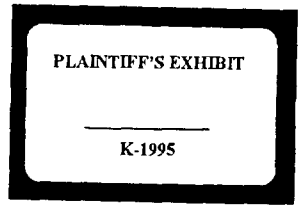
SUPPLEMENTATION TO ANSWERS TO INTERROGATORIES AND RESPONSES TO REQUESTS FOR ADMISSIONS AND FOR PRODUCTION OF DOCUMENTS

Owens-Illinois hereby supplements all existing Interrogatory Answers, Responses to Requests for Admissions, and Responses to Requests to Produce Documents previously served in the PRINCE GEORGE'S COUNTY Asbestos Litigation to the extent that any such interrogatory, request for admission or document request seeks to elicit information or admissions of the following nature or document related thereto:

In the course of its continuing investigation, Owens-Illinois has discovered the following documents which may be responsive to previous interrogatories and/or request for documents or admissions and which will be made available for inspection and copying: various brochures, pamphlets and advertisements relating to Kaylo, photographs of Kaylo products, negative listing, and a newsletter by American Structural Products Company. This defendant is unable to verify whether Kaylo was in fact used for all or each of the applications suggested in the advertisements. All of the documents will be made available for inspection and copying at the offices of its counsel in this jurisdiction.

The Kaylo asbestos-containing products manufactured by this defendant were intended to be used for industrial high temperature thermal insulation such as pipe covering and block insulation, and to increase fireproofing and fire protection and for insulation through use as a roof deck or fireproof material or core material used in fire doors and laminated panels. The information available to this defendant indicates that it was contemplated that the core material could be used to manufacture panels which could be laminated with facings of any one of a variety of materials, including wood veneer, aluminum, steel, stainless steel, zinc-coated steel, cement-asbestos, porcelain enamel, plastics and monel and that the core material in fire doors could be laminated with facings of metal or wood veneer.

A subsidiary of Owens-Illinois may have manufactured wood veneer for use as a facing on fire doors and laminated panels and may have assembled such fire doors and laminated panels with the wood veneer. All other facings were manufactured by other companies and assembled by the manufacturers of such fire doors and laminated panels. Although it is unclear based on the information available to this defendant whether fire doors and laminated panels were assembled by this defendant, such information indicates that the other companies were the primary if not the only manufacturers of



laminated panels and firedoors. Based on this defendant's records as well as other information produced in the litigation, such manufacturers of fire doors and laminated panels included Haskelite Manufacturing Company, U.S. Plywood, and Algoma Hardwood.

Fire doors were sold by this defendant and by the manufacturers of the fire doors. Laminated panels were used by Owens-Illinois in its own facilities, sold by Owens-Illinois and sold by the manufacturers of the laminated panels. During the period from May 1949, as it relates to laminated panels, and October 1949, as it relates to fire doors, through December 31, 1952, which is the period Owens-Illinois believes that completed fire doors and completed laminated panels were either used or sold by it, the total value of these fire doors, of which the core material was a component, was less than Fifty-four Thousand Dollars ($54,000) and the total value of these laminated panels, of which the core material was a component, was less than Two Hundred Twenty-four Thousand Dollars ($224,000).

Owens-Illinois is presently continuing its investigation and will further supplement its discovery responses in the future if it becomes necessary.

Dated: 12/13, 1995.

OWENS-ILLINOIS, INC.

By: _____
H.G. Bruss

December 13, 1995

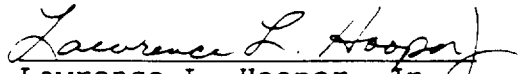
Then personally appeared the above named H.G. Bruss, in his capacity as Assistant Secretary of Owens-Illinois, Inc. and made oath that the foregoing supplementation to Answers to Interrogatories, Responses to Requests for Admissions and for Production of Documents is true to the best of his knowledge, information and belief.

Before me,

_____
Notary Public

MARY JANET CRAWFORD
Notary Public, State of Ohio
My Commission Expires 1-4-96

Respectfully submitted,



Lawrence L. Hooper, Jr.
Tydings & Rosenberg
100 E. Pratt Street
Baltimore, MD 21202
(410) 752-9700

Attorneys for Owens-Illinois, Inc.

A new heat

WITH A REMARKABLE COMBINA

KAYLO HEAT INSULATING BLOCK *is a new type of* lightweight mineral insulation that is *efficient* enough to be used at ordinary room temperatures and *resistant* enough to perform effectively up to 1200° F.

Few new products of any kind have been so thoroughly researched before being placed on the market. Kaylo Heat Insulating Block is the achievement of many years' work by Owens-Illinois Glass Company engineers, physicists and chemists. It combines the most desirable characteristics of the ideal heat insulation.

LOW DENSITY. Kaylo Heat Insulating Block weighs only 11 pounds per cubic foot. This light weight (less than one pound to the board foot) simplifies handling, shipping and application.

LOW THERMAL CONDUCTIVITY. The coefficient of conductivity, or *k*, of Kaylo Heat Insulating Block places it among the most efficient insulations for medium high temperatures. Its insulation value comes principally from its fine, cellular structure. These cells are so tiny and so numerous that they present a material surface of approximately 140 acres per cubic foot of insulation.

