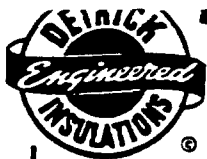


TECHNICAL DATA SHEET INDEX

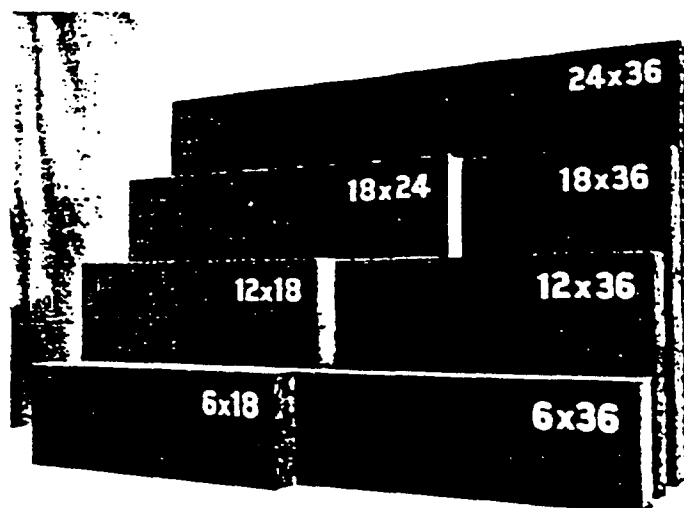


10	GENERAL	14	FIREPROOFING
10.0	General	14.0	General
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10.2	Plant	14.12	Application Details
10.3	Laboratory	15	RESERVED
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12	INSULATING CEMENTS	17.1	Asbestos Ropes
12.0	General	17.34	Blankets - General
12.1	711 Insulating Cement	17.5	Felts
12.2	WHITE	17.7	Loose & Granulated Wools
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12.6	Bonding Cement	18.0	General
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13.0	General	18.3	Duriseal
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June 15, 1959

GRIPTEX BLOCK INSULATION

Griptex is a major development in insulation offering a unique combination of characteristics. Special mineral fibers combined with high temperature bonding materials, provide practical advantages. The embossed hard finish surface provides superior handling strength and stronger adhesion of cement finishes. The combination of flexibility and high strength make impaling over welded pins easy, without pre-drilling. The neutral PH of Griptex Block assures against corrosive action. This particularly is important when used in conjunction with aluminum jacketing.



Hydraulic setting cements and castable refractories may be applied directly to Griptex Block without premature loss of mixing water needed for proper hydration.

EFFICIENT

The felted fiber core of Griptex Block offers the maximum buffering action against heat penetration up to 1900°F. The thermal conductivity at 200°F. means temperature is .37 BTU; at 600°F. it is .49 BTU.

APPLICATION METHODS

Griptex may be simply impaled over standard welded pins and secured with speed clips or may be secured in place with metal bands. A sharp knife is the only tool needed to fabricate Griptex to fit irregular shaped equipment. Simply press over bolt heads and projections without additional cutting. Outdoor applications should be weatherproofed.

RECOMMENDED USESBOILERS

Drums
Headers
Walls
Economizers
Air Preheaters

FURNACES

Heating
Heat Treating
Forging
Annealing
Normalizing

OVENS, KILNS & DRYERS
FIREPROOFING
TANKS & VESSELS

TURBINES & PUMPS
FAN HOUSING
DUCTS & BREECHINGS

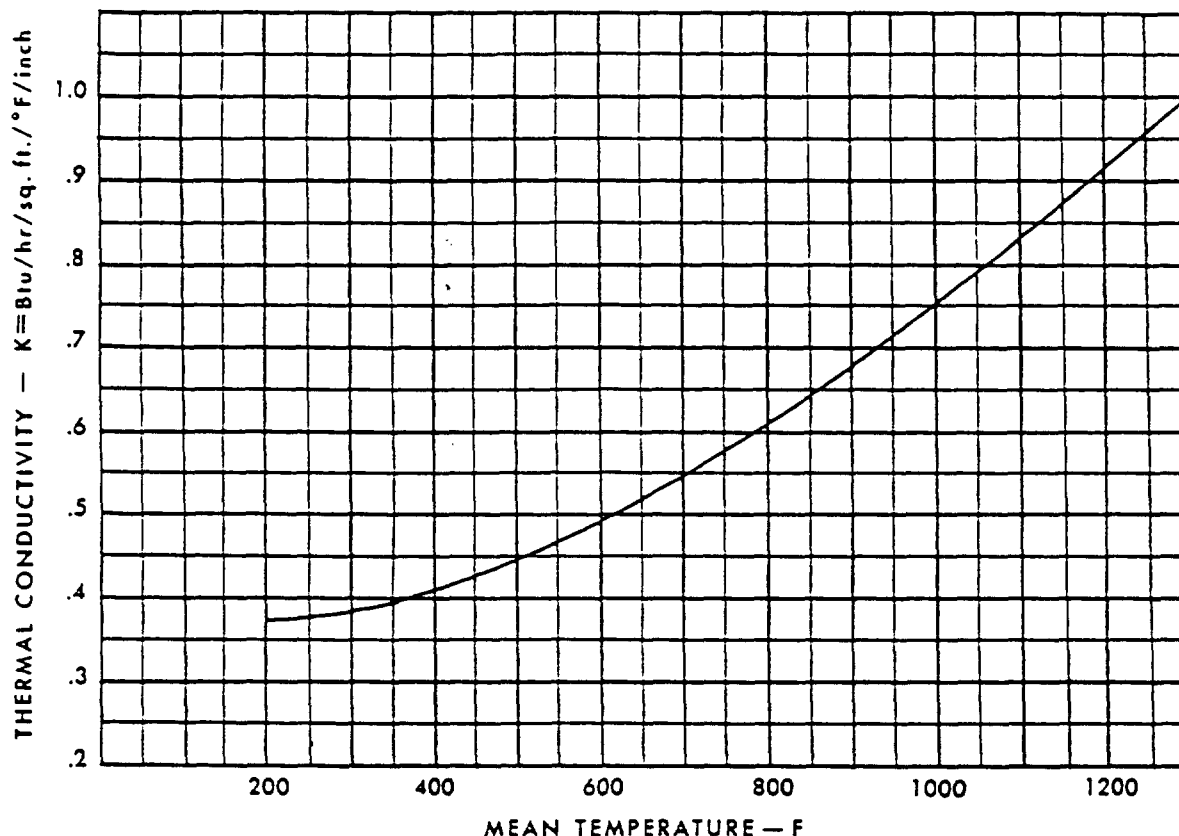
SPECIFICATION REFERENCES

High temperature mineral fiber block insulation shall be Detrick GRIPTEX complying with the performance requirements of ASTM C-392, Class 2; Federal Specification HH-1-564 and/or Commercial Standard CS-117 of the U. S. Department of Commerce.

Use Limit
 Sintering Temperature
 Thermal Conductivity
 Compressive Strength
 Breaking Strength (10" Span)
 Shrinkage at 1900 F (Lineal)
 Density
 Stability
 Resistance to Moisture
 Resistance to Corrosion
 Handling Characteristics

Up to 1900 F
 2100 F
 See Accompanying Graph
 18 psi
 30 lb/inch thick
 1.88%
 1.8 lbs./bd. ft.
 Inert - durable
 Water-repellent
 Non-corrosive
 Excellent

THERMAL CONDUCTIVITY — DETRICK GRIPTEX BLOCK



Tear Tape Carton

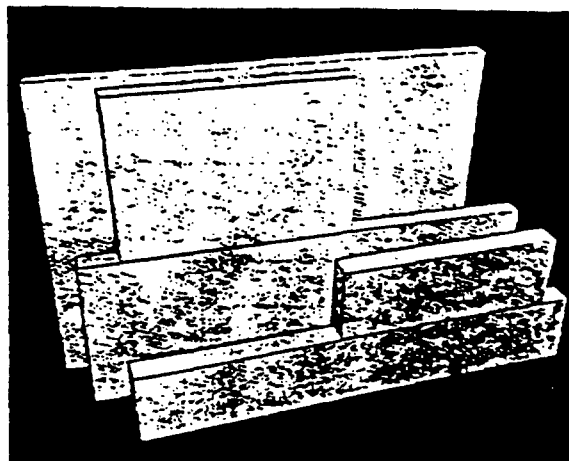
Griptex block is packaged in the new ... easy open
 ... tear tape carton. This easy open carton simply
 zips in half, forming two convenient containers ...
 less waste ... less damage ... less lost time.



* A Detrick trade name

**TEMPLITE BLOCK - TYPE 600**

Templite is a light density spun mineral fiber block insulation designed for use temperatures up to 600 F. Templite is essentially non-hygroscopic due to the nature of its siliceous fiber structure and the waterproofing characteristics of the binders used. Tested in accordance with the provisions of the Maritime Commission test method 32-MC-1 and the requirements of CS-131, Section III, Templite is classed as corrosion resistant. The alkalinity of Templite closely approximates that of so-called glass fibers and had no deleterious effect on aluminum foil when tested by a major aluminum producer. Templite will neither rot nor mildew.

**EFFICIENT**

The super fine, tough, springy fiber structure of Templite Block Insulation offers maximum buffering action against heat penetration throughout the full recommended temperature range to 600 F. See Thermal Conductivity Graph on back of page.

APPLICATION METHODS

Templite may be simply impaled over standard welded pins and secured with speed clips or may be secured in place with metal bands or girdled with #16 ga. soft annealed iron wire. Poultry mesh or expanded lath properly applied is required to support cement finishes when specified. A sharp knife is the only tool needed to fabricate Templite to fit irregular shaped equipment. Simply press over bolt heads and projections without additional cutting. A suitable vapor seal is essential for complete protection when Templite is used on cold operating equipment. Outdoor applications should be weatherproofed.

PRACTICAL USES

Templite block may be used to insulate:

Scotch Marine Boilers
Industrial Ovens
Low Temperature Furnaces
Rotary Dryers
Ducts and Breechings
Hot Water Generators

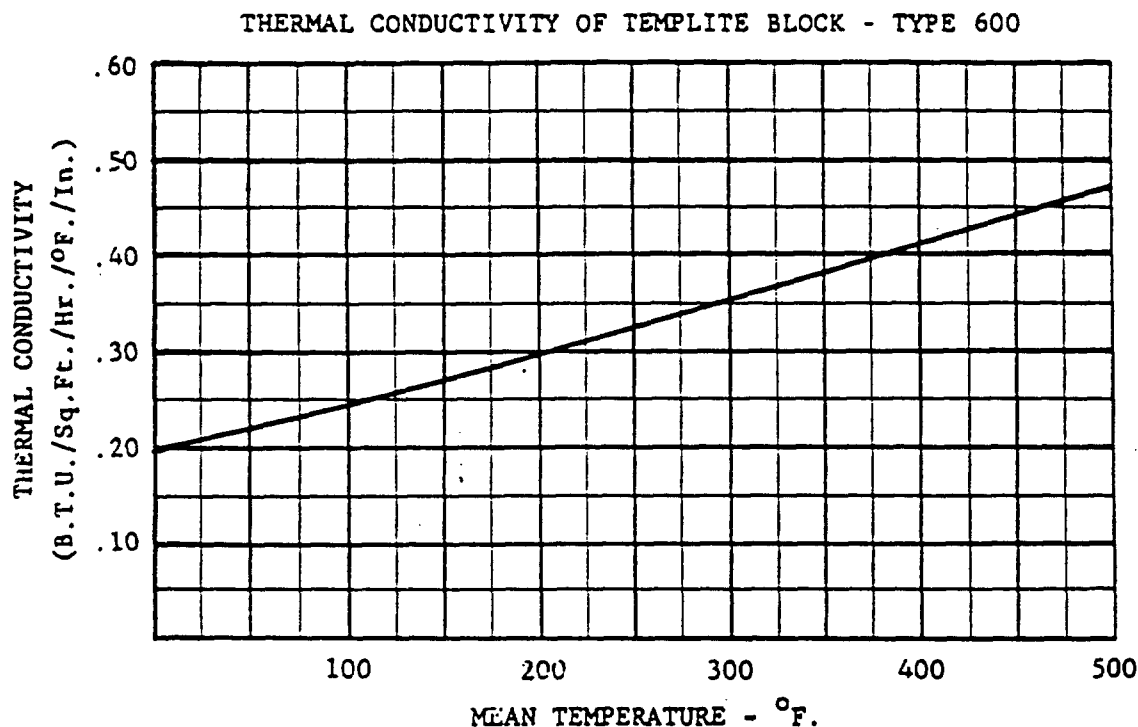
Package Boilers
Evaporator Kilns
Condensers
Fan Housings
Heat Exchangers
Feed Water Heaters

SPECIFICATION REFERENCES

Templite Type 600 block insulation conforms to ASTM Spec. C-392-57-T, Class I; Federal Spec. HH-I-564 Type 2, Class B and Commercial Standard CS-117-49 Class A.

