½ gallons per 100 sq. ft. This system has been tested and found resistant to a 10 foot hydrostatic head. Each additional 10 feet of hydrostatic head requires an additional coating of C-13-E at the rate of 2½ gallons per 100 sq. ft. and a layer of glass fabric membrane. With excessively granular backfill, the top coating may be replaced or augmented by an armor coat consisting of a mixture of 1 part cement, 2 parts emulsion and 3 parts sand trowelled over the entire surface. All measurements for the above mix are by volume.

Underground steel

A minimum of two coats of 3-gallons per 100 sq. ft. each is required to eliminate pinholing. For corrosive soils a primer of Flintkote No. 267 should be applied to the clean metal and allowed to dry thoroughly. As protection against film damage by mechanical handling or granular backfill, the film may be reinforced by embedded glass fabric.

Above Ground Protective Coating

Same as underground steel coating.

Drying

Asphalt Emulsion coatings have a drying time which is dependent upon temperature, humidity, air movement and the thickness of coating. It is essential that good drying conditions be observed to completely eliminate the water vehicle for thorough drying of the film. Enclosed or confined areas usually require high volume ventilating fans to provide proper circulation of air for complete removal of water from the applied film. Heaters may be required in conjunction with blowers or fans when the atmosphere is cold or cool and damp.

Care of Tools

Use only clean containers, brushes, spray equipment and other tools should be soaked in water when not being used. Dried material may be removed with kerosene or petroleum naphtha. Rinse in water before using again.

CAUTION - AVOID FREEZING

Asphalt Emulsion must be protected from freezing in shipping and storage. Apply when temperatures are over 45°F. and protect from rain or freezing until completely dry. The dried film is unaffected by extremes of temperature - either heat or cold

Containers

55 gal., 30 gal., 5 gal., and 1 gal *

*6 per case.

COVERAGE AND FILM THICKNESS FOR FLINTKOTE C-13-A APPLICATION

Wet Film Thickness, Inches	Gallons Per 100 Sq. Ft.	Square Feet Per Gallon
1/16	4	25
1/8	8	13
3/16	12	8.5
1/4	16	6.4

RECOMMENDED USES

Performance properties of C-13-A Emulsion films are such that this coating is especially suited for application over thermal insulations when the surface temperature of the vessel, line or tank is above ambient. Then the moisture vapor flow will be outward through the insulation. Blistering and disbonding of the protecting film over the insulation under such conditions can be avoided by the use of C-13-A Emulsion since the film after curing is a breathing type. Liquid water is prevented from entering the insulation by the C-13-A film. The breathing property combined with the unexcelled weatherability and over-all durability of the film results in a long-life, of service and trouble-free installation. Of interest, the permeability of the film decreases with age: a perm value of 0.25 to 0.5 perms is found for a 1/16" dry film after 60 days outdoor weathering, the barrier effect thus becomes improved so that in periods of shutdown moisture vapor movement into the insulation is retarded, but with sufficient breathing property being retained to prevent blistering.

Application of Flintkote Aluminum Paint over a cured film of C-13-A Emulsion reduces the water vapor transmission rating to a value of 0.2 perms, or after weathering to the very low value of 0.05 perms, based again on 1/16" dry film. The vapor transmission measurements were made on films with the paint applications at the rate of 350 sq. ft. per gallon to give a highly reflective finish.

In cold rooms, Flintkote C-13-A Emulsion is ideal for coating and sealing insulation against air and moisture particularly because of its non-toxicity and freedom from odor. In this field, it is common practice for applicators to mix 1 or 2 pounds of clean, fine sand per gallon of the coating to give a harder surface whenever it may be subject to bumping or other abrasive action.

Flintkote C-13-A Emulsion is extremely effective when used as an adhesive for bonding insulation blocks and batts onto masonry structures which require thick films due to base surface irregularities. Generally, the film has sufficient wet strength grab as to eliminate the need for shoring the insulation during the drying period.

APPLICATION

Preparation of Surfaces: All surfaces should be cleaned thoroughly of dirt, oil, grease and loose particles prior to application of the priming coat.

Primer (Insulation Materials) Porous materials should be adequately covered with one coat of Flintkote C-13-HPC Emulsion (non-fibrated), thinned to satisfactory application consistency of brush or spray with up to 15% with cool, clean water.

(Masonry): Cement plaster or masonry that is porous or dusty should be primed with Flintkote Asphalt Primer or Flintkote C-13-HPC (thinned up to 15% with clean cool water). Allow complete drying of cutback primer.

(Metal): Surface may be primed with either Flintkote C-13-HPC Emulsion or with Flintkote Asphalt Primer Cutback. For wire held insulation, prime over the wire.

Application: (by Trowel) Apply Flintkote C-13-A. Emulsion over the primed surface to a wet thickness of not less than 1/8 inch. The coverage at this rate will approximate 8 gallons per 100 sq. ft. The dry thickness will be proportionately less upon evaporation of the liquid present in the product. For a dry coating thickness of 1/8 inch, apply approximately 12 to 14 gallons per 100 sq. ft. Heavier coats over insulation on sloping or vertical surfaces should be applied over wire for a strong mechanical key.

Drying: Asphalt emulsion coatings have a drying time depending on temperature, humidity and the thickness of coating applied. Poorly ventilated areas or interior spaces will take longer and it is desirable to provide a sufficient volume of moving air for drying.

Care of Tools: Use only clean containers. Brushes, trowels and other equipment should be soaked in water before using and immersed in water while not in use. At the end of the work, clean away all dried material by the use of kerosene, white gasoline or other petroleum solvent. Allow to dry and rinse in water before using again for asphalt emulsion coating.

CAUTION:

Flintkote C-13-A Emulsion (fibrated) and C-13-HPC Emulsion (non-fibrated) are water vehicle asphalt emulsions and must be protected from freezing in shipping and storage. Likewise, they should not be applied in freezing weather and must be protected from rain until dry. Water, freezing weather, ice or snow will not affect the dried coating.

Containers: 55 gallons, 30 gallons, 5 gallons.

510678

FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 232
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE ASPHALT PRIMER

General purpose, thin asphalt primer in solvent vehicle – used on all types of surfaces in preparing them for asphalt coatings – applied by brush or spray.

MEETS FEDERAL SPECIFICATION SS-A-701

GENERAL

Flintkote Asphalt Primer is a solution of highly ductile, soft asphalt of about 40 penetration. It is a general priming coat for concrete, gypsum, cinder block, brick and metal surfaces over which built-up roofing, waterproofing, dampproofing or other asphalt coatings are to be applied. The thin solution readily penetrates the pores and seals dusty surfaces of masonry to provide a firm bond for such coatings – hot or cold, cutback or emulsion types. Steel is likewise effectively prepared for asphalt protective coatings by the application of Flintkote Asphalt Primer.

This primer is not intended as a coating or as a finish. For a heavier, harder asphalt primer which is also a coating, Flintkote No. 267, a glossy asphalt enamel, is recommended.

DIRECTIONS FOR APPLICATION

Preparation of Surfaces: All surfaces to be primed with Flintkote Asphalt Primer must be dry and free from oil, grease, rust, scale, loose paint and dirt.

Application: Apply by brush or spray at the rate of 200 to 500 sq. ft. per gallon depending on the nature of the surface.

Care of Tools: Brushes, spray equipment and other tools may be cleaned and dried material removed by the use of Varsol or white gasoline.

Caution: Flintkote Asphalt Primer is inflammable. Do not use near open flame and provide adequate ventilation to protect applicators from solvent fumes. Keep containers covered when not in use.