Experience shows that the efficiency of Kaylo insulation improves after exposure to service temperatures.

EFFECTIVE OVER WIDE TEMP
Kaylo Heat Insulating Block per
only on temperatures in the low
hot water range but on temper
heated steam range as well. On
with Kaylo insulation handles
often require two thicknesses of

HIGH COMPRESSIVE STRENGT
strength is unusually high for a
such light weight.

HIGH FLEXURAL STRENGTH. Its
higher than the normal requirem
tion of this type. This strength
ling and application, and contril
with low maintenance.

NO ADDED BINDER. Kaylo insul
compound, containing no add
formance characteristics, therefo
additives, which often reduce ins
effective temperature range or
formance.

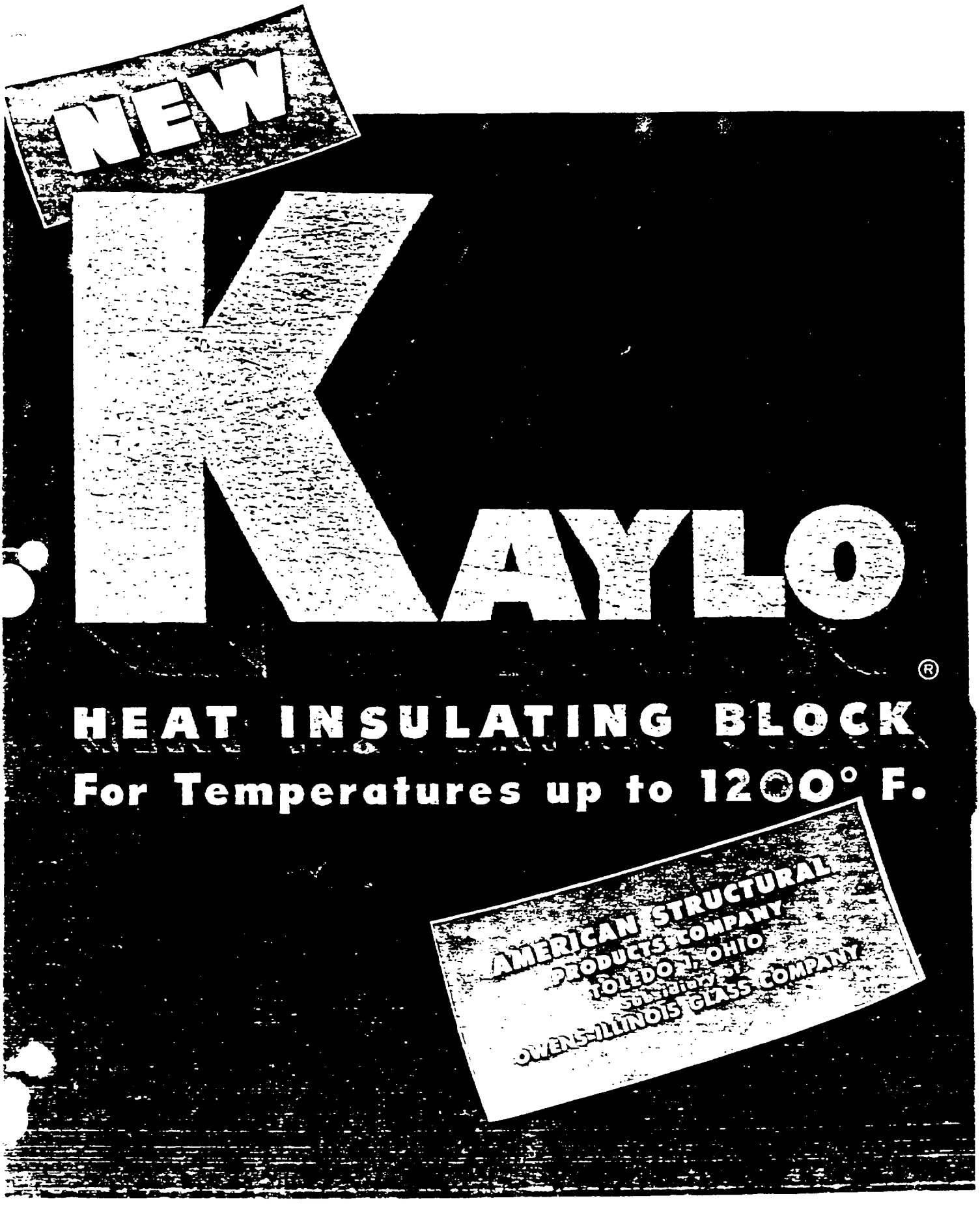
EASY TO APPLY. Kaylo Heat I
clean-cut and trim. They are ea

Notice the clean, straight edges on these insulated precipitator hoppers. Applicators find it easy to work with Kaylo Heat Insulating Block because they are so easy to cut and yet have a high flexural strength.



On large or small equipment, ins
Insulating Block performs efficiently
maintenance. Here it is being applie
precipitator.