Service Temperature
 Sintering Temperature
 Shrinkage at 600 F (Lineal)
 Density
 Stability
 Resistance to Moisture
 Resistance to Corrosion
 Handling Characteristics

Up to 600 F
 1400 F
 None
 8 lbs./cu. ft.
 Durable
 Water-repellent
 Non-corrosive
 Excellent



TEMPLITE BLOCK INSULATION - Packaging Data

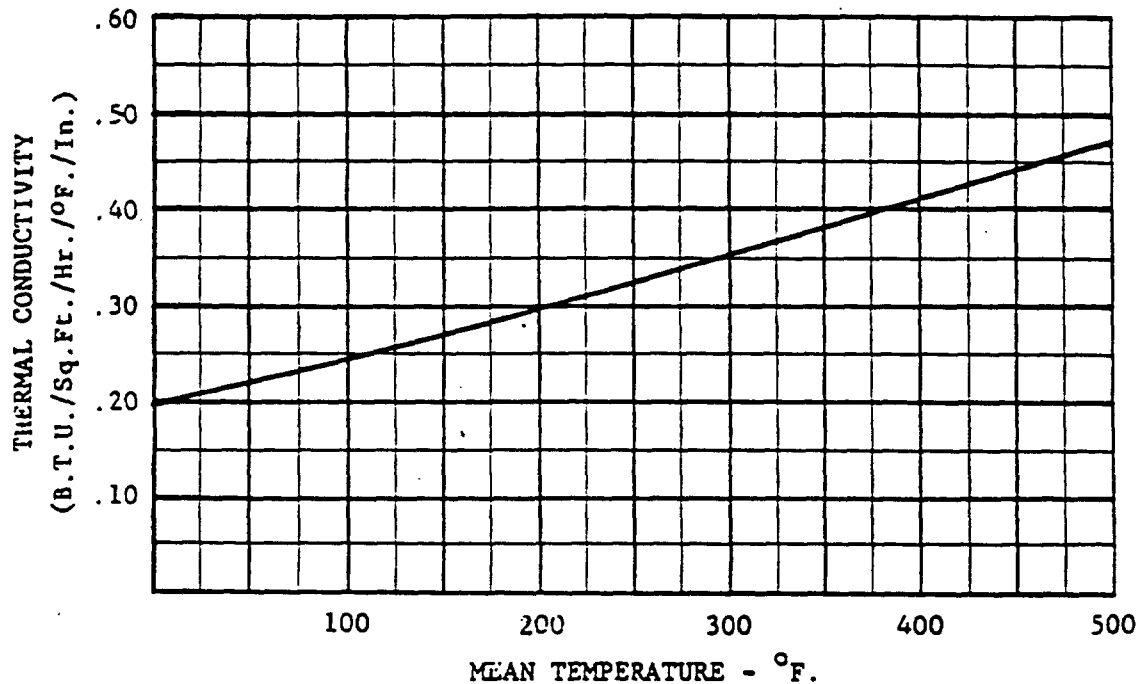
STANDARD SIZES		STANDARD THICKNESSES			
		1"	1-1/2"	2"	2-1/2"
6" x 18"	Pieces/Ctn.	96	64	48	40
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
6" x 36"	Pieces/Ctn.	48	32	24	20
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
12" x 18"	Pieces/Ctn.	48	32	24	20
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
12" x 36"	Pieces/Ctn.	24	16	12	10
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
18" x 24"	Pieces/Ctn.	24	16	12	10
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
24" x 36"	Pieces/Ctn.	12	8	6	5
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75

Packaged in tear-tape carton. Weight per carton 50 lbs. average.

Service Temperature
Sintering Temperature
Shrinkage at 600 F (Lineal)
Density
Stability
Resistance to Moisture
Resistance to Corrosion
Handling Characteristics

Up to 600 F
1400 F
None
8 lbs./cu. ft.
Durable
Water-repellent
Non-corrosive
Excellent

THERMAL CONDUCTIVITY OF TEMPLITE BLOCK - TYPE 600



TEMPLITE BLOCK INSULATION - Packaging Data

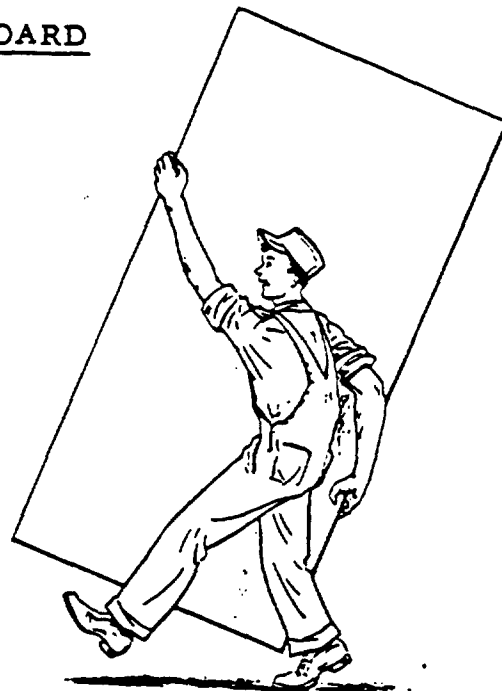
STANDARD SIZES		STANDARD THICKNESSES			
		1"	1-1/2"	2"	2-1/2"
6" x 18"	Pieces/Ctn.	96	64	48	40
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
6" x 36"	Pieces/Ctn.	48	32	24	20
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
12" x 18"	Pieces/Ctn.	48	32	24	20
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
12" x 36"	Pieces/Ctn.	24	16	12	10
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
18" x 24"	Pieces/Ctn.	24	16	12	10
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75
24" x 36"	Pieces/Ctn.	12	8	6	5
	Sq. ft./Ctn.	72	48	36	30
	Bd. ft./Ctn.	72	72	72	75

Packaged in tear-tape carton. Weight per carton 50 lbs. average.

**DETROC* ASBESTOS BOARD**

Detroc is a durable, noncombustible board insulation having good thermal value and a high structural strength/weight ratio. Made of long amosite asbestos fibers and siliceous binders combined under pressure by an autoclave process. Can be nailed or sawed easily.

An inorganic, fireproof, structural insulation; high acid resistance; immune to attack by vermin and termites; completely stable; unaffected structurally or dimensionally by repeated wetting and drying. Does not shatter under thermal shock, even when sprayed or wetted with water or chemicals while subjected to heat. Withstands operating temperatures up to 1000 F. Fusion temperature 2100 F.

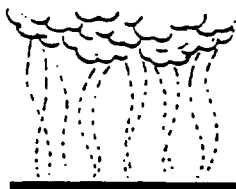
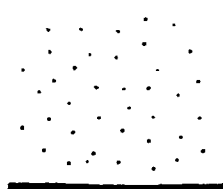
**EASY TO HANDLE AND INSTALL**

The large 4 foot x 8 foot sheets of Detroc permit the application of 32 sq. ft. in one piece, or the sheets can be cut readily to smaller sizes or specific shapes. Detroc 1/4" thick board weighs 14 ounces per sq. ft., i. e., 28 lbs./standard size sheet. The 1/2" thickness weighing approximately 56 lbs. per sheet, also is light enough to be handled and placed readily.

USES

The properties of Detroc Asbestos Board permit its application

- . As a finish over insulation on refinery equipment, tanks, breechings, & boilers.
- . Wherever a high structural strength insulation is needed.
- . For insulation of ovens, driers, other heater equipment.
- . As a fireproof surfacing material in ducts, shafts.
- . In certain electrical requirements.
- . For usage adjacent to acids, caustics, fumes, steam.
- . As a safety shield in metal melting processes.
- . Excellent as a structural material for fireproof enclosures, walls, doors, etc.

DETROC RESISTS ATTACK BY:**STEAM****FUNGUS****ACID****FIRE**

* Tradename of M. H. Detrick Company

ENGINEERED INSULATIONS FOR EVERY HEAT ENCLOSURE

November 1, 1958

COMPOSITION

The two main ingredients in Detroc board are amosite asbestos fiber and a specially selected grade of silica. The very great strength and high resistance to acids of amosite asbestos fibers help to make Detroc particularly durable. The ingredients used in the manufacture of Detroc are inorganic and chemically inert. Mold and fungus have nothing to feed on.

STABILITY

Detroc is actually cured under high pressure steam and is therefore unaffected structurally by steam or dampness. The moisture expansion of Detroc is practically nil. Although highly porous, Detroc can be wetted and dried in repeated cycles without losing structural stability. Detroc, however, may be deliberately but gently bent to some extent while in a wet condition. For example, to follow a curved surface. If contained in such a position during the drying period, Detroc will conform to the position in which it was set.

CHEMICAL RESISTANCE

Detroc possesses extremely high resistance to acids and alkalies and is unaffected by brine or chlorine. It can be used with confidence as a duct cladding for the extraction of fumes from concentrated acids and alkalies. (Prolonged immersion in strong acids is not recommended.) If the fumes contain a very high humidity content there may be a danger of acid concentrate being built up by evaporation. Under these conditions the board should be painted with chlorinated rubber paint.

FIRE RESISTANCE

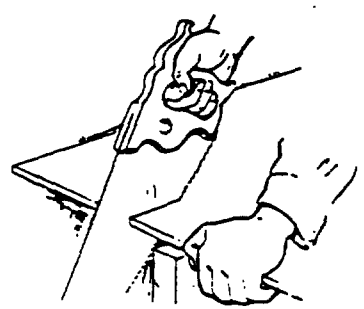
Detroc is completely incombustible and will not crack or shatter even when subjected to thermal shock, including spraying or wetting with water or chemicals while hot. Detroc has a fusion temperature of 2100 F and an 0 classification for smoke and flame spread. (ASTM-E-84) Some shrinkage will occur at temperatures above 1000 F under continuous heat conditions and therefore this temperature is recommended as the use limit. Detroc is excellent for certain electrical requirements.

PRINCIPAL ADVANTAGES OF DETROC

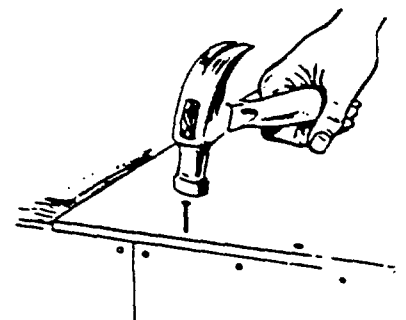
Unlike normal asbestos boards which are bound with cement, Detroc is formed by a chemical bond that takes place in a high-pressure steam oven. Detroc does not suffer, therefore, from the brittleness and extreme alkalinity normally associated with cement bonded asbestos boards. This manufacturing process together with the inorganic nature of the ingredients create these special properties:

- . 100% incombustible
- . Will not shatter in heat
- . Absolutely durable
- . Excellent thermal insulation value
- . Lightweight
- . High strength/weight ratio
- . Withstands continual steaming
- . Unaffected structurally by moisture
- . Will not swell, twist or warp
- . Will not rot
- . Immune to attack by termites
- . Will not promote mould growth
- . High chemical resistance
- . Nailed and sawed without difficulty

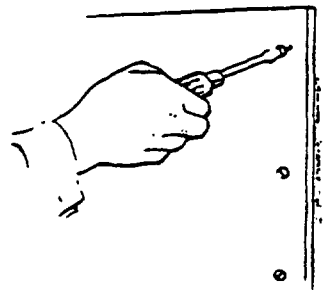
EXCELLENT WORKABILITY



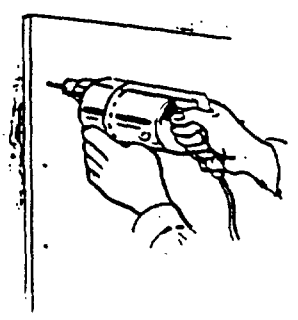
SAWING - Use fine tooth saw blade or abrasive wheel for smooth edges. Rough cuts are made by scoring and breaking over a straight edge.



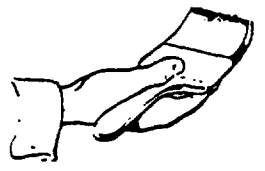
NAILING - Use barbed shank nails as close as 1/4" to 1/2" from edge.



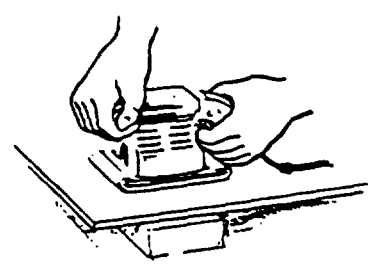
SCREWING - Pre-drilling is not required. Self-tapping screws, deep-grooved, give greatest holding power.



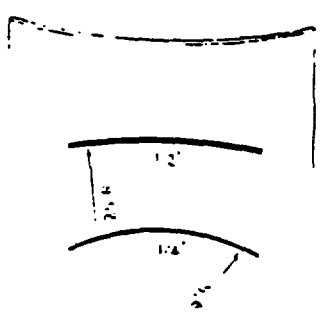
DRILLING - Provide firm support at back of board. For best results, drill through scrap pieces placed front and back of hole.



PAINTING - Detroc is easily finished; however because the board is highly porous it is advisable to apply a pigmented sealer.



SANDING - One surface of Detroc is even, the other side has a pebbled finish that can be sanded smooth with conventional equipment.



BENDING - Detroc Board usually is installed in a flat plane. However exceptional strength properties permit Detroc to be applied to gently curved contours, depending on the thickness and length. For example, an 8 foot length of 1/2" thick board can be curved carefully to the arc of a 25 foot or larger diameter circle, without excessive breakage. Detroc 1/4" thick can be curved to the arc of circles as small as 9 feet diameter.

**DETROC ASBESTOS BOARD****FINISHES**

The oyster-white color of Detroc Board presents a pleasing, light appearance suitable for most interior installations. For outdoor usage, or in applications where a water-repellent surface of different color is desired, Detroc may be painted. An initial priming coat is used to seal the porous surface of the board followed by a compatible undercoat and finish coat.

Silicone-base waterproofing coatings may be brushed or sprayed on the exterior surface to provide a water-repellent finish.

For vapor-seal finishes, paint having a high varnish content can be applied over the primer seal coat. Other vapor sealing paints and coatings are offered for this service. Before applying vapor-seal finishes, the Detroc Board and any supplementary materials beneath it, should be thoroughly dried.