Containers: 1 gallon, 5 gallons, 40 gallons, 55 gallons.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 238
ISSUE 61-A

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY • 480 CENTRAL AVENUE • EAST RUTHERFORD, N. J.

FLINTKOTE NO. 211

Heavy bodied liquid asphalt in solvent vehicle-Useful as primer, dampproofing coating and utility roof resurfacer.

GENERAL

Flintkote No. 211 has many applications as a general purpose asphaltic primer and coating where a tough elastic film is required. Easily brushed, it dries to a glossy black film which resists the penetration of water and has good resistance to embrittlement at low temperatures.

CHARACTERISTICS

This product is made from fully steam refined asphalts of high ductility in solution with petroleum naphtha. The dried film is smooth, tough and almost rubber like. The durable film bonds tightly to virtually all clean, firm and dry surfaces. It has moderately good resistance to temperature changes and demonstrates excellent outdoor weatherability.

RECOMMENDED USES

The properties of Flintkote No. 211 recommend its use as a heavy bodied primer for porous concrete prior to the application of a protective coating as waterproofing. It is also useful as a primer for wood floors prior to the application of a mastic resurfacing. Without additional coating, it is widely used as a dampproof coating for concrete and masonry surfaces and as a below grade waterproofing where severe water conditions are not present. Its ability to produce a tough weather resistant film also results in its use as an economical roof resurfacer for low cost repair and maintenance of built-up roofings.

DIRECTIONS FOR APPLICATION

Preparation of Surface:

All surfaces to be primed or coated with Flintkote No. 211 must be clean and dry, free from dust, oil and grease.

Application:

Apply by brush at the rate of 100-200 sq. ft. per gallon where used as a primer. Dampproofing, waterproofing and roof coating applications should be made at a coverage of approximately 2½ to 3 gallons per 100 sq. ft.

This product generally should be applied as received but if thinning is required for primer applications or for reasons of low temperature thickening, small additions of Varsol or white gasoline will suffice.

CAUTION

Flintkote No. 211 is flammable and suitable precautions must be taken during application to avoid sparks or open flame and provide adequate ventilation for workmen. Keep containers covered when not in use.

CONTAINERS

1 gallon, 5 gallons, 30 gallons, 55 gallons.

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NOTICE: The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since methods of application are beyond our control, we do not guarantee the results to be obtained.



FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 237
ISSUE 61.8

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE NO. C-19

Vapor barrier coating for protection of insulation and heavy duty corrosion resistant coating for industrial use.

GENERAL

Flintkote No. C-19 is a medium consistency cutback made from a blend of special asphalts and reinforced with a relatively high percentage of asbestos fibers. It is designed to give an extremely tough moisture vapor barrier when applied as a coating over dry, clean surfaces. It is formulated for smooth, fast application by conventional spray equipment (brush and trowel methods may also be used) to provide a protective film many times the thickness of paint.

CHARACTERISTICS

The base asphalts of Flintkote No. C-19 have been selected for ductility and softening point to provide a coating which demonstrates exceptional durability under severe exposure and a tough elasticity to withstand shock and vibration as well as normal expansion and contraction without cracking. It is not subject to brittleness or checking under cold and resists sagging or flow at reasonably high temperatures of 250°F. to 300°F. The dried

TYPICAL PROPERTIES

CODE	C-19
Type	Solvent type asphalt mastic filmated with asbestos.
Volatile vehicle[a]	Mineral Spirits.
Weight, pounds per gallon at 77°F.	8.5.
Consistency	Spray, light trowel, or brush.
Temperature range for application	50° - 120°F.
Solids content, % by wt., average	63.5.
Film appearance	Black mastic type.
Average coverage, sq. ft./gal. of coating for 1/16" dry film	16.
Build	3/32" wet film on vertical surfaces at 85°F does not slump or sag. Practical to spray to 1/8" wet film excepting on hot surfaces.
Average drying time of 3/32" wet film, 60% R. H., 77°F[a]	
To touch	3 hrs.
Firm	24 hrs.
Flash point, Tag Open Cup, °F[a]	100 min.
Outdoor weathering performance	Excellent. Films do not check or crack and remain intact on long exposure.
Flow of cured film at 325°F	None, but films not recommended for continuous exposure above 225°F.
Salt fog resistance, 1/16" dry film complete protection of steel panel, hours, minimum	500.
Cracking or disbonding of 1/16" dry film on steel plate, rapid temperature change from 140°F to -40°F	None.
Water vapor permeability at 90°F, perms, 1/8" dry film	Less than 0.02.
Resistance of cured film:	
To oils, grease, solvents	Not resistant.
To splash and spillage of dilute acids and mild alkalies	Excellent.
To abrasion by sand-blast	Excellent. On 50 sandblasting passes, 90 psi, film decreases less than 10% in thickness.
Estimated Thermal Conductivity of cured film, Btu/sq. ft. - °F-inch	1.8
Flame resistance of cured film, 6" Bunsen flame applied for 5 minutes	Excellent. No film flow or falling of asphalt. Flame duration of film less than one minute after Bunsen flame is removed.

a) Except New Orleans product is prepared with VM&P naphtha and has a minimum flash of 40°F TOC, and a dry time to touch of 1-1/2 hours, and firm of 14 hours.

NOTICE The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

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film of this coating is fire resistant to the degree that it does not support combustion.

Flintkote No. C-19 is classed as a vapor barrier as indicated by the values in the table of typical properties above. Due to the internal reinforcing of the coating by asbestos fibers the dried film is highly resistant to abrasion and physical damage such as is likely to be encountered in industrial applications.

The manufacture of Flintkote No. C-19 is carefully controlled to produce a smooth, homogeneous product, free from lumps. Careful attention is given to providing excellent working properties, capable of application in thick coatings without flowing or slumping when applied to vertical surfaces.

RECOMMENDED USES

Insulation Protection - This coating is especially suited for application over thermal insulations when the surface temperature of the vessel line or tank is below ambient. When these conditions prevail the moisture vapor flow is inward through the protective coating and applied insulation. The use of a vapor barrier coating such as C-19 will prevent moisture condensation in the insulation and corrosion of the metal surface. The resistance of the applied film to mild chemical attack and abrasion offers further protection to the insulation under actual service conditions.

Steel and Masonry Protection - Flintkote No. C-19 is highly recommended for use as an industrial protective coating in corrosive exposures and where abrasion or other physical damage is likely to be encountered. The strong reinforcement of the film by asbestos fibers affords the use of thick, durable coatings which will withstand the attack of many corrosive chemicals and will not sag or slump when exposed to moderately high temperatures.

Where required, the application of Flintkote Asphalt Base Aluminum Paint to Flintkote No. C-19 gives a durable, weather resistant, reflective finish.

APPLICATION

Surface Preparation

Metal - Must be clean and dry, free from oil, grease, rust and other foreign matter. Sandblasting is preferred but when not available, other accepted cleaning methods such as flame cleaning, scaling or wire brushing may be used if accepted by the engineer in charge. Flintkote No. 267 (asphalt cutback) is a recommended primer where temporary protection of cleaned metal is required in corrosive atmospheres.

Masonry - Must be clean and *dry*, free from oil, grease, laitance and other foreign matter. Flintkote Asphalt Primer should be used on dusty or porous surfaces before applying coating.

Insulation - Must be dry and free from dust and dirt. Porous surfaces should be sealed with a thin primer coat of Flintkote Asphalt Primer. When joints or crevices occur in insulation, such as in blocks or boards, these should be caulked or filled smoothly with Flintkote Trowel Mastic prior to applying the coating.