NEW
KAYLO
®
HEAT INSULATING BLOCK
For Temperatures up to 1200° F.
AMERICAN STRUCTURAL
PRODUCTS COMPANY
TOLEDO, OHIO
Subsidiary of
OWENS-ILLINOIS GLASS COMPANY

OW THERMAL CONDUCTIVITY

The coefficient of conductivity, or ... of Kaylo Heat Insulating Block, ...own on the chart on page four, ... it among the most efficient in...ations for medium high tempera...ures. Its insulation value comes prin...ipally from its fine, interlaced cellular ...tructure. These cells are so tiny and ...o numerous that they present a ma...erial surface of approximately 140 ...cres per cubic foot of insulation.

Experience shows that the insula...ion value of Kaylo insulation im...proves when the material is put into ...ervice.

EFFECTIVE OVER WIDE TEMPERATURE RANGE

Kaylo Heat Insulating Block performs efficiently not only on temperatures in the low pressure steam and hot water range but on temperatures in the superheated steam range as well. This is shown by the flatness of the conductivity curve. One-material coverage with Kaylo insulation handles applications which often require two thicknesses of different materials.

HIGH COMPRESSIVE STRENGTH

...s compressive strength is un...y high for a mineral product of light weight. Kaylo Heat Insulating Block withstands compression values equivalent to those of a man's walking on it or even to those of a heel's being ground into it.

HIGH FLEXURAL STRENGTH

Its flexural strength is higher than the normal requirement for heat insulation of this type. This strength makes for easy handling and application, and contributes to long service with low maintenance.

NO ADDED BINDER

Kaylo insulation is an inorganic compound, containing no added binder. Its performance characteristics, therefore, are not affected by additives, which often reduce insulating value, modify effective temperature range or otherwise limit performance.

EASY TO APPLY WELL

Kaylo Heat Insulating Blocks are clean-cut and trim. They are easy to fit into place to make a good-looking installation. ~~Their "feel" is pleasant and non-irritating~~. They can be cut, scored and sawed with ordinary woodworking tools. Finishes that go over the block, whether cement, cloth or other types, can be applied smoothly and with a minimum of effort. No special tools are needed.

LOW MOISTURE ABSORPTION

Moisture absorption is no problem with Kaylo insulation. Even when subjected to an atmosphere of 90% relative humidity and a temperature of 120° F., in standard tests, specimens absorb less than 1% moisture by volume.

RETAINS EFFECTIVENESS AFTER LONG SERVICE

Kaylo Heat Insulating Block remains strong, free from excessive powdering, and shows little loss in weight or shrinkage after long application to temperatures up to 1200° F. Even conventional tumbling tests, run after prolonged heating, produce relatively little crumbling or breakdown of the material.

STANDARD SIZES

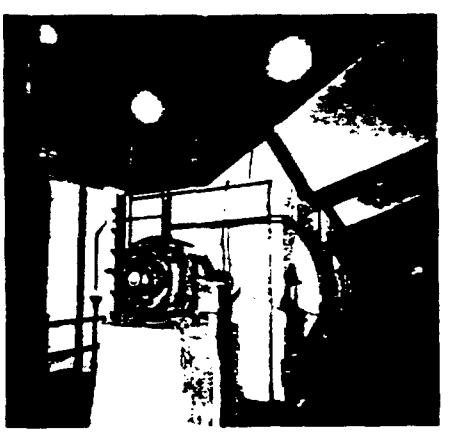
Lengths (inches)	Widths (inches)	Thicknesses (inches)
36	6	1
36	6	1½
36	6	2
36	6	2½
36	6	3
36	12	1
36	12	1½
36	12	2
36	12	2½
36	12	3

Other sizes are available on special order.

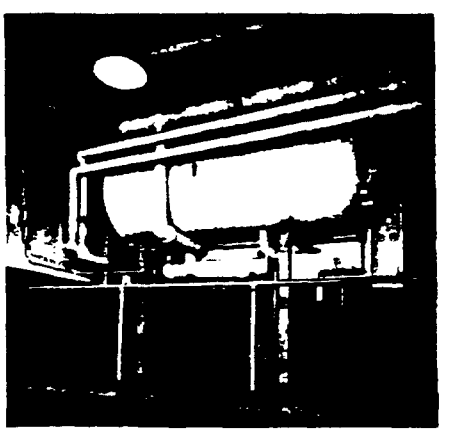
ND A REMARKABLE VERSATILITY



On large or small equipment, inside or out, Kaylo Heat Insulating Block performs efficiently and with a minimum of maintenance. Here it is bei... applied to the walls of a large p... ...itator. Workmen are laying ...ock over 6" x 6" wire mesh welded ...the stiffeners. The block are then ...vered with finishing cement and ...sphalt mastic weatherproofing.