PACKAGING

Detroc Board is packaged in standard crates or frames containing 4 foot x 8 foot sheets having a gross shipping weight of approximately 325 lbs. Boards 1/4" thick are packed 10 pieces to the frame; 1/2" thick boards are packed 5 pieces per frame.

PHYSICAL DATA

Use Limit	1000 F
Fusion Temperature	2100 F
Density (lb./cu. ft.)	44
Modulus of Rupture (With Grain)	1350 psi
" " " (Across Grain)	2000 psi
Tensile Strength (With Grain)	900 psi
" " (Across Grain)	650 psi
Young's Modulus (With Grain)	4.5×10^5
" " (Across Grain)	3×10^5
Flexural Strength (6" wide on 10" span)	2900 psi (1/4" thick)
" " (" " " " " ")	2650 psi (1/2" thick)
Cold Crushing Strength (Avg.)	1100 psi (1/4" thick)
" " " "	1375 psi (1/2" thick)
Thermal Conductivity	.85 Btu
Alkalinity	0.2%
Smoke and Flame Spread (ASTM E-84)	0 Classification
Physical Stability	Shock Resistant
Chemical Stability	Extremely Inert
Dielectric Strength	11,500 to 18,000 Volts
Electrical Resistivity	5 to 10 megohms/cu. in.

STORAGE

Detroc Boards should be stored flat, on a level base. When stored outdoors, elevate above ground moisture and protect from weather to keep dry.



TECHNICAL DATA

INSULATION DIVISION

CLASS 12.1

PAGE 1

DATE November 1, 1963

DETRICK SUPER 711 INSULATING CEMENT Trowel or Gun Grade

Detrick SUPER 711 Insulating Cement is a mixture of high temperature mineral fibers specially processed into resilient wool nodules, combined with asbestos and suitable binders to form a high temperature plastic insulation. Water added according to directions gives a trowelable consistency that is ready for application on equipment to be operated at temperatures up to 1800 F.

WIDE USAGE

SUPER 711 is a versatile material for many types of insulation requirements. Applied over block or blanket insulations, it fills open joints and provides a monolithic surface for whatever type of subsequent finish is specified. Its plastic flexibility permits application directly to regular or curved surfaces -- such as valves, fittings, tanks and vessels.

EASY TO APPLY

SUPER 711 has excellent adhesive qualities. Its increased stickability means a better job in less time, from wet to dry. Will not slip or roll under trowel application and may be easily gun applied. This superior workability is a result of fine mineral nodules, Detrick manufacturing methods and quality control.

MAXIMUM COVERAGE - LOW SHRINKAGE

SUPER 711 Insulating Cement assures maximum coverage and low shrinkage. The resilient nodules of mineral fiber do not collapse when mixed with water. See table of Physical Properties for coverage.

RECOMMENDED USES

BOILERS

Drums
Headers
Walls
Economizers
Air Preheaters

OVENS, KILNS & DRYERS
VALVES & FITTINGS
TANKS & VESSELS

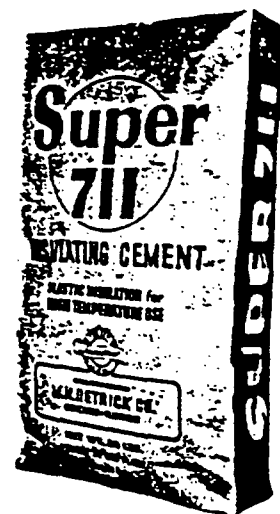
FURNACES

Heating
Heat Treating
Forging
Annealing
Normalizing

TURBINES & PUMPS
FAN HOUSINGS
DUCTS & BREECHINGS

SPECIFICATION REFERENCES

SUPER 711 Mineral Fiber Insulating Cement conforms to ASTM C-195-48; Federal Specification HH-C-168 (Class C); and/or Commercial Standard CS-117 of the U.S. Department of Commerce.



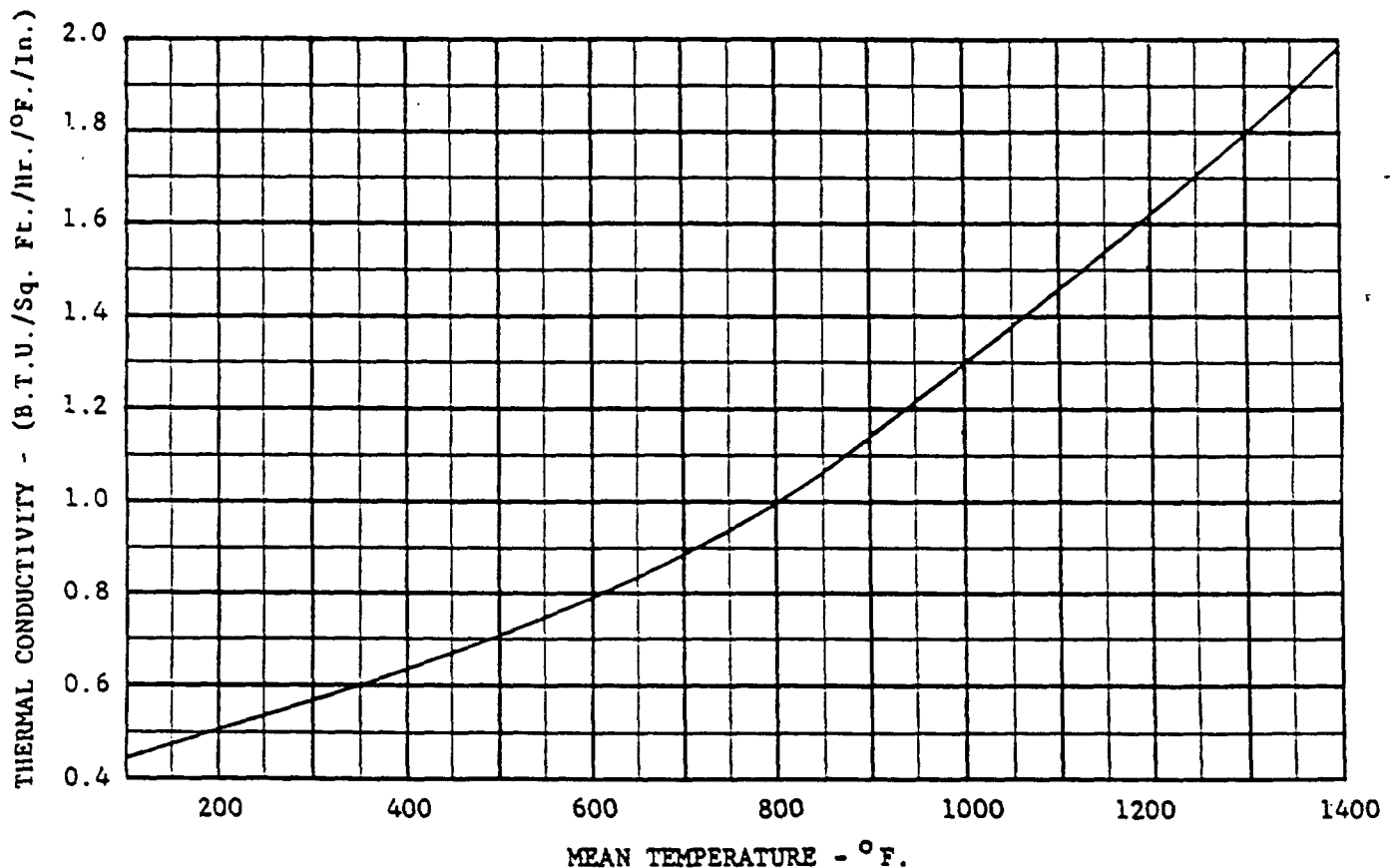
◆◆◆ Designed with the application in mind ◆◆◆

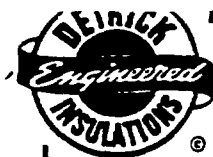
PHYSICAL PROPERTIES OF SUPER 711 INSULATING CEMENT

Service Temperature	1800 F.
Water Ratio	12 gals. per 50 lb. bag
Dry Coverage	50 sq. ft. 1" thick per 100 lbs.
Material Requirements	2 lbs. per sq. ft. 1" thick
Compressive Strength	45 psi
Density (Applied and Dried)	24 lbs. per cubic foot
Shrinkage (Wet to Dry, by Volume)	15%
Thermal Conductivity	See Chart
Reclaimable to	1000 F.
Adhesion to Steel (Wet)	6 psi
Adhesion to Steel (Dry)	9 psi
Corrosion Resistance to Steel	Non-corrosive
Shipping Containers (Sewn Closure)	50 lb. paper bags

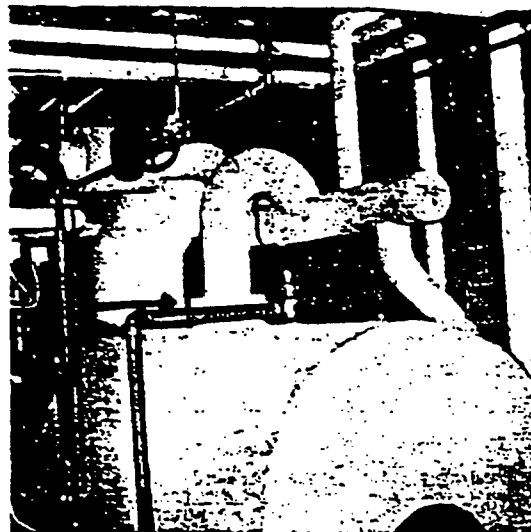
Tabulated values represent typical performance levels of SUPER 711 Insulating Cement - Trowel Grade. SUPER 711 "Gun" Grade Cement consists of the same basic materials that smaller mineral wool nodules are utilized to facilitate application.

THERMAL CONDUCTIVITY OF DETRICK SUPER 711 INSULATING CEMENT



DETRICK HILITE INSULATING & FINISHING CEMENT

Detrick Hilite Insulating & Finishing Cement is composed of fine nodule high temperature mineral fiber, hydraulic binders, and other suitable ingredients. The result is a quick setting, smooth finish, thermal resistant and flexible one coat insulating and finishing cement. Hilite successfully combines the excellent low shrinkage, smooth finish and wet strength features of a one coat type insulating finish cement, and the flexibility, high temperature resistance and thermal qualities of mineral fiber insulating cements. Hilite is designed for use at temperatures up to 1600 F.

QUICK SETTING

Hilite Insulating & Finishing Cement develops a smooth, durable, protective finish within a few hours after application and without the presence of heat. Subsequent drying produces no excessive surface cracking or shrinkage in thickness, and occasional wetting does no damage after hydraulic set. Long drying periods under normal conditions are eliminated. Saves time in applying weatherproofing, paint, or other finishes. Jobs are easier to schedule; scaffolding costs are reduced.

ONE COAT APPLICATION

Hilite is normally applied in a single layer application. A second layer is needed only when multiple layer thicknesses are specified. Hilite is virtually an all purpose insulating and finishing cement, designed primarily for use over Detrick Griptex block or blanket insulations. Hilite is especially suited for application over calcium silicate or 85% magnesia insulation products. The high water absorption of these products causes ordinary one coat cements to lose the water necessary for hydration. Hilite effectively resists this tendency. Hilite is widely used for insulating valves, fittings, heated equipment, pumps, etc.

Hilite trowels with a good key on Detrick Block insulation, blanket insulation and insulating cement. It has good wet adhesion to clean steel surfaces, such as valves and fittings.

PLEASING APPEARANCE

Hilite dries to a smooth, light reflectant surface which as an interior finish, requires no further treatment. Hilite, however, is easily painted if desired. Outdoor applications should be weather protected. Low temperature applications require a vapor seal type finish.

EXCELLENT THERMAL QUALITIES

Hilite has a "K" factor of .78 at 600 F Mean Temperature. This excellent insulating value is a very desirable advantage when figuring job and operating costs.

PHYSICAL PROPERTIES

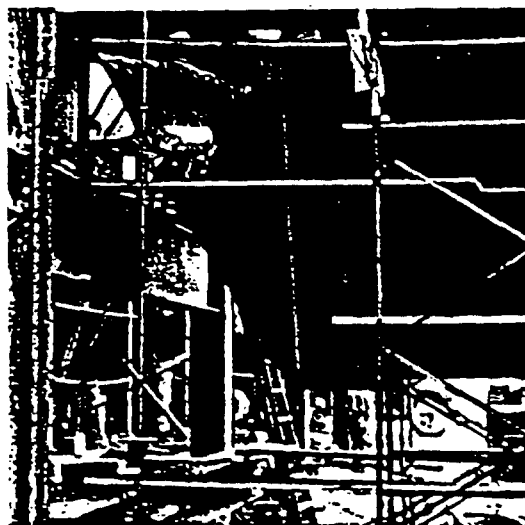
Service Temperature	1600 F
Water Ratio (Trowel Application)	11 gals. per 50 lb. bag.
Dry Coverage (Trowel Application)	43 sq. ft. 1/2" thick per 50 lb. bag.
Setting Time	2 to 4 hrs. dependent on atmospheric conditions.
Material Requirements	1.1 lbs. per sq. ft. 1/2" thick.
Compressive Strength (5% deformation)	41 psi
Density (Applied and Dried)	27 lbs. per cu. ft.
Shrinkage (Wet to Dry)	Less than 2%
Adhesion to Steel	Good
"K" Factor at 600 F Mean Temperature	.78
Corrosion Resistance to Steel	Non-corrosive
Surface Treatment	Easily painted or weatherproofed when required.
Water Resistance	Withstands repeated wettings.
Shipping Container	50 lb. paper bag.