COVERAGE

Rate of application shall be determined by the severity of the anticipated exposure; however, 8 gallons per 100 sq. ft. (1/8" wet film) is generally recommended for most applications. For areas involving impact or other physical damage the use of a glass reinforcing membrane such as Flintkote "Yellow Jacket" may be required. In such cases the membrane must be completely embedded in the coating.

COVERAGE CHART – FLINTKOTE NO. C-19

THICKNESS		COVERAGE	
WET FILM	DRY FILM	GALS. PER 100 S. F.	S. F. PER GAL.
1/32"	.022"	2	50
1/16"	.044"	4	25
3/32"	.065"	6	16.6
1/8"	.087"	8	12.5

EQUIPMENT

Flintkote No. C-19 may be applied directly from the drum without addition of other materials. If low temperatures cause a thickening, the product may be diluted with a small quantity of mineral spirits. Flintkote No. C-19 may be sprayed, using a standard air operated drum pump of a 10 or 12 to 1 ratio. A mastic type spray gun with a 1/4 inch round nozzle of the internal atomizing type is recommended. Air hose shall be 1/2" I. D. and material hose shall be 3/4" I. D. Best spraying consistency is achieved when material temperature is about 70°F.

CARE OF TOOLS

Spray equipment and other tools may be cleaned and dried material removed with petroleum solvents; Mineral spirits, kerosene or white gasoline.

CAUTION

Flintkote No. C-19 is a flammable mixture. Keep container covered when not in use. Do not spray near open flame and allow adequate ventilation to protect applicators from solvent fumes.

CONTAINERS

55 gallons, 5 gallons.

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FLINTKOTE INDUSTRIAL PRODUCTS

NUMBER 238
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD, N. J.

FLINTKOTE SEMI-MASTIC No. 214

A Spray or Brush applied solvent type asphalt coating containing asbestos and mineral stabilizers for steel and masonry.

GENERAL

Flintkote Semi-Mastic No. 214 is similar to Flintkote Trowel Mastic except that it is especially formulated for brush or spray application instead of trowel. It is made from selected asphalts, asbestos fibers, mineral stabilizers and solvents. It adheres to brick, stone, concrete and steel, and retains elasticity to resist vibration, expansion and contraction in the structure. It is not intended, however, to bridge open joints or cracks. It may be used on masonry walls in conjunction with reinforcing membranes to provide a tough, durable coating.

RECOMMENDED USES

Flintkote Semi-Mastic No. 214 is especially recommended for coating structural steel, particularly beams and columns of the frame which are within a few feet of the outer walls. This product serves to protect such steel from rust and corrosion due to leakage through walls or condensed moisture within.

While Flintkote Trowel Mastic is preferred for application to the interior faces of exterior masonry walls above grade to provide a dampness barrier, there are occasions when trowel application is not practicable. In such cases, Flintkote Semi-Mastic No. 214 may be used provided a heavy film thickness is applied, usually in two coats.

Flintkote Semi-Mastic No. 214 is also suitable for coating exterior masonry walls below grade, particularly when used with Flintkote Yellow-Jacket glass fabric in built-up coatings and membrane. The asphalt functions both to adhere the fabric and as a protective coating over it. Care should be exercised in back-filling below-grade applications to prevent puncture of the membrane or coating.

APPLICATION

Preparation of Surfaces:

All steel or masonry must be dry and clean, free from rust, loose paint, dust and other foreign matter. Masonry which is porous can be primed advantageously with Flintkote Asphalt Primer before applying Flintkote Semi-Mastic No. 214.

Coverage:

Application by brush or spray should consist of two coats at the rate of not less than 1½ gallons per 100 sq. ft. per coat.

Care of Tools:

Dried material may be removed with petroleum solvents such as white gasoline or kerosene.

CAUTION:

Flintkote Semi-Mastic No. 214 is flammable; keep away from fire or flame. Suitable precautions must be taken during application to provide adequate ventilation against fumes.

Containers:

1, 5, 55 gallons.

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NOTICE: The Recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 239
ISSUE 61-B

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE EAST RUTHERFORD N. J.

FLINTKOTE TROWEL MASTIC

Trowel consistency solvent type asphalt coating containing asbestos and mineral stabilizers.

Meets Fed. Spec. SS-C-153 Type 1

GENERAL

Flintkote Trowel Mastic is made from selected asphalts, asbestos fibers, mineral stabilizers and petroleum solvents. It is supplied in a smooth, easy working, plastic consistency; adheres to brick, mortar, concrete and steel and remains elastic, expanding and contracting with the surface on which it is applied.

RECOMMENDED USES

This product is especially recommended for trowel application to the interior surfaces of exterior masonry walls above grade and to back up various facing materials used in construction. It serves to provide a barrier to moisture and water vapor which may penetrate the walls. It retards the entrance of water through joints, cracks or porous mortar.

Flintkote Trowel Mastic is likewise recommended for coating exterior masonry walls below grade. Its strength and adhesion serves to retard the entrance of ground water into or through such walls. It is not intended, however, to bridge open joints or settlement cracks.

The installation of spandrel cloth or reinforcing membranes to protect beams, metal sash, skylights, flashings or effecting various roof repairs is facilitated by the use of Flintkote Trowel Mastic as an adhesive under the membrane and for coating over it. The dried film has high resistance to weathering and excellent durability to all stresses and wear to which such coatings will normally be exposed.

Flintkote Trowel Mastic finds many uses in industrial installations for weatherproofing thermal insulations. Its unique cohesive working properties recommends it for coating irregular surfaces such as valves, fittings and caulking joints and cracks prior to final coating of large surfaces. Due to its vapor tight dried film, it has been widely used as a heavy bodied coating on boiler settings to retard the ingress of air.

COVERAGE CHART – FLINTKOTE TROWEL MASTIC

WET FILM THICKNESS	GALS. PER 100 SQ. FT.	SQ. FT. PER GAL.
1/16"	4	25
3/32"	6	16
1/8"	8	12
5/32"	10	10
3/16"	12	8

APPLICATION DIRECTIONS

Preparation of Surfaces - All masonry or steel surfaces must be clean and dry, free from rust, loose paint, dust and other foreign matter. Masonry which is porous can be primed advantageously with Flintkote Asphalt Primer before applying Flintkote Trowel Mastic. Thermal insulation should likewise be primed before final coating.

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NOTE! The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such uses are beyond our control, we do not guarantee the results to be obtained...

Application Rate - Thickness requirements depend on the type of job and expected service conditions but, in general, Flintkote Trowel Mastic should be applied at a rate of approximately 8 gals. per 100 sq. ft. in one or more coatings. The use of a reinforcing membrane such as Flintkote "Yellowjacket" Glass Fabric is recommended where extra film strength is required on applications such as severe waterproofing problems and protecting certain thermal insulation installations. Where trowelling is impracticable, Flintkote Semi-Mastic No. 214 or Flintkote No. C-19 for brush or spray application is recommended (see product data sheet Numbers 236 and 237).

Care of Tools - Dried material may be removed with petroleum solvents such as white gasoline or kerosene.

CAUTION:

Flintkote Trowel Mastic is flammable and suitable precautions must be taken during application to provide adequate ventilation for workmen. Keep containers covered and away from flames.

Containers - 55 gallons, 30 gallons, 5 gallons, 1 gallon.

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 311
ISSUE

PRODUCT DATA.

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

FLINTKOTE SPANDREL CLOTH
Cotton Base and Glass Base

DESCRIPTION

Flintkote Spandrel Cloth is manufactured with either a cotton or glass cloth base, saturated and coated with a highly oxidized elastic bituminous compound and surfaced with a non-blocking mineral talc.