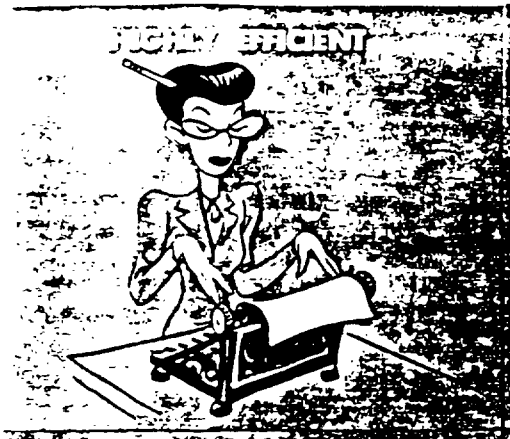
Kaylo Heat Insulating Block covers both flat and curved surfaces on the power house equipment pictured here. At the right are fresh air intakes; the center compartments house induced draft fans; and at the left are conduits leading to a precipitator. Kaylo insulation means continuous fuel savings to this power plant.



Hot water is always ready when needed in the office building where this hot water storage tank is installed, thanks to Kaylo Heat Insulating Block. This permanent insulation holds water temperature constant with a minimum of power consumption.

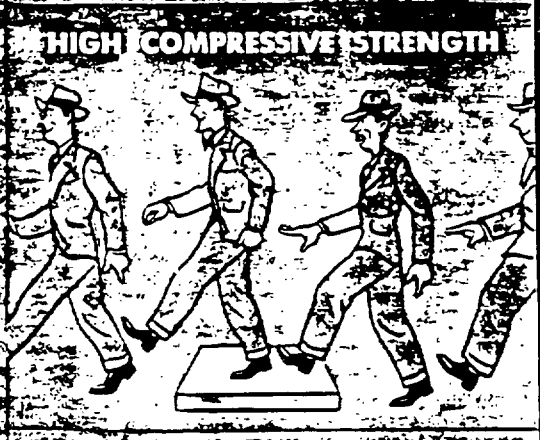
Other applications for Kaylo Heat Insulating block are listed on the back page.

PRINCIPAL FEATURES OF KAYLO HEAT INSULATING BLOCK

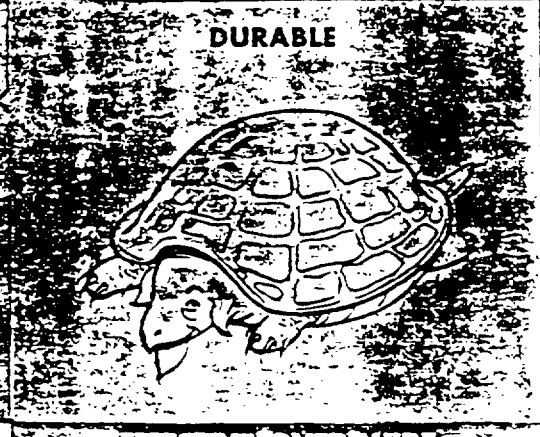




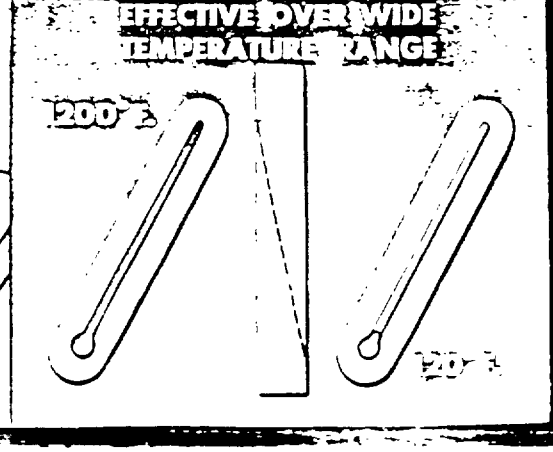












PHYSICAL CHARACTERISTICS AT A GLANCE

DENSITY ..... Approximately 11 lb. per cu. ft.

FLEXURAL STRENGTH ..... 50 lb. per sq. in.

COMPRESSIVE STRENGTH (5% deformation)

Before heating ..... 150 lb. per sq. in.

After heating for 24 hours

at 750° F. ..... 144 lb. per sq. in.

at 1000° F. ..... 123 lb. per sq. in.

at 1200° F. ..... 117 lb. per sq. in.

After boiling for 24 hours (while wet) ..... 74 lb. per sq. in.

LOSS IN WEIGHT

After heating for 24 hours.

at 750° F. 5.5%

at 1000° F. 7.9%

at 1200° F. 9.8%

After boiling for 24 hours 0.2%

RESISTANCE TO ABRASION

(Conventional Tumbling Test—Loss in weight after 10 minutes)

Before heating 2.2%

After heating for 24 hours

at 750° F. 5.7%

at 1000° F. 5.7%

at 1200° F. 6.9%

DIMENSIONAL STABILITY

Linear Shrinkage after heating for 24 hrs.

at 750° F. 0.8%

at 1000° E. 0.9%

at 1200° F. 1.5%

Elongation after saturation (max.) 0.4%

MOISTURE ABSORPTION (volume)