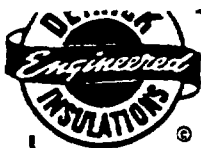
MIXING

Hilite Insulating & Finishing Cement should be mixed in a clean mortar box or mixer using approximately 11 gals. per 50 lb. bag for a good troweling consistency over blocks and blankets. Because of the hydraulic binder, Hilite should not be mixed with water more than two hours in advance of its application. With cold mixing water (below 60 F) it remains workable up to four hours.

STORAGE

Store in a cool, dry location until ready to use.



DETRICK UTILITY THERMAL FINISH CEMENT

Detrick Utility Thermal Finish Cement is composed of high quality Detrick mineral fiber, hydraulic binders, and other suitable materials. Utility combines the flexibility, high temperature resistance, and excellent insulating qualities of uniformly nodulated mineral fiber with the strength, low shrinkage, and smooth finish of hydraulic setting cement. The result is a quick setting, smooth finish, thermal resistant, single layer insulating finish cement. For temperatures up to 1200 F.

QUICK-SETTING

Utility Insulating Finish Cement develops a smooth, durable, protective finish within a few hours after application and without the presence of heat. Subsequent drying produces no excessive surface cracking or shrinkage in thickness, and occasional wetting does no damage after hydraulic set. Long drying periods under normal conditions are eliminated. Saves time in applying weatherproofing, paint, or other finishes. Jobs are easier to schedule; scaffolding costs are reduced.

ONE COAT APPLICATION

Utility is normally applied in a single layer application. A second layer is needed only when multiple layer thicknesses are specified. Utility is virtually an all-purpose insulating finish cement, designed primarily for use over Detrick Griptex block or blanket insulations. Utility is widely used for insulating valves, fittings, heated equipment, and as an anti-sweat insulation for cold water tanks, pumps, etc.

Utility trowels with a good key on Detrick block insulation, blanket insulation and insulating cement. It has good wet adhesion to clean steel surfaces, such as valves and fittings.

PLEASING APPEARANCE

Utility dries to a smooth, light reflectant surface which as an interior finish, requires no further treatment. Utility, however, is easily painted if desired. Outdoor applications should be weather protected. Low temperature applications require a vapor seal type finish.

EXCELLENT THERMAL QUALITIES

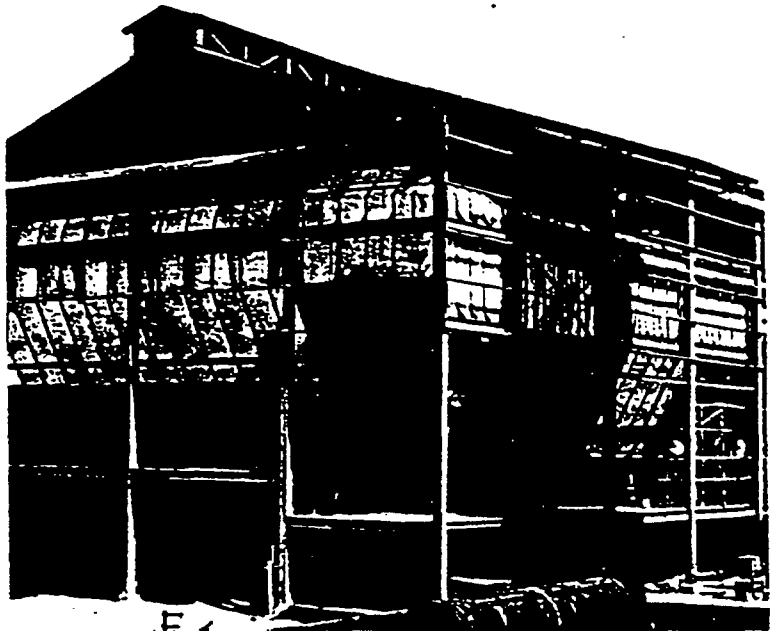
Utility has a "K" factor of .79 at 600 F mean temperature. This excellent insulating value as compared to other finish cements is a very desirable advantage when figuring job and operating costs.

PHYSICAL PROPERTIES

Service Temperature	1200 F.
Water Ratio (Trowel Application)	7 gals. per 50 lb. bag.
Dry Coverage (Trowel Application)	37 sq. ft. 1/2" thick per 50 lb. bag.
Setting Time	2 to 4 hrs. average conditions.
Material Requirements (Trowel Application)	1.3 lbs. per sq. ft. 1/2" thick.
Compressive Strength (Air Cured)	135 psi
Compressive Strength (@ 1200 F)	105 psi
Abrasion Factor (Air Cured)	98 seconds (MHD Method 102)
Density (Applied and Dried)	35 lbs. per cubic foot.
Shrinkage (Wet to Dry)	Negligible
"K" Factor at 600 F Mean Temperature	.79 Btu.
Corrosion Resistance to Steel	Non-corrosive
Surface Treatment	Easily painted or weatherproofed when required.
Shipping Container (Valve Closure)	50 lb. paper bag.

MIXING

Utility Thermal Finish Cement should be mixed in a clean mortar box or mixer, using approximately 7 gallons of water per 50 lb. bag for a good troweling consistency over most blocks, blankets, or insulating cements. Because of the hydraulic binder, Utility should not be mixed with water more than two hours in advance of its application. With cold mixing water (below 60 F), it remains workable up to 4 hrs.



STORAGE

Store in a cool, dry location until ready to use.

Utility Gunned on Balloon Flue

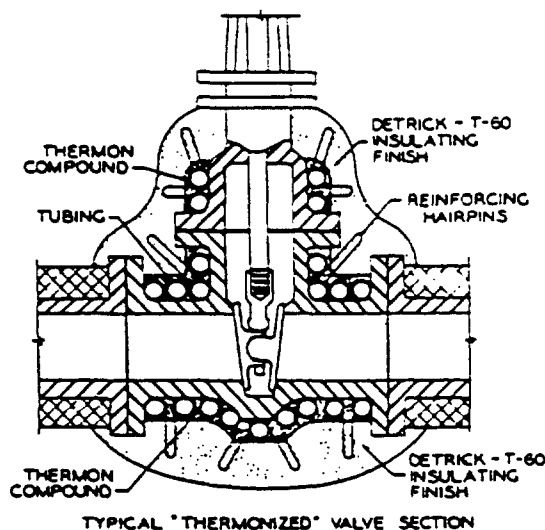
DETRICK T-60 INSULATING FINISH

Detrick T-60 is a hydraulic setting insulating finish cement designed specifically for use on valves, pumps, fittings, and equipment treated with Thermon* high heat transfer plastic compound. It is mixed with water, then applied 1" to 1-1/2" thick. T-60 Finish improves the thermal efficiency of the system and affords protection for indoor or outdoor service.

As shown in the illustration, Thermon Plastic Compound is first applied over steam tracer lines or thermal electric systems as specified by The Thermon Manufacturing Company. This application of high conductivity Thermon Plastic provides an accelerated heat transfer rate from the tracer lines to the body of the valve or fitting. After the Thermon Plastic has set, T-60 is troweled over the valve or fitting. This further distributes the heat transfer and provides a durable finish.

APPLICATION

After the Thermon Plastic Compound is applied but before it has set, wire hairpins are inserted in the compound to provide anchorage for Detrick T-60 Insulating Finish. The hairpins are of soft wire, #18 or #20 gauge, approximately 1" long, with extended legs. Depending on the size and shape of the valve or fitting being treated, the hairpins are inserted on approximately 2" centers, setting them about 1/4" deep in the Thermon Plastic Compound.



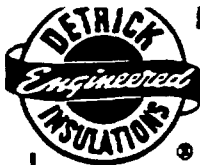
Detrick T-60 Insulating Finish is applied directly to the surface after the Thermon Plastic has set, troweling it carefully into the hairpin reinforcement. Application of T-60 Insulating Finish should be in a single layer, 1" to 1-1/2" thick as specified, mixing no more in advance than will be applied within two hours after water is added.

PHYSICAL PROPERTIES

Water Ratio	4-1/2 gals. per 50 lb. bag
Dry Coverage	25 sq. ft. 1" thick per 100 lbs.
Material Requirements	4 lbs. per sq. ft. 1" thick
Density (Applied and Dried)	51 lbs. per cu. ft.
Shrinkage (Wet to Dry, By Volume)	Less than 2%
Compressive Strength (Air Cured)	125 psi
Thermal Conductivity (k) @ 1000 F.	1.47 Btu
Mean Temperature	
Surface Treatment (when required)	Easily painted or weatherproofed
Shipping Container (Sewn Closure)	50 lb. paper bag

STORAGE

Store in a cool, dry location until ready to use.



DETRICK BONDING CEMENT

Detrick Bonding Cement is made from a mineral wool base, blended with asbestos fiber and other selected ingredients. Processed in dry fibrous form, it is intended for use principally as an adhesive, for application on heated equipment. Detrick Bonding Cement has excellent adhesive properties when mixed with water to troweling consistency.

USES

Bonding Cement is used to temporarily stick block insulation on the surface of ducts, breechings, brickwork and other heated equipment - until permanent fastenings are attached. After applying bonding cement in a thin layer over one face of the block, the blocks are pressed firmly against the surface to be insulated. Detrick Bonding Cement works well with all block compositions used in heated applications, i. e., Detrick Griptex Block, Magnesia, diatomaceous earth, etc.

Detrick Bonding Cement also is an excellent material to seal perimeter joints between adjacent blocks. Buttered along the block edges with a trowel, it increases the effectiveness of insulation at the joints.

Detrick Bonding Cement can be used to fill voids which occur at reinforcing members and around openings or cutouts. It may be applied also on the outer surface of blocks (1/4" to 1/2" thick) to provide a strong base for exterior waterproof coatings.

MIXING

For a troweling consistency, Detrick Bonding Cement should be mixed with clean water at the rate of 7 gallons per 50 lb. bag. More or less water may be required, depending on the absorptive characteristics of the block insulation used and the type of surface being insulated.

STORAGE

Detrick Bonding Cement is packaged dry, in 50 lb. paper bags. No cans to open. . . won't dry out or freeze. Ready to mix with water as needed.

USE LIMIT

1800° F.

COVERAGE

As an adhesive for flat surfaces, 125 sq. ft. - 1/8" thick, per 50 lb. bag.

Bonding Cement needed for joints per 100 sq. ft. of block area*

Block Thickness	6" x 18" Size	12" x 36" Size
1"	10 lbs.	5 lbs.
1-1/2"	14 lbs.	7 lbs.
2"	18 lbs.	9 lbs.
2-1/2"	22 lbs.	11 lbs.
3"	26 lbs.	13 lbs.
3-1/2"	32 lbs.	16 lbs.
4"	36 lbs.	18 lbs.

*Computed for one vertical joint and one bed joint per block, approximately 1/8" thick.

DETRICK EASY SEAL INSULATING CEMENT

Detrick Easy Seal is a vermiculite base cement specially processed with other ingredients producing a "plastic" insulation ideally suited for use to reduce air infiltration through brickwork, or as an excellent expansion and joint sealer for refractories or block insulations up to 1800 F. Easy Seal is reclaimable to 1000 F because it contains no hydraulic setting binders.

EASY TO APPLY

Detrick Easy Seal is simply mixed to the proper consistency with water, suitable for either gun or trowel applications. May also be used as a dry fill material.

MAXIMUM COVERAGE - Low Shrinkage - Light Weight

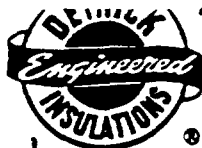
Detrick Easy Seal is packaged 40#/bag, or 30 bd. ft. per bag applied and dried. The low applied and dried density of 17#/cu. ft. makes Easy Seal an ideal insulating cement where "load" factors demand a light weight "plastic" cement.

FINE PARTICLE SIZE - EXCELLENT "K" Factor

Detrick Easy Seal should not be confused with coarse vermiculite cements containing vermiculite "House" fill aggregates. Maximum particle size of vermiculite aggregate in Detrick Easy Seal is all through #4 sieve. The extremely low "K" factor of .7 at 1000 F is superior to other types of insulating cements.

PHYSICAL PROPERTIES (Trowel Application)

Temperature Limit	1800 F.
Water Ratio	12-13 gals. per 40 lb. bag
Dry Coverage	30 bd. ft. per 40 lb. bag
Material Requirement	1.3 lbs. per sq. ft. 1" thick
Density (Applied and Dried)	17 lbs. per cu. ft.
Shrinkage (Wet to Dry, By Volume)	15%
Compressive Strength	35 psi
"K" Factor at 500 F Mean Temperature	.53 Btu
Shipping Container (Sewn Closure)	40 lb. paper bag



DETRICK CASING CEMENT

Detrick Casing Cement is a hard exterior finish originally developed for certain Detrick Sectionally Supported furnace enclosures. Casing Cement comes in dry form ready to be mixed with water at the job site. Hydraulic setting, it is usually troweled in place in the panels formed by supporting structural steel members. May be used in place of steel casings in many applications. Sets up to provide a neat protective covering for insulation, effectively sealing the enclosure.

STRONG - AIR-TIGHT

Since the main purpose of casings often is to provide a more air-tight enclosure, a monolithic application of Detrick Casing Cement is very effective. It is troweled into position 1/2" to 1" thick, keyed in place by perimeter supporting members or otherwise secured to the insulation previously applied. Casing Cement remains tight against the insulation and leaves no room for air movement through or behind the casing. Should an interior leak occur, it is easy to locate and repair. Casing Cement properly applied prevents blind leaks from short circuiting gases to another part of the furnace enclosure.

APPEARANCE

After Casing Cement is troweled in place and has attained its hydraulic set, it may be left just as it dries to present a pleasing, smooth appearance. When desired, it may be painted in harmony with the steel panel structure around it.