USES

Spandrel Cloth is designed for use in conjunction with Trowel Mastic in the dampproofing of modern structures in such areas as concrete foundations, spandrels, head and sills, columns, cavity walls, joints and seams. The product has excellent flexibility to allow for close fitting against the contours of those areas requiring dampproofing.

PHYSICAL PROPERTIES

	Cotton Base	Glass Base
Wgt. of Fabric (Oz/Sq.Yd.)	4.0	4.0
Thread Count	26x26	32x28
Fin. Prod. Wgt. (Oz./Sq.Yd.)	40	40
Tensile (Lbs./Inch Width)		
With	43	100+
Across	40	100+
Roll Dimensions	36"x72'*	36"x72'*
Roll Weight	60#	60#

*Other widths available on special order.

APPLICATION

Spandrel Cloth shall be cut to the size required for the area to be dampproofed and preferably stored flat in a warm area to assure maximum smoothness and flexibility at the time of application. Spandrel Cloth shall be embedded in a 1/8" layer of Trowel Mastic and top coated with an additional 1/8" coating of Mastic to insure a complete and continuous seal.

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FLINTKOTE
INDUSTRIAL PRODUCTS

NUMBER 313
ISSUE 61-C

PRODUCT DATA

GENERAL OFFICES • THE FLINTKOTE COMPANY, 480 CENTRAL AVENUE, EAST RUTHERFORD, N. J.

YELLOW JACKET
MEETS FED. SPEC. HH-C-466b
20 x 10 mesh

GENERAL

Flintkote Yellow Jacket is a woven glass mesh reinforcing membrane of distinctive color for easier application. It is manufactured to meet the requirements of Federal Specification HH-C-466b.

It is recommended for use wherever internal reinforcement of applied coatings is required such as waterproofing, dampproofing, industrial protective coatings and similar applications.

CHARACTERISTICS AND USES

Flintkote Yellow Jacket is manufactured with a coating of synthetic resin which is compatible with cold-applied coatings of asphalt and coal tar and resins. It's distinctive yellow color is of great assistance to the applicator in making certain that the fabric does not "float" to the top of the coating and that complete coverage is obtained in applications made under conditions of poor lighting. The resin coating is non-tacky even at elevated temperatures assuring no sticking in the rolls - permits easy knife cutting and no travelling.

The strong glass fibers provide the reinforcement needed in waterproofing and protective coatings for bridging cracks caused by structural movement and building vibrations. The woven mesh construction is also of assistance in obtaining greater wet film build for heavy duty applications. Widely used in thermal insulation applications, it is of value in reinforcing weatherproof coating films and in protecting valves, fittings and other irregular surfaces. The presence of glass fabric greatly increases the resistance to impact of applied films.

PROPERTIES

Type:

Woven glass mesh treated with synthetic resin coating.

Color:

Yellow.

Mesh Size:

20 x 10.

Breaking Strength:

M. D. – Warp 75# Min.
C. D. – Filling 75# Min.

Packaging:

Units

1 – 48" x 150' Roll (600 sq. ft.)

1 – 36" x 150' Roll

3 – 12" x 150' Rolls (450 sq. ft.)

6 – 6" x 150' Rolls

12 units per carton.

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NOTICE. The recommendations for use of Flintkote Products are based on tests believed to be reliable. However, since such use is beyond our control, we do not guarantee the results to be obtained.

MISCELLANEOUS DATA
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MISCELLANEOUS DATA
DATA

FLINTKOTE INDUSTRIAL PRODUCTS

PRODUCT DATA SHEET

Series I-AD
Number 1075
ISSUE A-54

FLINTKOTE NO. 717

General purpose rubber and resin solvent cement—red in color—used for bonding a wide variety of light weight materials to metal, wood, masonry, glass, rubber and many plastics. Especially designed to adhere light fabrics, felts and insulation media.

Flintkote No. 717 is a versatile adhesive which is generally lower in cost than many so-called "all purpose" cements. It is rapid drying, self-bonding and is easily applied by spray, brush or roll coater. It stores satisfactorily without deterioration or harm from freezing.

This rubber base cement is fortified with resins to provide relatively flexible bonds having good impact, heat and water resistance.

Flintkote No. 717 is applicable to many manufacturing processes where unlike materials must be bonded firmly and quickly without costly techniques and equipment. It is particularly adaptable to cementing glass fibre insulation and cloth like materials to metal ducts or other impervious surfaces.

Flintkote No. 717 is generally applied by brush. The nature of the surfaces governs the best method of application and rate of coverage, also whether the adhesive is applied to only one or both surfaces.

Exercise caution for flammability and use in well ventilated areas.

CHARACTERISTICS OF FLINTKOTE NO. 717

APPLICATION:	Brush, Surfaces must be clean and dry, free from oil and grease.
APPLICATION TEMPERATURE:	Apply at room temperature if possible. Satisfactory working range from about 45°F and up. Avoid high temperatures because of flammability.
VISCOSITY - DILUTION:	About 500 cps. (Brookfield 77°F) Medium paint consistency. Recommended for use without dilution. If necessary for workability, use small amount of textile spirits or hexane and allow for slower drying rate.
COVERAGE:	Depends on surfaces to be bonded. Usually about 1 gallon is required per 150 to 200 sq. ft. of coated surface.
WORKING PERIOD:	Combine while surfaces are tacky - usually in about 10 to 25 minutes after application.

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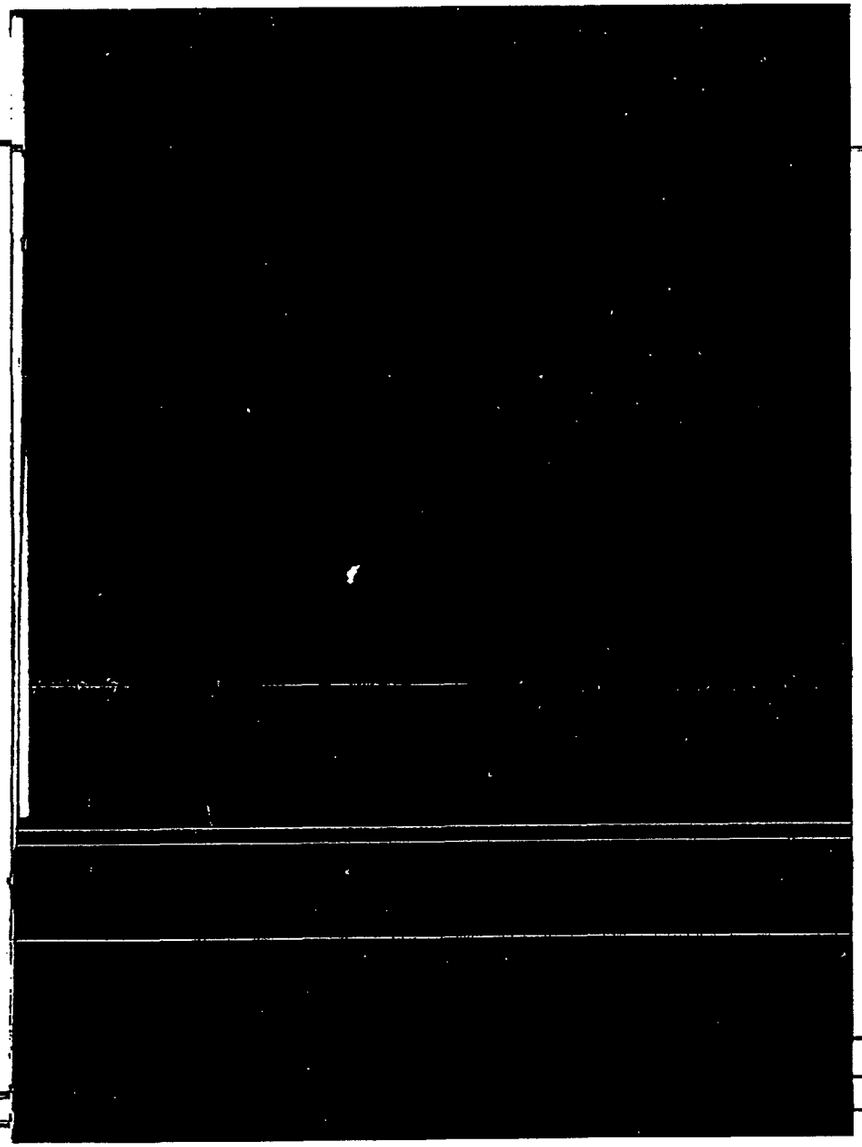