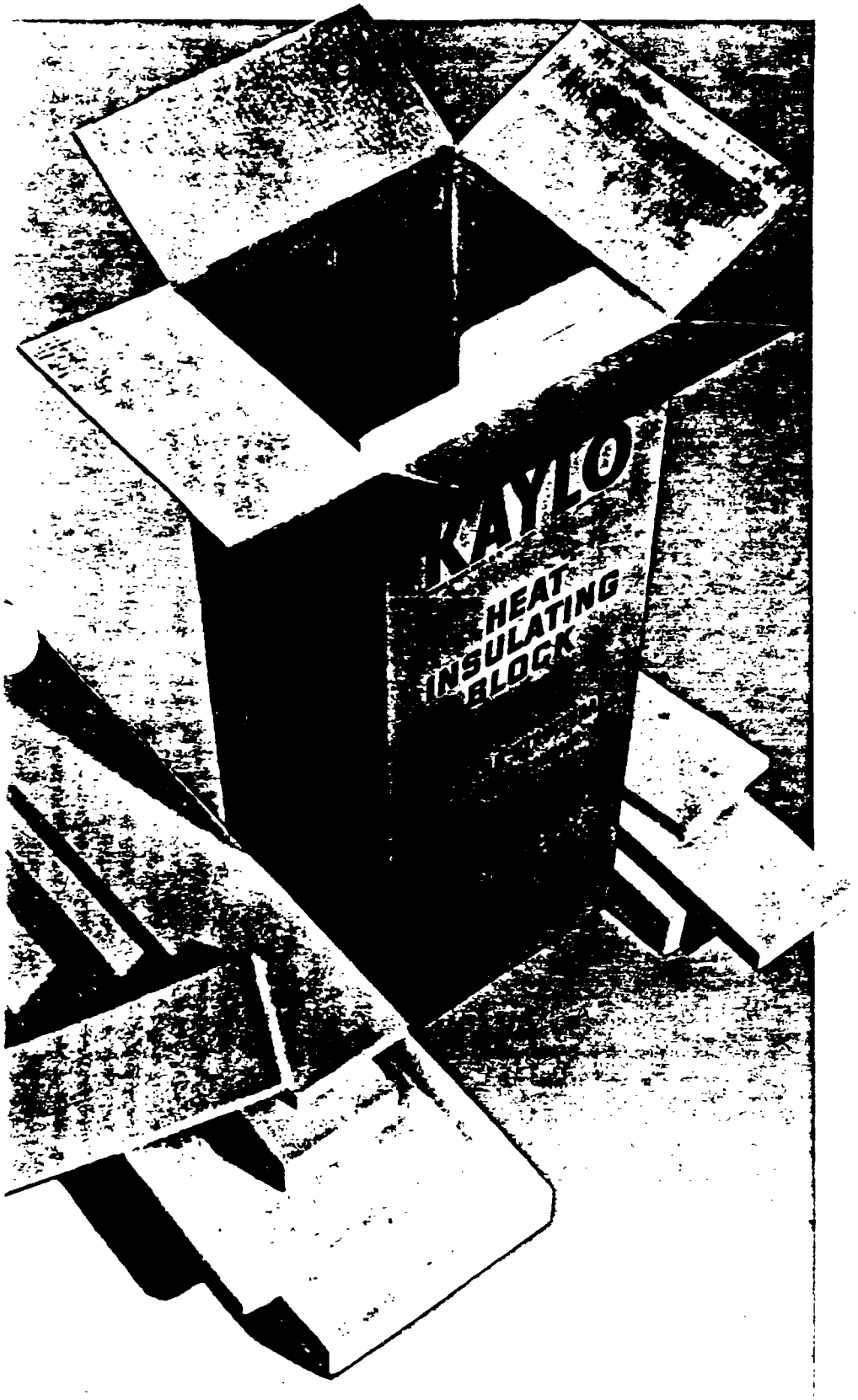
After 6 hours exposure in atmosphere of
120° F. and 90% Relative Humidity 0.9%

THERMAL CONDUCTIVITY

At 300° F. mean temperature 0.474



A NEW HEAT INSULATION WITH A REMARKABLE COMBINATION OF ADVANTAGES....



Kaylo Heat Insulating Block i a new type of lightweight mineral in sulation that is *efficient* enough to b used at ordinary room temperature and *resistant* enough to perform effec tively up to 1200° F.

Few new products of any kind hav been so thoroughly researched befor being placed on the market. Kayl Heat Insulating Block is the achieve ment of many years' work by Owens Illinois Glass Company engineers physicists and chemists.

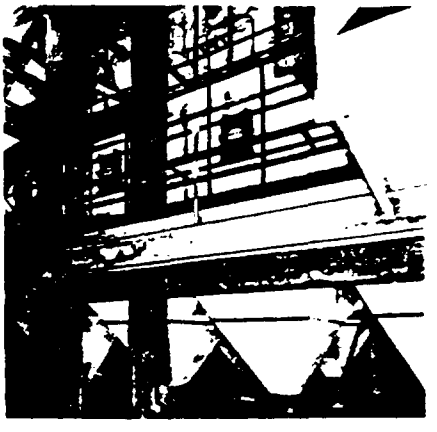
No other material, new or old, s effectively combines the most desir able characteristics of the ideal hea insulation.

For instance . . .

LOW DENSITY

Kaylo Heat Insulating Bloc weighs only 11 pounds per cubic foo This light weight (less than one poun to the board foot) simplifies handling shipping and application. It greatl reduces weight—an important advar tage on ships, for an example.