INDOOR AND OUTDOOR USE

Detrick Casing Cement withstands repeated freezing-and-thawing cycles conducted per ASTM C-290 and C-291, without deteriorating. For this reason, it has been used as the exterior finish on many wall designs of oil refinery heaters, boilers, stress relieving furnaces, etc., exposed to a wide variety of outdoor weathering conditions.

PHYSICAL PROPERTIES (Trowel Application)

Temperature Limit	1800 F.
Water Ratio	4.5 gals. per 50 lb. bag
Setting Time	4 to 6 hours
Coverage (Applied and Dried)	33 sq. ft. 1" thick per 100 lbs.
Material Requirements	3 lbs. per sq. ft. 1" thick
Compressive Strength (Air Cured)	465 psi
Density (Applied and Dried)	41.5 lbs. per cu. ft.
Shrinkage (Wet to Dry, By Volume)	Less than 2%
Thermal Conductivity (k) @ 500 F. Mean Temperature	0.93 Btu
Shipping Container (Sewn Closure)	50 lb. paper bag

STORAGE & APPLICATION

Store in a cool, dry location until ready to use. Mix, apply and cure as with other hydraulic setting cements.

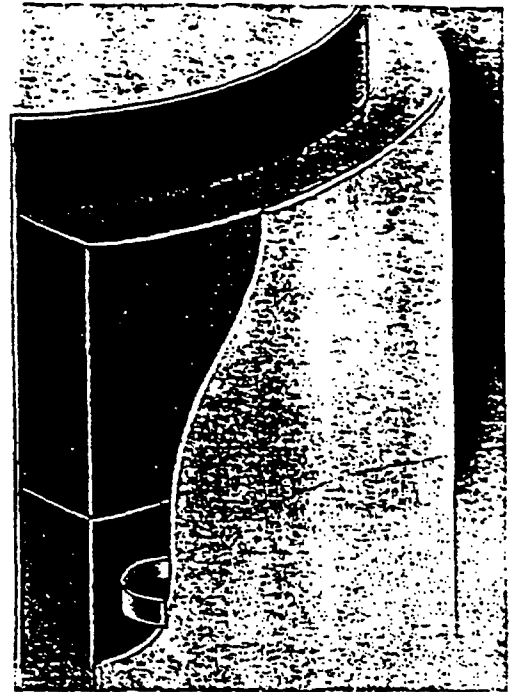
DETTRICK MHD FINISHING CEMENT

MHD Finishing Cement is a hard, white finish cement composed of high quality asbestos fibers and hydraulic setting binders. MHD Finishing Cement is thoroughly pre-mixed, ready for the addition of water at the job site. MHD has a use limit of 1000 F, and a dry coverage of 25 square feet 1/2" thick per 50 lb. bag. Meets ASTM Specification C-194.

APPLICATION

MHD Finishing Cement provides a smooth, hard, white protective coating when applied over Griptex Block insulation, blanket, or insulating cement not exposed to weather. It may be painted or covered with canvas if desired.

If the insulation itself does not provide adequate "keying", a reinforcing layer of 1" galvanized wire mesh netting (or expanded metal lath) should be secured to the outer surface before troweling MHD Finishing Cement in place.

MIXING

Clean water should be added at the rate of approximately 6 gallons per 50 lb. bag for a stiff troweling consistency.

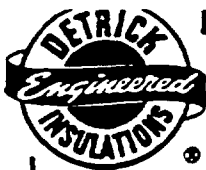
Mix only as much MHD Finish Cement with water as is needed for immediate use. Do not try to rework MHD Finishing Cement which has partially set-up. Setting time is approximately 2 to 4 hours after mixing.

PHYSICAL PROPERTIES

Temperature Limit	1000 F.
Water Ratio	6 gals. per 50 lb. bag
Setting Time	2 to 4 hours
Coverage (Applied and Dried)	25 sq. ft. 1/2" thick per 50 lbs.
Material Requirements	2 lbs. per sq. ft. 1/2" thick
Compressive Strength	190 psi
Density (Applied and Dried)	47.5 lbs. per cu. ft.
Shrinkage (Wet to Dry, By Volume)	Less than 2%
Thermal Conductivity (k) @ 200 F Mean Temperature	1.27 Btu
Shipping Container (Sewn Closure)	50 lb. paper bag

STORAGE

Store in a cool, dry location until ready to use.

DETRICK THINSULINER CEMENTS

Thinsuliner Cements are semi-refractory products used as an internal lining material in ducts, breechings and stacks carrying heated air. These cements contain hydraulic setting binders to develop the strengths required for such applications. Furnished in dry form, Thinsuliner Cements are ready to be mixed with water at the job site.

TWO TYPES

For various operating conditions and installation techniques, two formulations of Thinsuliner are available. Regular Thinsuliner Cement is stronger, heavier and has higher resistance to abrasion. In contrast, Thinsuliner "SL" has better thermal value and greater resiliency. Comparative properties of the two types are given in the table below.

APPLICATION

Regular Thinsuliner Cement generally is troweled $3/4$ " to 1" thick, over Detrick GRIPTEX Blocks previously attached to the internal surface of the breeching or stack. (Note: Using special Meehanite studs and castings to attach the block insulation in place, this is identified as "Detrick Thinsuliner Construction", and is designed individually by Detrick's Arch and Wall Division.)

Thinsuliner "SL" has proved adaptable to steel stack lining applications made on the ground, i. e., before the stack is hoisted into position as a unit. Reinforcing steel mesh is first attached to the inside of the stack, spacing it away from the steel surface approximately one-half the total thickness of the lining. Thinsuliner "SL" is mixed with water to a stiff consistency, then slap-troweled through the reinforcing mesh and built up to total thickness. After Thinsuliner "SL" has set, the stack is rotated on the ground and successive quadrants are lined in the same manner.

PHYSICAL PROPERTIES(Trowel Application)

	<u>THINSULINER</u>	<u>THINSULINER "SL"</u>
Temperature Limit	1800 F	1800 F
Fusion Temperature	2150 F	2250 F
Water Ratio	4 gals./50 lb. bag	5-1/2 gals./50 lb. bag
Setting Time	4-6 hours	4-6 hours
Coverage (Applied and Dried)	25 bd. ft./100 lbs.	33 bd. ft./100 lbs.
Material Requirements	4 lbs./bd. ft.	3.3 lbs./bd. ft.
Density (Applied and Dried)	50 lbs./cu. ft.	41 lbs./cu. ft.
Shrinkage (Wet to Dry, By Vol.)	Less than 2%	Less than 2%
Compressive Strength (Air Cured)	850 psi	260 psi
Density (Fired at 1500 F)	46 lbs./cu. ft.	38 lbs./cu. ft.
Shrinkage (Fired at 1500 F)	2% (Linear)	2.3% (Linear)
Compressive Strength (Fired at 1500 F)	325 psi	90 psi
Thermal Conductivity (k) @ 500 F Mean Temperature	1.4 Btu	0.95 Btu
Shipping Container (Sewn Closure)	50 lb. paper bag	50 lb. paper bag

STORAGE - Store in a cool, dry location until ready to use.



DETRICK PYROSCAT*
For Fireproofing Structural Steel

Detrick Pyroscat is a special formulation of high-temperature aggregates, asbestos fibers, hydraulic binder and other materials. These ingredients are factory-blended to a uniform dry mixture that is ready for application after mixing with water at the job site. Pyroscat is adapted to application by spraying, casting and trowelling techniques, depending on job conditions.

USES: Pyroscat provides a lightweight, fire-retardent protective treatment for structural steel columns, beams, tower skirts, LP gas tanks, and other exposed applications in refineries and chemical plants. Pyroscat sets up to a hard, durable sheath capable of withstanding for hours the 2000 F flame temperatures and high-pressure water streams commonly encountered in industrial fires.

RECOMMENDED THICKNESSES:

Fire-retardent materials are customarily rated in Hours, based on a given thickness used and on the method of application. For example, fire ratings for steel columns represent the number of hours required for heat from a "standard fire" to penetrate the protective treatment as applied, and to increase the steel column temperature to a critical level (1200 F). The thermal conductivity and heat capacity of a material are of some importance in an ASTM Fire Test. But the ability of the complete treatment to withstand thermal shock without destruction is one of the most significant factors in determining practical fire ratings in industrial installations.

The Pyroscat thicknesses recommended below were determined by physical tests on a series of sprayed, cast and trowelled applications. Tests included direct exposure to 100 psi hose pressure, both before and after subjecting the Pyroscat treatment to severe flame conditions.

<u>Thickness of Pyroscat</u>	<u>Approx. Fire Resistance Rating</u>
1"	2 Hours
1-3/4"	3 Hours - (UL-R-3960)
2"	4 Hours

ADVANTAGES OF DETRICK PYROSCAT:

Safer While Fighting Fires..... Many concrete aggregates and common bricks used for fireproofing purposes will spall and shatter when they are heated and subjected to a hose stream. Pyroscat remains virtually unaffected after direct flame exposure and saturation with a 100 psi hose stream.

*Trademark of the M. H. Detrick Company

ENGINEERED INSULATIONS FOR EVERY HEAT ENCLOSURE

ADVANTAGES OF
DETRICK PYROSCAT
(CONTINUED):

Lighter Weight.....Pyroscat weighs less than 55 lbs./cu. ft. in place, compared to approximately 150 lbs./cu. ft. for conventional concrete fireproofing. Excess dead weight is eliminated. As usually sprayed or trowelled in a protective sheath, Pyroscat weighs about 1/10 as much as formed concrete - at equivalent thickness per running foot.

Easier to Apply.....Detrick Pyroscat is specially formulated to permit installation by spray, trowel and casting techniques, depending on local job conditions. No other fireproofing material is as versatile from an application standpoint. Employs conventional supporting materials and placement. Only the one fireproofing material is required - no need for subsequent finishing layers nor heavy mastic coatings.

Durable and Weather-Resistant.....Pyroscat develops great strength from its selected high-temperature aggregates and hydraulic-setting binders. It withstands continued cycles of saturated freeze-and-thaw weathering tests.

SUMMARY OF PHYSICAL PROPERTIES:

Coverage (Trowelled)..... 1.1 cu. ft./50 lb. bag

Material Required (Trowel Application)..... 45 lbs. per cu. ft.

Air-Cured Weight (After Hydration and Drying).. 54.5 lbs. per cu. ft.

Compressive Strength - Air-Cured..... 1650 psi

Compressive Strength After Firing at 1500 F.... 520 psi

Lineal Shrinkage - Air-Cured..... Less than 1%

Lineal Shrinkage After Firing at 1500 F..... 1.5%

Density After Firing at 1500 F..... 49.1 lbs. per cu. ft.

Fusion Temperature..... 2200 F

Thermal Conductivity (k) at 1000 F Mean Temp.. 1.50 Btu

Setting Time..... 4 to 6 hours

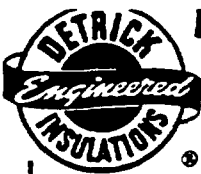
Mixing Water:

For Spray & Trowel Consistency..... 3-1/2 gal. water/50 lb. bag

For Casting Consistency..... 5 gal. water/50 lb. bag

Curing:

Pyroscat is a cementitious material and should be kept moist during the curing period of 72 hours or longer.



**DETRICK PYROSCAT FIREPROOFING CEMENT
APPLICATION DETAILS FOR
STEEL COLUMNS AND BEAMS**

A. Surface Preparation

1. Remove dirt, scale or loose paint from the surface to be treated; then apply rust preventative paint or coating when specified.
2. For trowel applications to columns and beams, form 3/8" rib lath (or paper-backed lath) to box-in the member. Apply rib lath with ribs turned in and spanned from flange to flange. On members 14" and larger, first weld 1/4" rods across the flanges approximately 12" to 18" on centers to provide additional support for the lath. Secure the lath in place with wire or bands. For gun application, use 2x2 #16 paper-backed lath such as Steeltex.
 - a) Provide 2" firestops on columns at 8' to 12' intervals (or as otherwise specified). Form the metal lath into a horizontal shelf extending to and supported at the web. Apply Pyroscat 2" thick in the opening. Provide similar stops at the top elevation of the fireproofing.
 - b) Plasterer's corner bead may be wired to the metal lath, forming and supporting it to attain the total Pyroscat thickness specified. Corner bead shall be of the type having open-mesh legs to facilitate complete filling of the corners. The corner bead may be spaced the proper distance from the flanges by means of corner clips, rods, studs; or Pyroscat may be spotted-in to space the corner bead at specified fireproofing thickness.

B. Application of Pyroscat

1. Mix Pyroscat to recommended consistency with clean, fresh water, just before application. Refer to mixing instructions on the bag and use no more water than called for. Mix Pyroscat to a homogeneous plastic mass, avoid over-mixing, particularly with mechanical mixers.
 - a) Apply Pyroscat well into the metal lath, installing approximately 1/2 the total thickness in the scratch coat. Leave the first coat rough or scratch the surface.
 - b) On the underside of beams, the application may be in three coats. Apply a thin scratch coat first to improve adhesion.
 - c) If corner bead was not applied previously, wire it in place when the scratch coat has set.
2. Let the scratch coat harden until well set (4 to 6 hours or longer), then double-back with the finish coat. Apply it flush with the corner bead. Sponge-float the surface to a textured finish or as otherwise specified.
 - a) When application of the finish coat is deferred over night or longer, wet down the scratch coat thoroughly before proceeding with the finish coat.

C. Curing Pyroscat

1. Pyroscat is a cementitious material; to develop its strength, keep it moist for 72 hours or longer. Depending on atmospheric conditions when applied, the required water retention may be accomplished with wet burlap, periodic water spray or a hydrostatic (resin-base) sealer.
2. Following the curing period and when visual moisture has dried, apply a suitable flashing material (such as Detrick Duriseal T-178 Coating) at all intersecting joints and exposed ends of the members treated.
3. Pyroscat may be painted with (1) masonry paint, (2) two coats of asphalt-base aluminum paint, or (3) other finishes as specified for operating conditions involved. (Note: When conventional masonry paint of the hydrating-type is used, wet down the Pyroscat before painting to insure proper hydration).