Series I-AD
Number 1075
ISSUE A-54

FLINTKOTE INDUSTRIAL PRODUCTS

PRODUCT DATA SHEET

COLOR DRIED FILM:	Red
SPECIAL INSTRUCTIONS:	Flammable mixture. Do not use near open flame. Store away from heat and provide adequate ventilation during use.
STORAGE STABILITY:	Rotate inventory of adhesive so that product is used as soon as possible after receipt. Stock on "First in - First out" basis. Store in cool place whenever possible. For best results this product is recommended for use within six months.
NET WEIGHT PER GALLON:	Approximately 6.7 pounds
CONTAINERS:	55 gallons, 5 gallons, 1 gallon.

JOHN J. LYDEN

THE FLINTKOTE COMPANY
• SILK-TEX DIVISION
• ATLAS ADHESIVE DIVISION
• INDUSTRIAL PRODUCTS DIVISION

DISTRICT MANAGER
1460 QUALLEY AVENUE
ORLANDO, FLORIDA
PHONE: 3-3018

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NOTICE: THE RECOMMENDATIONS FOR USE OF FLINTKOTE INDUSTRIAL PRODUCTS ARE BASED ON TESTS REPORTED TO BE RELIABLE. HOWEVER, SINCE SUCH USE IS BEYOND OUR CONTROL, WE DO NOT GUARANTEE THE RESULTS TO BE OBTAINED.

THE FLINTKOTE COMPANY, INDUSTRIAL PRODUCTS DIVISION, 30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Series I-AD
Number 1022
ISSUE A-53

FLINTKOTE INDUSTRIAL PRODUCTS

PRODUCT DATA SHEET

CHARACTERISTICS OF FLINTKOTE NO. 70 EMULSION

APPLICATION:	Brush, trowel, spray or dipping.
VISCOSITY:	Heavy paint consistency.
DILUTION:	Recommended for use as supplied, however, if necessary, use small amount of cool, soapy water (containing up to 1/2% soap).
COVERAGE:	Depends on surfaces, usually one to three gallons per 100 sq. ft.
WORKING PERIOD:	Has long open range - combine immediately to 24 hours.
APPLICATION TEMPERATURE:	Between 45°F. and 100°F. However, apply at room temperature wherever possible.
DRIED FILM:	Glossy black.
TEMPERATURE SUSCEPTIBILITY AFTER APPLICATION:	Thick films will flow at high temperatures. Remains flexible at low temperatures.
SPECIAL INSTRUCTIONS:	Protect from freezing in container and until applied film is dry.
NET WEIGHT PER GALLON:	About 8.5 pounds.
CONTAINER SIZES:	1, 5, 55 gallons.

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NOTICE: THE RECOMMENDATIONS FOR USE OF FLINTKOTE INDUSTRIAL PRODUCTS ARE BASED ON TESTS REVIEWED TO BE RELIABLE, SOMETIMES, SINCE THEY ARE BEYOND OUR CONTROL, WE DO NOT GUARANTEE THE RESULTS TO BE OBTAINED.

THE FLINTKOTE COMPANY, INDUSTRIAL PRODUCTS DIVISION, 30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

FLINTKOTE INDUSTRIAL PRODUCTS

PRODUCT DATA SHEET

Series I-C
NUMBER 225
Issue 565-8

Suggested Specifications for . . .

COLD ROOM INSULATION APPLICATION

with Cold-Applied Asphalt Emulsion

Although a variety of insulating materials are used in cold-room construction and low temperature holding rooms—such as cork, foamed products, fibrous boards, blankets and loose pouring fill—they all have one thing in common. Without exception, all of these materials require protection from air infiltration and moisture if they are to achieve maximum efficiency in the insulating application.

Two general methods of sealing insulation and providing a flexible moisture resistant barrier are hot asphalt and cold-applied asphalt emulsions. Both are considered effective; however, there are several disadvantages in handling hot asphalt because of heating hazards and the application limitations of mopping and dipping. Asphalt emulsions on the other hand are easily and economically applied cold by spray, brush or trowel and without fire or burn hazards.

The composition of the special asphalt emulsions which are manufactured by the Flintkote Company, and which are used in adhering, sealing and moisture-proofing insulation materials, encourage their use for lasting protection. Adhesive types provide strong bond to a variety of surfaces; sealers have the highest resistance to moisture, and emulsion protective coatings resist sag, flow, checking and cracking throughout the widest range of temperatures encountered.

For abrasion resistance, Flintkote asphalt emulsions are combined with asbestos fibres and sand and applied in one process. All of these advantages point to faster, more economical installations.

SUGGESTED SPECIFICATIONS

I. *General:*

These recommendations apply only to the use of regular and special asphaltic products, not to the insulation materials themselves, nor to the design employed by the architect or engineer.

II. *Materials:*

1. The priming coat for use over masonry or portland cement plaster backing shall be Flintkote ~~No. 5690 Asphalt Primer~~ or equal, applied by brush or spray at the rate of approximately 100 sq. ft. per gallon, preferably in two coats.

This priming coat which is to vapor seal the masonry or cement leveling plaster and to provide a strong bond for the asphalt emulsion used in adhering and erecting the insulation shall be applied to dry, clean surfaces. It shall be allowed to dry completely before the insulating material is placed.

2. The priming coat over tight wood sheathing or plywood shall be Flintkote No. 267, a coating of high melt point asphalt. This moisture seal may be applied by brush or spray at the rate of approximately 100 sq. ft. per gallon, preferably in two coats, and be allowed to dry completely.

2a. On wood backing, the use of either 15 lb. or 30 lb. asphalt saturated felt is recommended for

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use over the priming coat. The felt shall be lapped at least 3 inches and fastened with caps and roofing nails spaced about 8 inches apart in both directions.

3. The asphalt emulsion for erecting rigid board type insulation shall be Flintkote No. 70 Emulsion applied by brush, spray or dipping. (Note: Flintkote No. C-13-HPC Emulsion which is slower setting may be used for this purpose.)

III. *Erection of Insulation*

1. Masonry should be smooth and even, preferably with a coating of portland cement plaster. No fastening device is used to hold the first layer of insulation to the wall, unless the wall is more than 6 ft. high in which case an approved device may be required. (If furring strips are used, see next section for application over wood.)

1a. Over wood backing, or furring strips, apply board type insulation with cork or insulation type large head, galvanized foundry nail, No. 9 wire, driven securely into the wood, using not less than two nails per sq. ft. on walls and three on ceilings.

2. Apply the first layer of insulation board which has been dipped or coated on the wall side with Flintkote No. 70 Emulsion and fasten tightly as described above. Break joints as in laying brick. Second and subsequent layers are face dipped or coated with the emulsion, positioned with broken joints between courses and layers and fastened with hardwood skewers driven at an angle into the first layer.