• • •

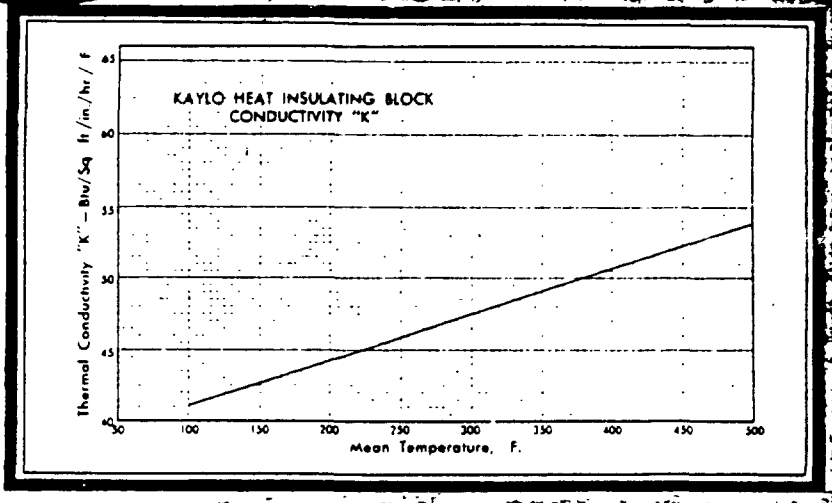


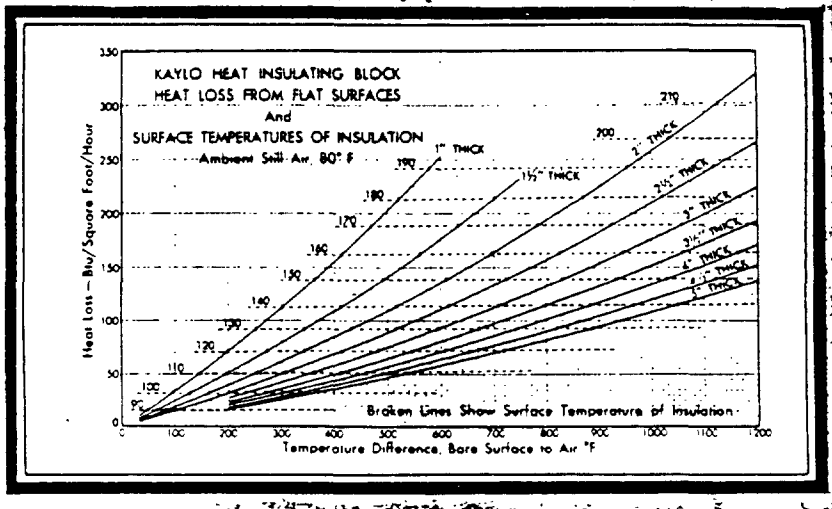
Notice the clean, straight edge on these insulated precipitator hop pers. Applicators find it easy to do th kind of work with Kaylo Heat Insula ing Block because they are so easy t cut and yet they have a relatively hig flexural strength. The walls above th hoppers are also insulated with Kayl Heat Insulating Block.

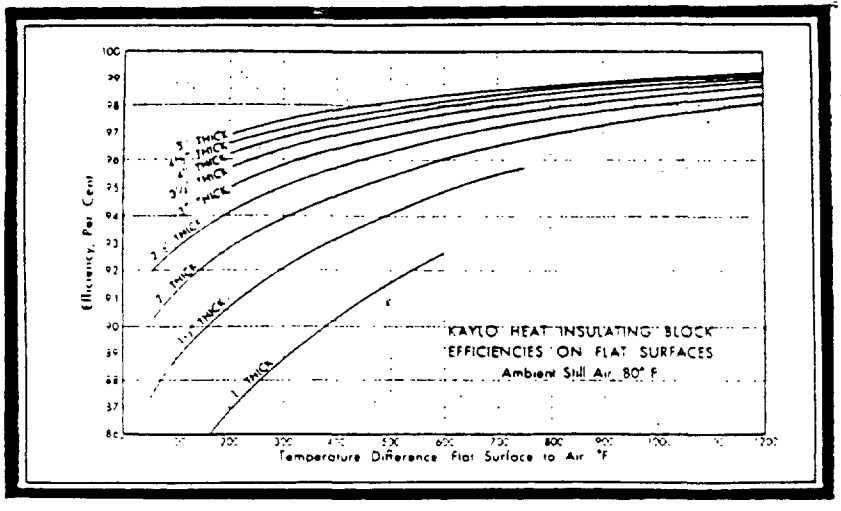
KH1—481—5M Copyright, 1948, American Structural Products Company Printed in U.S.A.

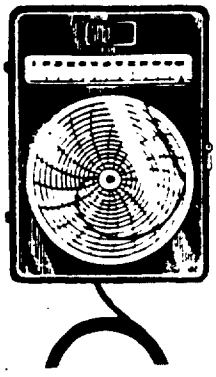
KAYLO® HEAT INSULATING BLOCK

Heat Loss, Surface Temperatures and Efficiencies...