ALTERNATES FOR TOWER SKIRTS (VERTICAL)

- A-2 Attach a layer of 1"x1" square mesh reinforcing, positioned 1" away from the skirt, i.e., at the approximate center of the fireproofing thickness specified.
- a) Trowel or gun Pyroscat solidly through openings in the square mesh, bringing the scratch coat out approximately 1" thick. Start at the bottom of the skirt and work upward. Leave the surface rough, or scratch it when trowel applied.
 - b) Screed strips may be attached temporarily over the square mesh reinforcing, to accurately gauge the thickness of the second layer.
 - c) When fireproofing is applied to skirts of heated vessels while they are in operation, heat conducted to the skirt may prematurely dry the initial layer of Pyroscat. Wet the first coat thoroughly, particularly at the top, before applying the final layer.

ALTERNATES FOR HORIZONTAL TANKS

- A-2 Bolster bars are preferred for anchorage of the reinforcing mesh. The bolster bar selected would have legs extending from the tank surface approximately one-half of the total thickness of Pyroscat to be applied. Form the bolster bars to fit the tank curvature, then weld or wire in place circumferentially approximately 3' on centers. Wire the reinforcing mesh to the bolster bars.
- C-3 When tanks so fireproofed are to be operated below ambient temperature, suitable vapor-sealing treatment is recommended after the Pyroscat has been cured, dried and flashed.



DECRETE* LIGHTWEIGHT CASTABLE INSULATION

DECRETE* is the name applied to a series of castable insulations composed of high temperature aggregates and binders, factory-blended under controlled conditions to provide an initial hydraulic set which will form a ceramic bond when heat is applied. Supplied in dry form, it is ready to mix with water in the field to provide the consistency desired for application by pouring, troweling or molding. DECRETE produces a strong lightweight mass which has high insulating qualities combined with heat resistance.

WEIGHT VS. STRENGTH AND CONDUCTIVITY

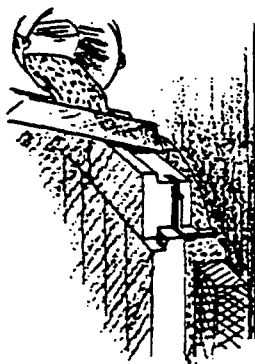
There is a definite relationship between density and strength - and density and conductivity - in materials of this type. For lowest heat transmission, the lightest weight, DECRETE 30, is selected. Conversely, for applications requiring greatest strength, DECRETE 50 would be used. DECRETES 30 and 40 have low thermal conductivity with high strength. DECRETE 40 provides an economical balance between structural strength and thermal qualities; hence, is used in most Arch and Wall constructions.

USES

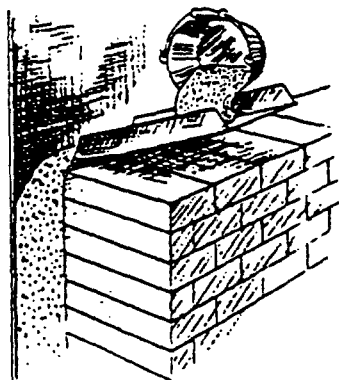
DECRETE is used principally as a back-up insulation. It can be poured between refractories and block type insulation, or between refractory and the exterior casing. It can be molded or cast into special shapes or can be used as a protective layer for furnace foundations and hearths. The various types of DECRETE are available on special order with acid-resistant qualities. Designated as DECRETE 30-AR, 40-AR and 50-AR, they are designed for specific job conditions.

ADVANTAGES

The use of DECRETE affords not only effective insulation at high temperature, but its method of application also provides a monolithic sealing layer against air infiltration or gas migration. The fact that all types of DECRETE are designed for easier pouring makes application economical. The different weights make it possible to select the right one for specific thermal conditions, whether it is necessary to provide high thermal qualities, high strength qualities, or the two combined.



DECRETE 40 poured in the cavity between refractory tile lining and exterior GRIPTEX block insulation.



DECRETE 40 used as a poured fill between brick wall and casing.

*Trade name of M. H. Detrick Company.

Designed with the Application in Mind

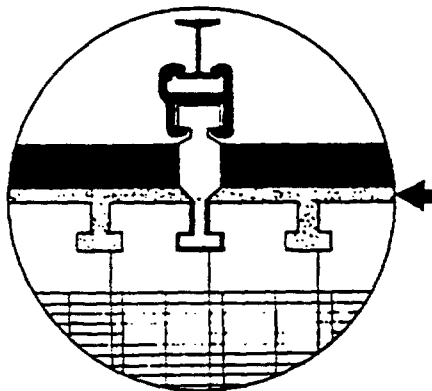
PHYSICAL PROPERTIES:

	DECRETE 30	DECRETE 40	DECRETE 50
Use Limit	1600 F	2100 F	2100 F
Fusion Temperature	2200 F	2200 F	2300 F
Material Requirements (lbs/cu. ft.)	29	38	48
Compressive Strength-Air Cured	210 psi	820 psi	1500 psi
Compressive Strength-Fired 1500 F	120 psi	350 psi	400 psi
Shrinkage - Air Cured	0.5%	0.3%	0.12%
Shrinkage -Fired 1500 F	4.0%	3.0%	2.5%
Density-Air Dried (lbs/cu. ft.)	33	44	55
Density-After Firing (lbs/cu. ft.)	31	38	50
Conductivity (k) @ 500 Mean Temp.	0.85 Btu	1.00 Btu	1.40 Btu
Conductivity (k) @ 1000 Mean Temp.	1.15 Btu	1.25 Btu	1.60 Btu
Conductivity (k) @ 1500 Mean Temp.	1.45 Btu	1.50 Btu	1.80 Btu

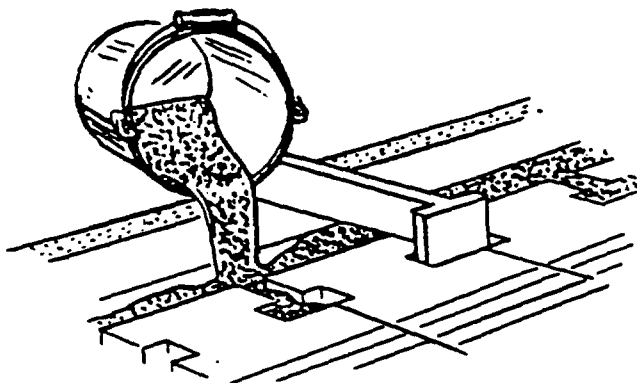
MIXING WATER:

Water requirements vary with the types of materials against which DECRETE is placed. Surfaces having low suction or absorption (steel, glazed tile, etc.) need less "water of convenience" in placement. With materials such as soft brick or certain absorbent insulating blocks, it is often necessary to use additional mixing water. The recommended water requirements noted below in gallons, are typical:

Damp Pack Consistency	5.7/50#	3.0/50#	2.4/50#
Trowelling Consistency	6.3/50#	3.6/50#	3.2/50#
Pouring Consistency	7.1/50#	4.8/50#	4.5/50#



DECRETE 40 used as a sealing layer on a flat suspended arch construction.



DECRETE 40 used as a sealing layer between GRIPTEX block insulation and refractory tile in a Detrick suspended wall construction.



CALCRETE*
LIGHTWEIGHT INSULATING CASTABLE

CALCRETE* is the name applied to a series of castable insulations, composed principally of perlite base aggregates and lumnite cement binders, factory-blended under controlled conditions to provide an initial hydraulic set which will form a ceramic bond when heat is applied. Supplied in dry form, it is ready to mix with water in the field to provide the consistency desired for application by pouring. CALCRETE produces a strong lightweight mass which has good insulating qualities combined with high heat resistance.

ADVANTAGES

- Light in weight--lighter than firebrick or structural concrete; enables savings in costs of supporting steel work.
- Easy to use--smooth working, flexible application; can be cast, gunned, poured, trowelled, or extruded into place.
- High insulating properties--reduces heat transfer as compared to dense refractories.
- Low thermal conductivity--provides protection for steel work and concrete foundation against devastating temperatures.
- Drying and firing shrinkage negligible.
- Resists spalling and/or thermal shock; relatively low in permeability.
- Monolithic in construction--produces air and gas seal; permits more efficient furnace control.
- Excellent coverage--greater per unit weight than with dense castables.
- Excellent re-cycling properties.

RECOMMENDED USES

CALCRETE 30
(3)

CALCRETE 40
(4)

CALCRETE 50
(5)

The numbers (3, 4, 5) indicate the recommended choice of product depending on the type and degree of service.

Linings, ducts, breeching, stacks (3, 4, 5)
Back-up for heavy refractories (4, 5)
Boiler water wall backing (3)
Boiler convection areas (3, 4)
Refinery heaters, lines and vessels (3, 4)
Access door linings (4, 5)
Observation door ports (5)
Special shapes (4, 5)
Heat-treating furnace bases (4)

Dampers (4, 5)
Hearths (5)
Air preheaters (3)
Car tops (5)
Combustion Chambers (5)
Domestic heating burners (5)
Industrial ovens (3, 4)
Ash hoppers (4, 5)
Patch work (5)

*Trademark of the M. H. Detrick Company

◆◆◆ Designed with the application in mind ◆◆◆

<u>PHYSICAL PROPERTIES:</u>	<u>CALCRETE</u> <u>30</u>	<u>CALCRETE</u> <u>40</u>	<u>CALCRETE</u> <u>50</u>
Use Limit	1800 F	2100 F	2200 F
Fusion Temperature	2200 F	2250 F	2350 F
Material Requirements (lbs/cu. ft)	32	44	52
Compressive Strength-Air Cured	150	800	1100
Compressive Strength-Fired 1500 F	150	400	600
Shrinkage - Air Cured	Nil	Nil	Nil
Shrinkage - Fired 1500 F	1.6	1.0	0.5
Density-Air Dried (lbs/cu. ft.)	38	55	63
Density-After Firing (lbs/cu. ft.)	34	48	55
Conductivity (k)@ 500 Mean Temp.	0.90 Btu	1.25 Btu	1.60 Btu
Conductivity (k) @ 1000 Mean Temp.	1.20 Btu	1.50 Btu	1.75 Btu
Conductivity (k)@ 1500 Mean Temp.	1.45 Btu	1.70 Btu	1.95 Btu

MIXING WATER

Water requirements vary with the types of materials against which CALCRETE is placed. Surfaces having low suction or absorption (steel, glazed tile, etc.) need less "water of convenience" in placement. With materials such as soft brick or certain absorbent insulating blocks, it is often necessary to use additional mixing water. The recommended water requirements noted below in gallons, are typical:

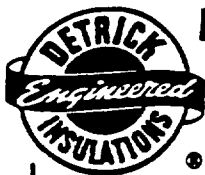
Damp Pack Consistency	6.0/50#	3.0/50#	2.5/50#
Trowelling Consistency	6.5/50#	3.5/50#	3.0/50#
Pouring Consistency	7.0/50#	5.0/50#	4.5/50#

CAUTION

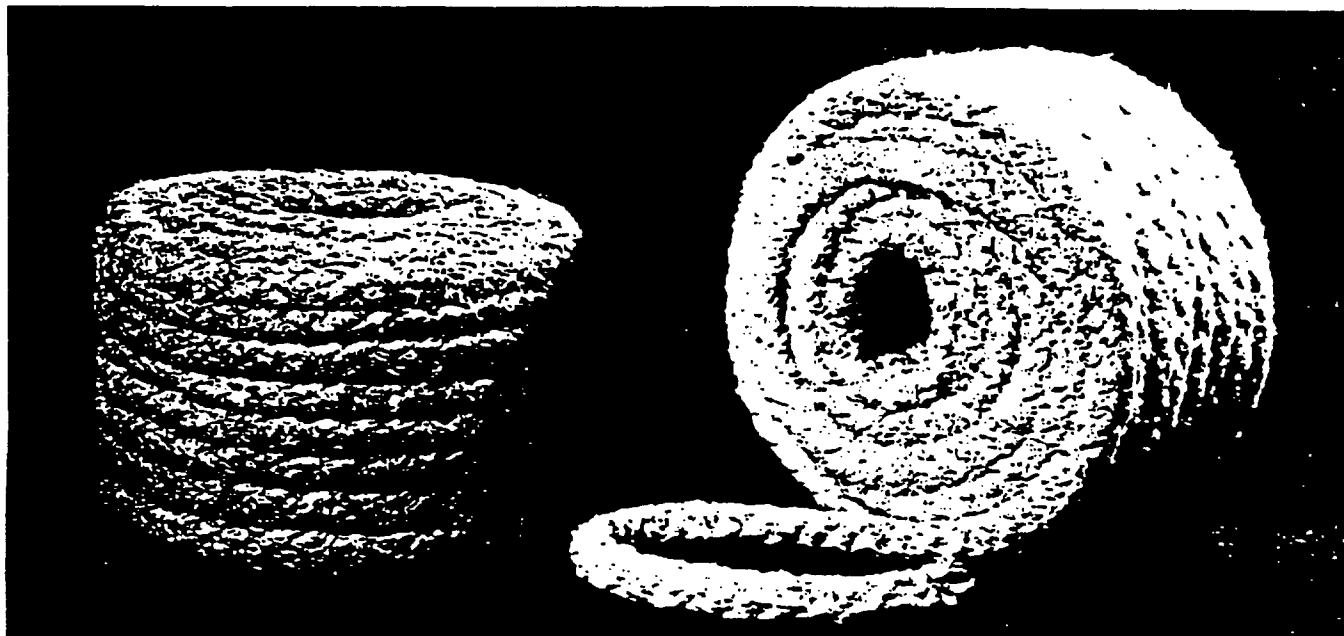
CALCRETE should be used within 30 to 90 minutes of mixing. Delay in placement will lower the final strength developed. Excessive delay will permit material to set before placement.