IV. *Sealing:*

1. Seal the surface of insulation using Flintkote C-13-HPC Emulsion, paying particular attention to filling surface irregularities and joints. Application may be spray, brush or trowel with a total application of approximately .3 gallons per 100 sq. ft.

V. *Protective Coating:*

1. Over the surface of the cold-applied seal coat which has been allowed to dry, apply Flintkote C-13-A Emulsion by trowel, preferably in two coats to a film thickness of approximately $\frac{1}{8}$ inch.

1a. (For greater abrasion resistance) Apply Flintkote Sanded Premix Emulsion (Cork Finish) over the sealed surface to a total film thickness of 8 to 10 gallons per 100 sq. ft. Superior protection is obtained by the use of 12 to 14 gallons per 100 sq. ft. in two coats to a thickness of $\frac{1}{4}$ inch. (See Data Sheet I-C No. 223.)

2. An alternate protective coating for harder surface and bump resistance, is to staple or otherwise fasten wire mesh over the cork or other board insulation without sealing and apply by trowel a mastic mixture of Flintkote Special Sanded Premix Emulsion to which has been added 15% of portland cement (by volume). In using this mastic, mix only such quantities as will be used within one hour. Gauge with clean, cool water for desired plasticity. The finish coating should be a minimum of $\frac{1}{4}$ inch thick.

3. Setting insulation for floors may preferably call for hot asphalt since it can be subjected to walking traffic almost immediately. Asphalt emulsion such as Flintkote No. 70 Emulsion must be allowed to dry, requiring longer time. Dusting the final seal coat of Flintkote C-13-HPC Emulsion with a light coating of cement will speed drying and reduce tackiness for walking traffic.

In all cases for floors the insulation material must present a durable, strong surface, for which portland cement concrete is recommended of the thickness required by the anticipated loads and traffic. A cold-laid asphalt mastic wearing surface over the concrete is recommended for heavy duty traffic conditions. (See Flintkote Product Data Sheet I-C No. 201 for flooring products.)

VI. *Finishing Walls:*

1. For light reflection or decorative coating over asphalt protective coatings, apply Flintkote Aluminum Paint (especially made with asphalt base for use over asphalt surfaces) by brush or spray, preferably in two coats with coverage of approximately 250 sq. ft. per gallon.

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WHERE THE RECOMMENDATIONS FOR THE USE OF FLINTKOTE INDUSTRIAL PRODUCTS ARE BASED ON TESTS BELIEVED TO BE RELIABLE, HOWEVER, SUCH TESTS ARE IN SECOND HAND CERTAIN. WE DO NOT GUARANTEE THE RESULTS TO BE OBTAINED.

FLINTKOTE INSULATION COATING—TYPE C-19

Solvent type asphaltic mastic—fibrated with asbestos—for coating insulation—provides especially tough, weather and corrosion resistant protection having low moisture vapor transmission. Applied cold, usually by spray.

Insulating materials which are applied on tanks, ducts, pipe, conduits, vessels, boiler walls, stack breechings and the like, all require a protective coating on the outside for efficient and economical operation of the equipment.

Among the coatings designed to resist weather and to minimize air infiltration, heat and cold losses is Flintkote Insulation Coating C-19. This type of coating is a solvent base asphaltic mastic as distinguished from an asphalt emulsion type. It was specially formulated to provide a tighter seal having an exceptionally low moisture vapor transmission and consequently provides efficient protection for insulation with less thickness than that required for many other coatings. Being a cutback type mixture, it is faster drying than emulsions.

Characteristics

Flintkote Insulation Coating C-19 is a blend of special asphalts selected for ductility and plasticized in solvents to a consistency for economical application with conventional drum pump and spray gun equipment which are used for heavy bodied mastics. On horizontal surfaces trowel application may also be used.

This type of coating provides excellent durability under severe exposure and a tough elasticity to withstand shock and vibration as well as normal expansion and contraction without cracking. It is not subject to freezing and resists flow or sagging at reasonably high temperatures of 250° F. or 300° F. The dried film of the coating is fire retardant in that it does not support combustion.

Because Insulation Coating C-19 has a very low moisture vapor transmission rate, it is particularly recommended for sealing off "cold" insulation. "Cold" insulation is used here to identify insulation designed to maintain the thermal level in a given area below the temperature of the surrounding atmosphere. It is known that moisture tends to migrate from warm to cold, eventually condensing on the cold surface. Experience has shown that a sealing material which is relatively impervious to moisture vapor transmission, such as Flintkote C-19, prevents such migration beyond the coating, thereby protecting the insulation and metal surfaces within its limits. The actual moisture vapor transmission for Flintkote Insulation Coating C-19 is 0.25 grams per hundred square inches per twenty-four hours with 0 to 50% relative humidity at 73° F. for a coverage of 150 sq. ft. per gallon and 0.33 at 300 sq. ft. per gallon.

Flintkote Insulation Coating C-19, moreover, is highly suitable for finishing with Flintkote Aluminum Paint (an asphalt base type) when a light reflective surface and an even greater vapor-tight seal is desired.

Recommended Application

Flintkote Insulation Coating - Type C-19 is applied directly from the drum without addition of other materials. It may be sprayed using a standard

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pump such as Alemite Model 7814-A, 11 to 1 ratio, with DeVilbiss MBC-565 spray gun with Type MBC-437 spray head and $\frac{1}{4}$ inch round nozzle (or equivalents). Approximately 8 gallons per 100 sq. ft. of average surface will provide a wet film thickness of $\frac{1}{16}$ inch.

Many types of insulation are supported in place by wire mesh or metal strapping, especially on vertical, underside or sloped surfaces. In such cases, Flintkote Insulation Coating C-19 is applied on the insulation over the wire, completely embedding it.

When joints or crevices occur in the insulation, such as in blocks or boards, these should be caulked or filled smoothly with Flintkote Plastic Cement No. 232 prior to spraying the coating. Where Flintkote Insulation Coating C-19 is applied over insulation cement or other porous material, use of a thin prime coat such as Flintkote Asphalt Primer is recommended to seal the surface and provide good bond for the final protective coating. Flintkote C-19 is also effective as a weather and corrosion resistant protective coating for steel and concrete. It is applied directly on these materials to the film thickness required by the severity of the exposure.

It must be remembered that $\frac{1}{16}$ inch thickness of protective coating when dry is many times thicker than paint, is heavier and must bond tightly to the surface to which it is applied. All prepared surfaces must be clean and dry, free from oil, grease, rust, loose paint or mortar.

Drying: Flintkote Insulation Coating C-19 applied under normal conditions of temperature and humidity will be touch dry in about 6 hours and firm dry within 24 hours. A longer drying time should be allowed before Flintkote Aluminum Paint is applied as a finish, or if weather conditions are adverse to rapid drying.

Care of Tools: Spray equipment and other tools may be cleaned and dried material removed with petroleum solvents such as kerosene or white gasoline.

Caution: Flintkote Insulation Coating C-19 is an inflammable mixture. Keep the container covered when not in use. Do not spray near open flame and allow adequate ventilation to protect applicators from solvent fumes. Best spraying consistency is achieved when material temperature is about 60° F. - 70° F.

Containers: 55 gallons, 5 gallons.

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HYDRALT* PROTECTIVE COATING TYPE C-13-A

Industrial Asphalt Emulsion—mineral colloid type—fibrated with asbestos—light troweling consistency. Provides a resilient, non-flowing, non-cracking protective coating having high resistance to weather, dampness, corrosion and abrasion.