Inside or outside, for large installations or small, from 0 to 1200° F., use Kaylo Heat Insulating Block to insulate:

Breechings	Lehrs
Hot Air Ducts	Autoclaves
Tanks	Ovens
Towers	Furnaces
Dryers	Turbines
Evaporators	Chilling Pits
Heat Exchangers	Boilers
Condensers	Precipitators
	Locomotives

SOURCES OF TEST DATA

The data shown on these pages are supported by tests run at various laboratories, all well-known to the insulation industry. They are further supported by the performance of the product in service.

●

More detailed information on Kaylo Heat Insulating Block is available on request. American Structural Products Company, Toledo 1, Ohio. Subsidiary of Owens-Illinois Glass Company.

16.

NEW KAYLO®

HEAT INSULATING BLOCK



For Temperatures

Up To 1200° F.

AMERICAN STRUCTURAL PRODUCTS COMPANY

Toledo 1, Ohio

A Subsidiary of OWENS-ILLINOIS GLASS COMPANY

ation

DVANTAGES...

ıake a good-looking installation. Their "feel" is pleasant and non-irritating. They can be cut, scored nd sawed with ordinary woodworking tools. Finishes hat go over the block, whether cement, cloth or other ypes, can be applied smoothly and with a minimum of effort. No special tools are needed.

.OW MOISTURE ABSORPTION. Kaylo Heat Insulating Block absorbs little moisture from surrounding ıumid air.

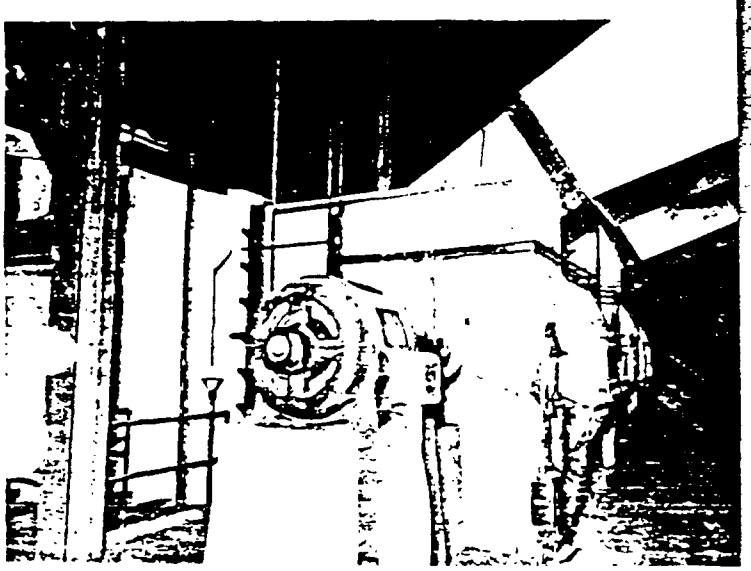
EFFECTIVE AFTER LONG SERVICE. Kaylo Heat Insulating Block remains strong, free from excessive powdering, and shows little loss in weight or shrinkage after long application to temperatures up to 1200° F. Even conventional tumbling tests, run after prolonged heating, produce relatively little crumbling or breakdown of the material.

TYPICAL APPLICATIONS:

In or outside, for large installations or small, up to)° F., use Kaylo Heat Insulating Block to insulate:

hings	Heat Exchangers	Turbines
Air Ducts	Condensers	Chilling Pits
Tanks	Lehrs	Boilers
Towers	Autoclaves	Precipitators
Dryers	Ovens	Locomotives
Evaporators	Furnaces	

Kaylo Heat Insulating Block covers both flat and curved surfaces on the power house equipment pictured here. By minimizing heat loss, it saves fuel and keeps temperatures within the room at comfortable levels.





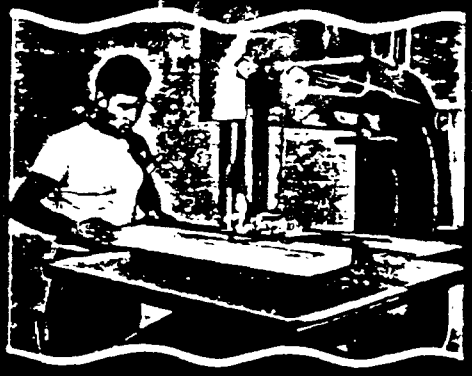
PHYSICAL CHARACTERISTICS

DENSITY	Approximately 11 lb. per cu. ft.
FLEXURAL STRENGTH	50 lb. per sq. in.
COMPRESSIVE STRENGTH (at 5% deformation)	
Before heating	150 lb. per sq. in.
After heating for 24 hours	
at 750° F.	144 lb. per sq. in.
at 1000° F.	123 lb. per sq. in.
at 1200° F.	117 lb. per sq. in.
After boiling for 24 hours (while wet)	74 lb. per sq. in.
LOSS IN WEIGHT	
After heating for 24 hours	
at 750° F.	5.5%
at 1000° F.	7.9%
at 1200° F.	9.8%
After boiling for 24 hours (after drying)	0.2%
RESISTANCE TO ABRASION	
(Conventional tumbling test-loss in weight after 10 minutes)	
Before heating	2.2%
After heating for 24 hours	
at 750° F.	3.7%
at 1000° F.	5.7%
at 1200° F.	6.9%
DIMENSIONAL STABILITY	
Linear shrinkage after heating for 24 hours	
at 750° F.	0.8%
at 1000° F.	0.9%
at 1200° F.	1.5%
Elongation after saturation (max.)	0.04%
MOISTURE ABSORPTION (volume)	
After 6 hours exposure in atmosphere of 120° F. and 90% Relative Humidity	0.9%
CONDUCTIVITY (K)	
At 100° F. mean temperature	0.41
At 500° F. mean temperature	0.54