STORAGE

Store in a cool, dry location until ready to use.

**DETRICK ASBESTOS ROPES (BLUE AND WHITE)**

Detrick Asbestos Ropes are available in two compositions, both of which possess outstanding characteristics for specific applications. Their constructions consist of 100% pure fibers, held firmly in an open lattice-braided jacket, without organic fillers or binders.



Detrick Blue Rope is composed entirely of South African Crocidolite Asbestos. Blue in color, Crocidolite Asbestos has no equal for resistance to most acids, caustics and other corrosive exposures.

Detrick White Rope is made of Amosite Asbestos fiber, also imported from South Africa. Amosite Asbestos is a yellowish-white fiber having excellent chemical properties.

Both types of Detrick Asbestos Ropes provide an effective insulation and sealing medium for heated applications. They are clean and easy to handle and can be removed readily and reapplied at service temperatures up to 850 F. They contain no cotton or other organic fillers, hence, cannot rot in low temperature service, nor smoke or burn in high temperature applications.

USES

Detrick Asbestos Ropes are used principally as a flexible thermal insulation and seal. They are ideal for expansion joints in boiler settings, around furnace doors and in similar heated applications where a thick packing and caulking material is required. As insulation, Detrick Ropes can be wrapped around exhaust manifolds, flanged couplings, gauge lines, irregular fittings, heated accessories, etc. Their resilience, strength and light weight facilitate installation without the need for special tools or skills.

PACKAGING

Detrick Blue and White Asbestos Ropes are packaged in standard coils of 100 linear feet, in diameters of 1/2", 3/4", 1", 1-1/2" and 2". Detrick Ropes weigh from one-half to one-third as much as competitive ropes made of Chrysotile Asbestos. The latter usually contain an organic filler and are sold on a weight basis. The table below is useful in converting weights of competitive ropes into 100 foot coils of Detrick Ropes.

WEIGHTS OF ASBESTOS ROPES - PER 100 LINEAR FEET.

Types	1/2" Dia.	3/4" Dia.	1" Dia.	1-1/2" Dia.	2" Dia.
Detrick Blue and White Ropes	5 lbs.	7 lbs.	10 lbs.	18 lbs.	28 lbs.
Competitive (Chrysotile) Asbestos Rope	10 lbs.	18 lbs.	31 lbs.	48 lbs.	90 lbs.

PHYSICAL PROPERTIES

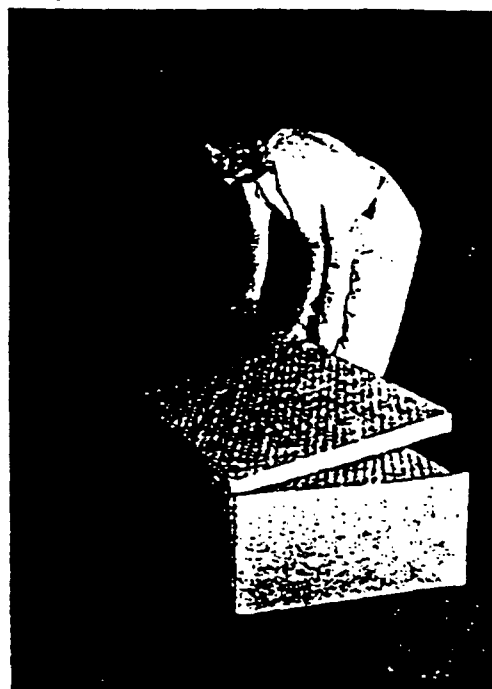
	Detrick Blue Rope (Crocidolite Asbestos)	Detrick White Rope (Amosite Asbestos)
Specific Heat (Btu/lb. /°F)	0.20	0.19
Use Limit (Intermittant)	1800 F	1800 F
Loss in Weight at 1800 F	1.0%	1.5%
Fusion Temperature	2000 F	2500 F
Weight Loss in 25% Acids:		
HCl	3.14%	12.00%
Acetic	1.02%	3.08%
H ₃ PO ₄	3.91%	11.83%
H ₂ SO ₄	3.48%	11.71%
Weight Loss in 25% NaOH	1.20%	6.82%

**DETRICK BLANKET INSULATION**

A felted, spun mineral fiber blanket, secured between outer facings of metal mesh fabrics. Felted in large flat sheets, designed in densities and thicknesses to suit most job requirements. Factory fabricated to assure uniformity, flexibility and strength. Detrick blankets provide an efficient and economical insulation for hot face temperatures up to 1200 F. The density and thickness of Detrick spun mineral fiber blankets are carefully controlled to assure full insulating value.

EFFICIENT

Improved manufacturing methods provide a blanket with strong, uniform edges, assuring applications comparable to monolithic construction in thermal efficiency. Laboratory tests verify this efficiency through a full range of temperatures up to the suggested use limit of 600 F. for Light Density Blanket and 1200 F. for Heavy Density Blanket.

**FLEXIBILITY**

Detrick Blanket Insulation is manufactured to exacting specifications to provide a semi-rigid material. Laboratory tests have proven that a bending radius of six feet can be achieved with comparative ease, thus providing an excellent material for insulating irregular or curved surfaces. Styles are also available which have a minimum bending radius of four feet.

EASE OF APPLICATION

Detrick Blanket Insulation is available in thicknesses of 1" through 6" in increments of 1/2". Standard sizes are 2' x 4' and 2' x 8'. One 2' x 8' blanket covers 16 sq. ft. of surface in a single application. The uniformity, light weight, and size of Detrick Blanket Insulation simplifies and speeds application to most surfaces.

SPECIFICATION REFERENCES

Detrick Heavy Duty Blanket Insulation conforms with ASTM Spec. 263; Government Spec. HH-I-563 Amendment 1, Type 1, Class A, B, C; CS-117-49 Class A, B, C. Detrick Light Duty Blanket Insulation conforms to the above specifications under Class A.

PACKAGING

Detrick Blanket Insulation is packaged in telescopic corrugated cartons based on a 12 inch thickness of material per carton.

<u>Thickness</u>	<u>Pieces per Carton</u>	<u>Thickness</u>	<u>Pieces per Carton</u>
1"	12	1½"	8
2"	6	2½"	4
3"	4	3½"	3
4"	3	4½"	2
5"	2	5½"	2
6"	2		

PHYSICAL PROPERTIES

	<u>Density Average</u>	<u>Temperature Limit</u>
Heavy Duty	8#/ cu. ft.	1200 F
Light Duty	6#/ cu. ft.	600 F

Thermal Shock Resistance ----- Excellent
Fire Resistance ----- Incombustible

Thermal Conductivity (k) Btu/in. /sq. ft. /hr. /deg.

100 F Mean Temp.	----- .25
200 F Mean Temp.	----- .30
300 F Mean Temp.	----- .38
500 F Mean Temp.	----- .52
700 F Mean Temp.	----- .69

RECOMMENDED THICKNESSES

<u>Temperature</u>	<u>Thickness</u>
100 - 200 F	1 in.
200 - 300 F	1-1/2 in.
300 - 500 F	2 in.
500 - 700 F	2-1/2 in.
700 - 900 F	3 in.
900 - 1100 F	3-1/2 in.
1100 - 1200 F	4 in.

STANDARD STYLES

<u>Style No.</u>	<u>Metal Reinforcement</u>
1	1" Wire Mesh on Both Sides.
1a	1" Wire Mesh on One Side - Plain other side.
2	1" Wire Mesh and Stucco Lath.
2a	1" Wire Mesh and Expanded Lath.
3	Stucco Lath - Both Sides.
3a	Expanded Lath - Both Sides.
3b	Stucco Lath and Expanded Lath.
4	Expanded Lath One Side - Plain other side.
4a	Stucco Lath One Side - Plain other side.

Other styles and finishes, such as rib lath on one or both sides, or any other combination of metal reinforcing are available upon special request.



DETRICK LOOSE AND GRANULATED INSULATING WOOLS
For Temperatures Up To 1600 F.

Detrick Insulating Wools are light weight, efficient spun insulating materials furnished in two forms, loose and granulated. They are manufactured from selected materials which are melted in a cupola and spun while in a molten state into light resilient fibers of extremely small diameter. Detrick Wools have exceptionally low thermal conductivity due to their light, fluffy structure which contains countless dead air cells. They do not readily absorb moisture and are unaffected by atmospheric conditions encountered in typical high or low temperature uses and are fireproof and chemically stable.

USES

Detrick Loose Wool is composed of long, fibered wool as originally processed. It is installed by hand-packing to fill irregular voids in heated equipment for packing of joints, furnaces, ovens, boiler walls, and similar purposes where bulk insulations are required. Fed. Spec. HH-I-521, Type II.

Detrick Granulated Wool composed of mineral wool pellets, designed to be installed either by hand-packing, pouring, or pneumatic methods. It can be compressed to various densities, but usually is packed at about 9 lbs. per cubic foot. Standard Granulated Wool is processed to an approximate size of minus 1" plus 3/4". Detrick Granulated Wool is covered by Federal Specification HH-I-521 Type III.

THERMAL CONDUCTIVITY

Typical thermal performances of loose and granulated wools at densities of 8 to 10 lbs. are tabulated below:

<u>MEAN TEMP.</u>	<u>K</u>	<u>MEAN TEMP.</u>	<u>K</u>
50 F	.26 Btu	250 F	.38 Btu
100 F	.28 Btu	300 F	.42 Btu
150 F	.31 Btu	350 F	.47 Btu
200 F	.34 Btu	400 F	.53 Btu

PACKAGING

Packed in Kraft Paper Bags at approximately 3 cu. ft. per bag. For shipping purposes loose wool weighs approximately 30 lbs. per bag. Granulated wool weighs approximately 35 lbs. per bag.

DETTRICK HIGH TEMPERATURE AGGREGATES

(TYPES PR, VM, DE, PC)

Detrick High Temperature Aggregates are lightweight insulating materials used to achieve good thermal balance in various industrial heat enclosures. They may be employed as dry fill insulation by pouring them on the top or in the confined wall and floor spaces of furnaces, ovens, kilns. Detrick Aggregates also may be combined with suitable high-temperature binders for on-the-job preparation of insulating concrete to meet customer specifications.

Selection of the most useful aggregate for a specific installation depends on the performance characteristics desired. Detrick PR and VM Aggregates are preferred in moderate cyclic operations because of their lightweight and resultant lower heat capacity. Here, Types PR and VM offer reduced fuel consumption and a shorter heating-up time to achieve economy in operation. In other cases, the greater strengths possible with Types DE and PC, make their selection preferable.

TYPE PR AGGREGATE - For Temperatures to 1800° F.

Detrick PR Aggregate is made from a volcanic rock (perlite) which contains entrapped moisture in its natural state. By a heating process, the material is expanded to form tiny clusters of microscopic sealed cells. These lightweight particles are insoluble in water and have low water vapor adsorption. Their apparent bulk density is from 8 to 10 lbs. per cu. ft. in the controlled particle size gradation recommended. Shipped in multi-ply 4 cu. ft. paper bags containing approximately 35 lbs. net.

TYPE VM AGGREGATE - For Temperatures to 1800° F.

Detrick VM Aggregate has a lightweight, accoridian-type physical structure achieved by the heat expansion of a micaceous mineral known as vermiculite. The dry particles have high surface area and an apparent bulk density of 8 to 10 lbs. per cu. ft. Tan in color, VM Aggregate is shipped in multi-ply 4 cu. ft. paper bag containing approximately 35 lbs. net.

TYPE DE AGGREGATE - For Temperatures to 2000° F.

Detrick DE Aggregate is composed of diatomite (diatomaceous earth), calcined so as to virtually eliminate subsequent shrinkage at high temperature. DE Aggregate has a pinkish-tan color, is water-absorbent but not water soluble. It weighs 30 lbs. per cu. ft. at a residual moisture content of about 6% by weight. Shipped in paper bags containing 50 or 100 lbs. net.

TYPE PC AGGREGATE - For Temperatures to 2000° F.

Detrick PC Aggregate is processed from a lightweight pumice rock having a porous, hard structure. Grey to buff color in its natural state, PC Aggregate is carefully crushed to provide a desirable proportion of coarse and fine particles. It is water absorbent, but essentially insoluble in water. PC Aggregate has an apparent dry bulk density of 45 lbs. per cu. ft. Furnished dry in 50 or 100 lb. paper bags.

ESTIMATING DATA

Detrick Type No.	Dry Rodded Density	Typical Concrete Yield (cu. ft. per cu. ft. of Aggregate)
PR	9-10	.75 to .85
VM	9-10	.75 to .85
DE	25-30	.9 to 1.0
PC	45-50	.9 to 1.0



ASPHALT MASTICS WEATHER COATINGS AND SEALERS

Basically there are three types of asphalt mastics used in the insulation field. They are usually classified as water emulsion, solvent cutback, or chemical dispersion types. The thinning agent or dispersion chemical determines which basic classification will be given a particular product, and dictates the end use of the resultant product.

It is important to know which thinning agent is used to determine the useful qualities of a particularly blended asphalt mastic. The quality and/or type of basic asphalt determines the service temperature of the product involved.

I.