Flintkote Hydralt Protective Coating - Type C-13-A - is a basic asphalt emulsion (clay type) fibrated with selected asbestos to trowel consistency. The steam refined asphalts from which this emulsion is made are chosen for superior resistance to weathering. As with other asphalt emulsions of the mineral colloid type, Flintkote C-13-A—fibrated emulsion does not flow when subjected to the highest temperatures. Nor will this coating crack, check or become brittle at low temperatures or carbonize under long exposure to weather.

Flintkote Hydralt Protective Coating - Type C-13-A—is applied cold to either dry or slightly damp surfaces, preferably over a priming coat of Flintkote Hydralt Protective Coating - Type C-13-HPC (non-fibrated). It is also suitable for application over asphalt cutback primer, such as Flintkote Asphalt Primer. Certain base materials and conditions of application favor one or the other type of primer.

Flintkote Hydralt Protective Coating - Type C-13-A - is used whenever a thicker protective coating is required. It provides a heavier film thickness than non-fibrated coatings.

Flintkote Hydralt Protective Coatings are non-hazardous both to apply and in use. They require no heating and contain no solvents; consequently, are non-inflammable and non-toxic. The dried coatings are fire retardant - will not support combustion. Flintkote Hydralt Protective Coatings will give *better* protection under all forms of weather exposure than other bituminous coatings, such as hot asphalt or solvent cutbacks.



Flintkote Hydralt Protective Coating—Type C-13-A—is applied by trowel. For a light reflecting surface, Flintkote Aluminum Paint may be applied when the coating is thoroughly dry.

Recommended Uses

Thermal Insulation: Flintkote Hydralt Protective Coating - Type C-13-A - is especially suited for sealing both high and low temperature insulation materials against dampness, gas and water vapors. Hot pipe lines, vessels and tanks which are insulated with sectional or monolithic 85% magnesia, asbestos or other fibrous blankets or boards, etc. are effectively weatherproofed with a coating of Flintkote C-13-A fibrated emulsion.

In cold rooms where Flintkote Hydralt Protective Coatings are the ideal materials to use because of their non-toxicity and freedom from odor, walls and ceilings are effectively sealed prior to the application of cork insulation. If such surfaces are uneven the coating serves also as a leveling course. Flintkote Hydralt Protective Coating - Type C-13-A - is likewise used over the cork to seal out air and moisture and provide the desired resistance to abrasion. In this field it is common practice for ap-

*T. M. Reg. U. S. Pat. Off.

plicators to mix 1 to 2 pounds of clean, fine sand per gallon of the emulsion to give a harder surface when base materials might be subject to bumping or other abrasive action.

The efficiency of practically all insulation materials depends upon adequate protection from moisture, puncture and breakage. All of these requirements are met by the use of Flintkote Hydralt Protective Coating -- Type C-13-A.

Masonry Walls: Trowel application of Flintkote Hydralt Protective Coating Type C-13-A provides greater protection and a heavier, more abrasion-resistant coating than liquid brush or spray applied coatings on masonry walls. Foundations and basement walls often require this added protection against backfilling. Masonry boiler walls are sealed against the ingress of air and against weather on outdoor installations with this type of coating. Disintegration of this material at high temperatures of the boiler setting is minimized by the unique, non-flowing and slow carbonizing characteristics of this emulsion at high temperature exposures.

Metal Surfaces: Flintkote Hydralt Protective Coating Type C-13-A is applied over primed metal where it is desirable to have a heavy protective coating thickness.

Wood Surfaces: Occasionally it is advantageous to apply a protective coating over wood in which case the wood should be sealed thoroughly beforehand. For this purpose Flintkote No. 267 is recommended as the primer.

Condensed Directions for Application

Preparation of Surfaces: Surfaces shall be cleaned thoroughly of rust, dirt, oil, grease, loose mortar and be free from dust, prior to application of priming coat.

Priming: (Insulation Materials) Soft, porous insulation materials shall be primed and thoroughly covered with one coat of Flintkote Hydralt Protective Coating Type C-13-HPC (non-fibrated). This emulsion may be brushed or sprayed, diluted with about 5% by volume of cool, clean water if necessary to facilitate application.

(Masonry) One application of Flintkote C-13-HPC non-fibrated emulsion is a satisfactory primer for most masonry surfaces. However if the masonry or cement plaster surface is extremely porous or dusting, one coat of Flintkote Asphalt Primer (a thin penetrating cutback) should be used to seal the surface.

(Metal) Metal surfaces may be primed similarly with Flintkote C-13-HPC Emulsion or with Flintkote Asphalt Primer.

Application: After stirring thoroughly contents of the container, apply Flintkote Hydralt Protective Coating Type C-13-A by trowel to the primed surface to a wet thickness of not less than $\frac{1}{8}$ inch. The coverage at this rate will be approximately 8 gallons per 100 sq. ft. The dry thickness will be proportionately less upon evaporation of the liquid present in the product. For a dry coating-- thickness of $\frac{1}{8}$ inch, apply approximately 12 to 14 gallons per 100 sq. ft. For heavier coats over tloping, vertical or inverted surfaces, the use of chicken wire or expanded metal lath should be considered as a wrapping for the insulation to provide a strong mechanical key for the coating. In case wire is used, the primer is applied over the base and wire.

Drying: Asphalt emulsion coatings have a drying time depending on temperature, humidity and the thickness of the coat applied. Unventilated inside areas will take longer, and it is often found desirable to provide fans as an aid to drying. No fire hazard is encountered in using non-inflammable emulsions.

Care of Tools: Use only clean containers. Brushes, trowels, etc., should be soaked in water before using and immersed in a pail of water when not being used. Occasional rinsing will also prevent gumming of the material on tools and equipment. At the end of the work, clean away all dried material by the use of kerosene, white gasoline or other petroleum solvent. Allow to dry and rinse in water before using again for emulsion.

Caution: Flintkote Hydralt Protective Coating - Type C-13-A (fibrated) and type C-13-HPC (non-fibrated) are asphalt emulsions and must be protected from freezing. Likewise, they should not be applied in freezing weather or in rain. Water, freezing weather, ice or snow will not affect the coating after it has dried.

Containers 55 gallons, 30 gallons, 5 gallons.

*HYDRALT is the brand name for Flintkote Industrial Asphalt Emulsion Coatings of the stable, non-flowing, non-staining, mineral colloid type.

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THERMALKOTE*

(Protective Coating for Insulation)

Ready to use, non-flammable asphalt emulsion — heavily fibrated with asbestos. Applied by trowel over insulation — provides excellent resistance to water, weather and industrial fumes.

*Reg. U.S. Pat. Off.

The use of insulation on tanks, vessels and conduits results not only in fuel and power savings, but also in better products by permitting more accurate temperature control. However, unless the insulating material is completely sheathed by a protective coating its full efficiency is not realized.

Flintkote *Thermalkote* is such a protective coating, specifically designed to provide protection for all types of thermal insulation. The base material is an emulsion of highly ductile asphalts. It is heavily fibrated with asbestos to a mastic like consistency for trowel application.

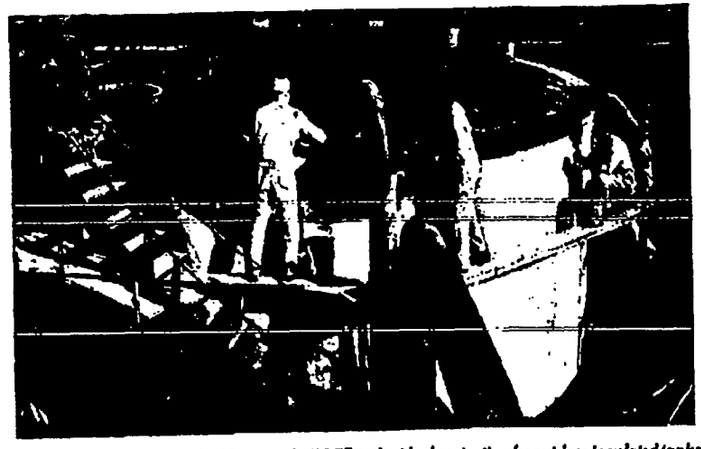
Thermalkote provides excellent durability under extreme weather conditions; will not sag or flow at high temperatures or develop cracks at low temperatures. Its elasticity and toughness resists the stresses of expansion and contraction as well as vibration in the base or structure.

Another outstanding characteristic of *Thermalkote* is the fact that it is non-flammable, being a water base emulsion. As an applied coating it will not support combustion if exposed to flame, and its high asbestos content makes it further resistant to fire.

Recommended Uses

Flintkote *Thermalkote* has proved to give long time and effective protection to thermal insulation installed outdoors. It has been a standard recommendation of insulation manufacturers to weatherproof outdoor applications as well as seal the insulation from infiltration by moisture and fumes. Large tanks, vessels, conduits and other heated equipment all require protection when insulated.

Thermalkote is applied as it comes from the container. Coverage can be estimated at 60 to 70 sq. ft. per 100 lbs. or about 16 gallons per 100 sq. ft. in $\frac{1}{8}$ inch wet film thickness. This will provide a coating when dry of approximately $\frac{1}{16}$ inch thickness which is the minimum that should be used. Severe exposure requires additional coats.



A heavy film of trowel-applied THERMALKOTE is the ideal protection for outdoor insulated tanks.

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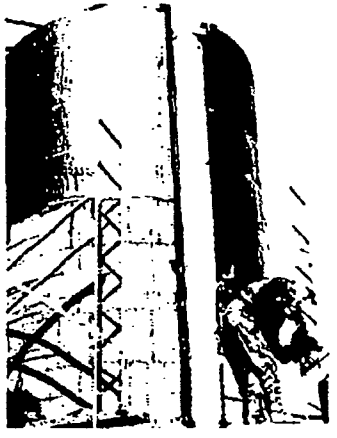

On this insulated tank THERMALKOTE is being applied over wire mesh for durable protection against weather.

Application

Some special types of insulation are furnished with wire mesh affixed, over which insulation cement or protective coating is applied. It is more common practice, however, for the insulation to be installed with a wrapping of wire mesh to hold it firmly in place. This wire further serves to prevent flaking of the insulation material and also to anchor the coating applied. It is essential in all cases that the insulating material be held tightly so that vibration, expansion or contraction will not crack it or rupture the protecting cement or coating.

Where block insulation is used, the surface is usually finished with a type of insulation cement as dictated by the temperature requirement. This material seals the joints between blocks, fills spaces where the use of blocks is impractical and provides a smooth surface Flintkote *Thermalkote* is applied directly over this surface to protect it from exposure.

Prior to the application of *Thermalkote* it has been found desirable in most cases to prime the entire surface of the insulation and over the wire if any. This practice gives a more uniform bonding of the protective coating. The product recommended for priming is liquid Flintkote *Hydralt** Emulsion Type C-13-HPC, applied at the rate of 1½ gallons per 100 sq. ft. If thinning is necessary for application on porous surfaces, add a small quantity of cool, clean water (up to 15%) and stir to a creamy consistency. For best results, *Thermalkote* is applied by trowel while the priming coat is still tacky.

The finished surface of *Thermalkote* may be troweled as smoothly as desired, resulting in a dull, black finish. Sometimes a seal coat of non-fibrated emulsion (Flintkote *Hydralt* C-13-HPC or N-13-HPC Emulsion) is applied over the *Thermalkote* to obtain a tight film and a uniform black color. A highly decorative surface finish is achieved by applying Flintkote Aluminum Paint after the *Thermalkote* is thoroughly dry. This latter treatment gives both heat and light reflection which serves to reduce losses from within and sun ray absorption from the outside. Other finishes are also used but care must be taken that they are suitable for application over asphaltic materials.

Drying: Asphalt emulsion coatings depend on temperature, humidity and the thickness of coating to establish the drying time. Do not apply *Thermalkote* when it is raining. Protect it from water-splash from any source until dry. If it is to receive a paint coat it must be completely and thoroughly dry. A lapse of two or three weeks between application of the coating and painting is recommended.

Care of Tools: Brushes, trowels and other tools used for application of *Thermalkote* or asphalt emulsion prime and seal coats should be immersed in water when not in use. Dry material can be removed with petroleum solvent such as white gasoline.

Caution: Flintkote *Thermalkote* should not be exposed to temperatures below freezing either in storage or during application. Best application and drying will result when temperature is well above 40 degrees F. If work is carried on during extremely cold weather, ask for information about "Winter Grade" *Thermalkote*.

Containers: Primer (Flintkote *Hydralt* Emulsion Type C-13-HPC): 55 gallons, 30 gallons and 5 gallons. Flintkote *Thermalkote* 50 lb., 300 lb. and 500 lb. drums. *Thermalkote* weighs about 9 to 9.5 lbs. per gal., net.

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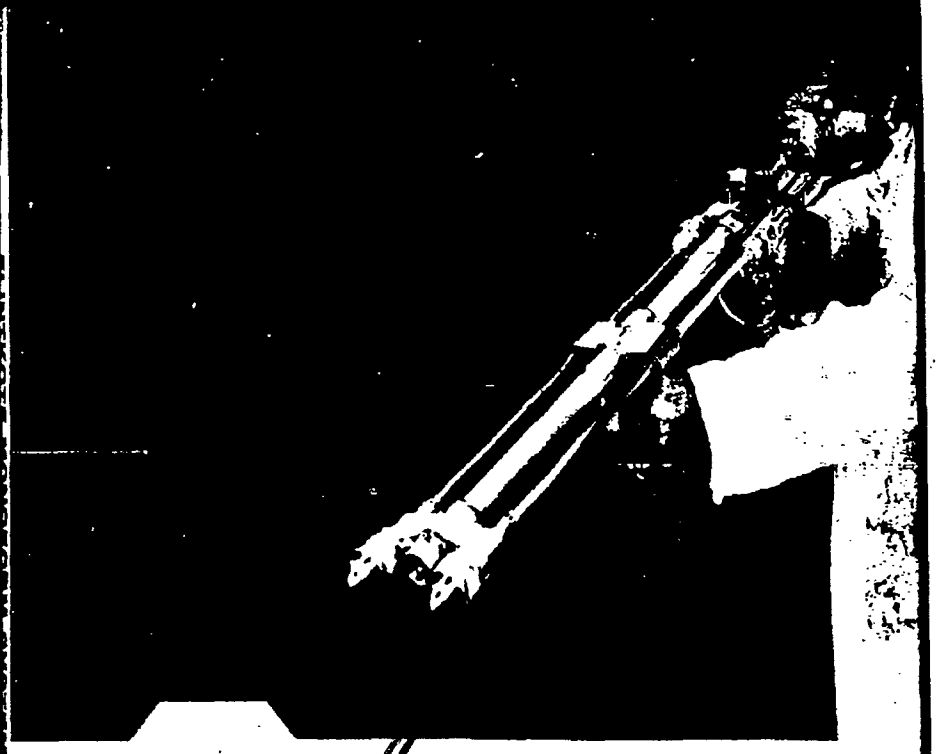
THE FLINTKOTE COMPANY, INDUSTRIAL PRODUCTS DIVISION, 30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.



FLINTKOTE monoform SYSTEM

employing the versatile SEALZIT gun

AUTHORIZED OPERATING MANUAL