WATER EMULSION ASPHALT MASTICS

The water emulsion type of asphalt weather coating such as Thermal Coat, is normally a blend of petroleum asphalt, asbestos fiber and Bentonite clay, emulsified in water.

Water emulsions are primarily used as a breathing mastic, i. e., if suitable pressure is built up beneath its surface, moisture present will pass through to the atmosphere. However, atmospheric pressure is normally not sufficient to pass moisture back through to the insulation, except, of course, on low temperature work. In this case, a vapor barrier type mastic such as Detrick Duriseal is essential.

Summer grade water emulsions, because of the water present, will freeze and should be protected at all times prior to and during application. Alcohol is usually added to Winter grade emulsions. The amount used determines the resistance to freezing of the resultant product. Water emulsions should always be stored and used at temperatures above freezing in any event. A water emulsion that has been frozen is useless and will "alligator" if applied.

Water emulsions usually are suitable only for trowel application and are used wherever a breathing mastic is required. Because they lack the adhesive qualities and resiliency of a cutback type mastic, they should be mechanically bonded to poultry netting except on extremely small surfaces. They should be used in conjunction with a cutback or dispersion type flashing compound. Water emulsions can only be repaired with such types of mastics since they do not bond to themselves. It is imperative that they be repaired as soon as possible if a break in the applied surface should occur to insure service life of the product. Detrick Thermal Coat may be applied at temperatures up to 200 F and will withstand a maximum temperature of 450 F after drying.

CAUTION: Water emulsions are soluble in water and should not be applied if there is a possibility of rain washing the product within twelve hours of the initial application time. Keep Winter Grade above 20 F.

II.

SOLVENT CUTBACK ASPHALT MASTICS

Solvent cutback mastics are usually a blend of petroleum asphalt, gilsonite (natural asphalt) and asbestos fiber in a trowel or spray consistency, suitable for a service temperature of 200 F or 500 F, determined by the melt point of the asphalt used. Detrick Duriseal coatings are classified as cutback mastics and have a maximum temperature limit of 400 F for standard grade T-178 and S-678, and 700 F for high temperature grade T-278 and S-778.

Cutbacks are thinned with volatile solvents and are quite easy to ignite while in a wet state. Cutbacks are classed as non-breathing type mastics and should only be applied over a clean dry surface. Both regular and high temperature cutbacks may usually be thinned, if desired, with benzene or oleum spirits. Oleum spirits have a much higher flash point than does benzene, and are often required in use around refineries or where a fire hazard may exist. The main use of a cutback is as a vapor barrier type mastic or as a flashing compound to prevent water emulsions from curling or breaking open at a joint. Wetting the trowel in a detergent solution or oleum spirits improves the ease of application. Spray Grades are always applied in two 1/8" wet coats and reinforced with a suitable membrane on all weatherproofing applications. Pin holes which occur during the spray application make two coats essential. Flash or trowel coats should be applied in one coat 1/4" thick, wet.

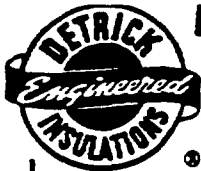
CAUTION: Cutbacks should not be applied to hot surfaces because of their volatile solvent content. If at all possible, the surface temperature during application should not exceed 100 F. In any case, adequate ventilation is essential for a period of several days; especially when large areas, such as boiler walls, are coated.

III.

CHEMICAL DISPERSION TYPE ASPHALT MASTICS

Chemical dispersion type asphalt mastics, such as Detrick PERMISEAL, incorporate a unique combination of the desirable qualities of the water emulsion and cut-back types. They normally consist of petroleum asphalt dispersed in a non-flammable chemical with suitable fillers, blended in one consistency suitable for brush, trowel or spray applications. Containing non-flammable solvents, they are fire-safe for use around open flame, welding torches and similar hazardous job conditions. They have the breathing characteristic of a water emulsion for a period of sixty to ninety days after application. This controlled curing process prevents shrinkage of the surface film and permits trapped moisture to escape. The result is a flexible, blister free, vapor seal type coating of exceptional toughness. A good chemical dispersion product is not affected by freezing and resists most acids and alkalis. However, solubility in water is a factor, depending upon humidity conditions, for a period of eight to twelve hours or longer after application. The anodizing and rust inhibiting agents contained in PERMISEAL make this product excellent for metal protection purposes. PERMISEAL has a useful service temperature up to 300 F and a maximum of 400 F.

CAUTION: Dispersion type mastics should be treated the same as water emulsion types, in that they should not be applied if there is a danger of rain washing within eight to twelve hours of the application time. Under proper temperature and humidity conditions, PERMISEAL will be dry to touch in four hours or less.



PERMISEAL
FIRE-SAFE ASPHALT COATING

Permiseal is virtually an all-purpose weather proofing and corrosion resistant sealer and protective coating. Permiseal is a refined petroleum asphalt suspended to form a non-breaking chemical dispersion. It contains rust-inhibiting agents and other ingredients to promote flexibility, oxidation resistance and resistance to slip or sag. Permiseal is always ready for use. Will not separate in storage and is not damaged by freezing. Application is simple with either brush, trowel, or conventional spray equipment. It is not sticky or gummy during application.

SAFE NON-FLAMMABLE SEALER

Permiseal contains no flammable solvents. A blow torch applied directly to wet Permiseal in the drum will not cause the material to ignite. Does not, in itself, support combustion even when dry.

RESISTS RUST AND CORROSION

The anodizing and rust inhibiting agent deposits an inert, highly adherent film on metal surfaces. This acts as a positive physical barrier against electro-chemical corrosion of aluminum or common rusting of iron or steel. Insulation fasteners and jackets last longer.

ACID AND ALKALI RESISTANT

Permiseal effectively resists salt spray, most acids such as picric, sulfuric or hydrochloric; also sodium hydroxide, potassium hydroxide, sodium chloride or calcium chloride solutions. Permiseal affords protection against occasional splashing or spillage of the chemicals indicated, but is not recommended for constant contact with chemicals, such as lining of chemical vats.

VAPOR PERMEABILITY

Permiseal releases trapped moisture during curing, after which it becomes an excellent vapor seal. This unique curing action helps prevent the blistering common in cut-back type mastics applied over moist surfaces.

STAYS FLEXIBLE

Permiseal does not harden, crack or alligator, because its fast controlled curing process prevents shrinkage of the surface film. This is particularly true under exposure to low temperatures. This desirable flexibility in no way effects Permiseal's exceptional toughness and resistance to abrasion.



PERMISEAL

APPLICATION

All surfaces to be coated must be clean and free from rust, dirt, grease, and other foreign matter. A relative humidity above 80%, or a temperature below 40 F, will retard the curing action, hence such application conditions should be avoided. Protect from rain at least eight hours. A surface with a temperature as high as 200 F may be coated satisfactorily. Materials such as insulating cements should be completely dry before Permiseal is applied to prevent leaching of solubles into the coating.

Permiseal applied with brush or trowel requires a minimum 1/4" thick wet coat, resulting in a dried coating 1/8" thick. Before brushing, Permiseal should be stirred to increase its fluidity, then applied with long strokes of a wide soft bristle brush. When not in use, the brush is kept immersed in water. Squeeze all excess water from brush before re-use.

Spray applications using conventional spray equipment and methods, usually require two 1/8" thick wet coats, resulting in a 1/8" thick dried coating. Permiseal applied over porous surfaces requires a suitable fabric reinforcing between each coat. Non-porous surfaces require reinforcement only at 90° bends, or for 6" around bends, joints, or openings, and at points of impact. On large surfaces, the reinforcing membrane must be lapped over itself at least 3" at all joints.

TECHNICAL DATA

PHYSICAL STATE - A light mastic suitable for brush, trowel or spray applications from 40 F to 200 F. Brown color cures to rich black. Is not affected by freezing. Weight is 8.6 lbs. per gallon.

FIRE HAZARD - Non flammable under ICC Regulations. Will not ignite in container when subjected to open flame, welding torches, etc.

ACID RESISTANT - After curing, is permanently resistant to most alkalis and acids, salt water, etc.

ODOR-FREE - Has mild pleasant odor when wet, odorless when cured.

COVERAGE - One gallon covers 10 sq. ft. 1/8" thick dry, or 20 sq. ft. 1/16" dry.

PACKAGES - 5 gal. pails or 54 gal. plastic-lined steel drums.

MAY BE PAINTED - Varnish-base aluminum paints and many types of outside paint may be used. A patch test is recommended to determine compatibility.

TEMPERATURE LIMIT - 400 F maximum after curing.

VAPOR PERMEABILITY - Permeability of a freshly dried 1/8" thick film is 1.04 grains per square foot per hour, per inch mercury pressure differential. After aging 2 months, permeability is 0.22 grains.

DRYING TIME - Dries to touch in four hours under normal conditions.

ADHESIVE STRENGTH - Adhesion after air curing is over 150 lbs. per sq. ft.

CORROSION RESISTANT - Inhibited against rust and corrosion.



DETRICK THERMAL COAT
Weatherproof Protective Coating for Insulation

Detrick Thermal Coat is an asphalt base water emulsion usually referred to as a breathing type mastic weathercoating. Thermal Coat is factory prepared to provide a durable fire resistant coating for insulation. It seals insulation against the weather, but does not form a vapor seal which would prevent trapped moisture from escaping to the atmosphere. It forms a leathery protective finish for both indoor and outdoor installations.

FIRE-SAFE

Thermal Coat contains no volatile oils nor combustible fillers to ignite during application. Will withstand temperatures to 450 F when dry. Will char at higher temperatures but will not in itself support combustion.

DURABLE AND WATER RESISTANT

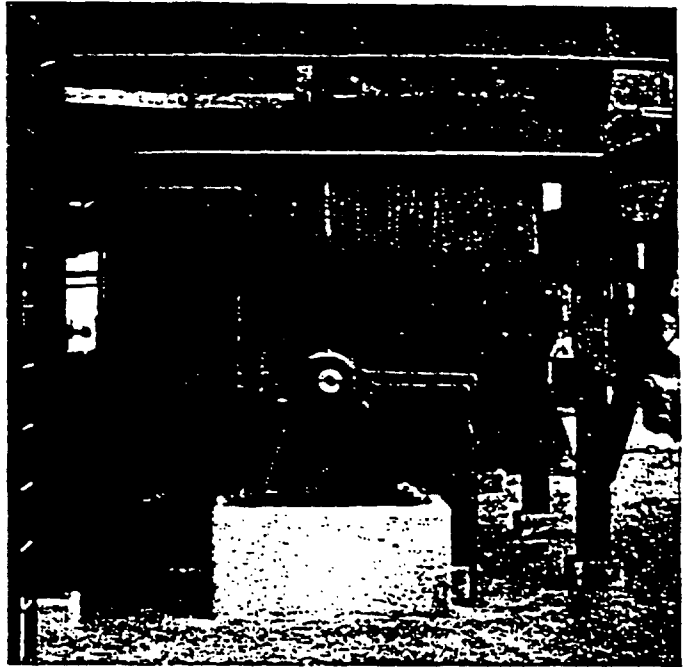
Thermal Coat protects insulation against damaging effects of impact, weather, and most industrial and chemical fumes.

APPLICATION

Thermal Coat, as shipped, is a homogenous fibrated mastic, ready for trowel applications. It trowels easily without sticking or rolling under the trowel, and is usually applied over dry insulations at the rate of 2 lbs. per square foot of area, or approximately 1/4" thick wet. When set and dried, it forms a tough 1/8" thick black coating, odor free and water resistant. Reinforce with 1" wire mesh stretched smoothly over the dry insulation before applying Thermal Coat. Flash around all joints or openings with Detrick Permiseal or Duriseal.

PHYSICAL PROPERTIES

Wet Coverage	5-6 sq. ft. 1/4" thick/gallon
Dry Coverage	5-6 sq. ft. 1/8" thick/gallon
Grade	Summer or winter grade
Packing	5 gallon, 30 gallon, or 50 gallon steel container
Storage	Avoid freezing in storage and during application



**DURISEAL PROTECTIVE COATINGS****Type T-178, S-678, T-278, S-778**

Duriseal Protective Coatings are special blends of mastics, combined with asbestos fiber and mineral fillers to provide an excellent sealing material. Applied over masonry settings, they dry slowly to form a black, fire-resistant, air-tight film that is impervious to water exposure, chemical attack and normal abrasion. Duriseal Coatings also are used in conjunction with Detrick Thermal Coat where a flexible flashing compound is required to seal joints around openings, as a calking compound, and for low temperature stack linings to prevent corrosion.

Standard Temperature Grades (To 400 F)

For surface temperatures that will not be operated in excess of 350-400 F, the Standard Grades are recommended. Standard Type T-178 is made to a semi-viscous, troweling consistency; Type S-678 is furnished for spray application.

High Temperature Grades (To 700 F)

When surface temperatures will exceed 400 F during operation, but not in excess of 700 F, Duriseal High Temperature Coatings should be used. Type T-278 is used for high temperature trowel application; Type S-778 is used for spray applications.

EASY TO APPLY

Duriseal Coatings may be applied over any cool, clean, dry surface, using suitable membrane between spray coats and for patching purposes. Where used, membrane should be lapped 4" at all joints or around patch applications. For ease of application, the best workable temperature range is 50 to 100 F. Storage temperature should not exceed 100 F. Duriseal Protective Coatings require no thinning.

COVERAGE

Material requirements are estimated on wet coverage of approximately 5 to 6 square feet (1/4" thick) per gallon.

CONTAINERS

Duriseal Protective Coatings are shipped in 5, 30 or 55 gallon steel containers.

CAUTION:

Surface during application should not be above 100 F for indoor applications or 130 F for outdoor applications. Provide adequate ventilation and do not apply in vicinity of open flame, welding arcs, etc.