STANDARD SIZES

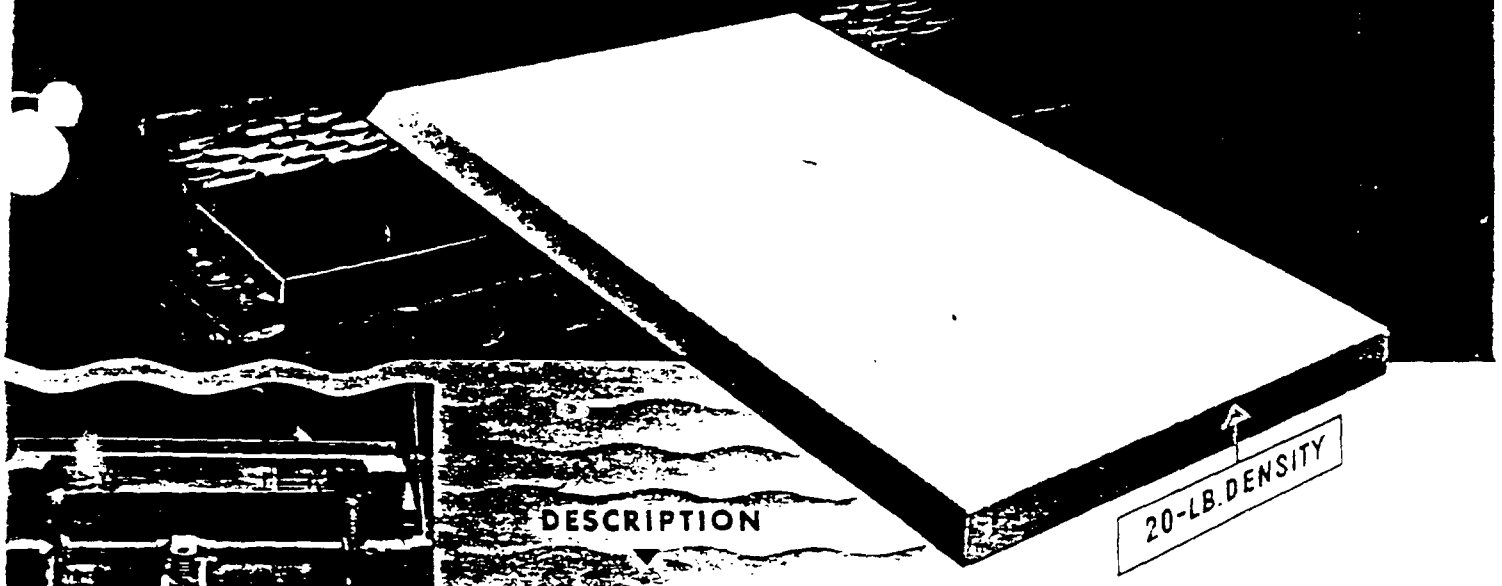
LENGTH (inches)	WIDTH (inches)	THICKNESS (inches)
36	6	1
36	6	1½
36	6	2
36	6	2½
36	6	3
36	12	1
36	12	1½
36	12	2
36	12	2½
36	12	3

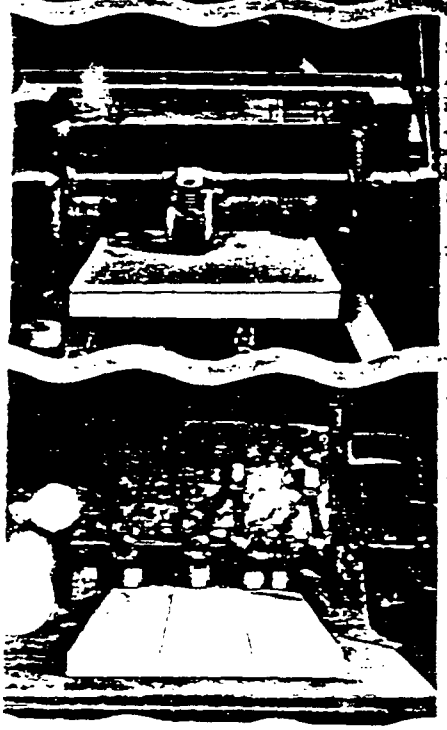
other sizes are available on special order



KAYLO®

20-LB. DENSITY
STRUCTURAL INSULATING BLOCK





DESCRIPTION

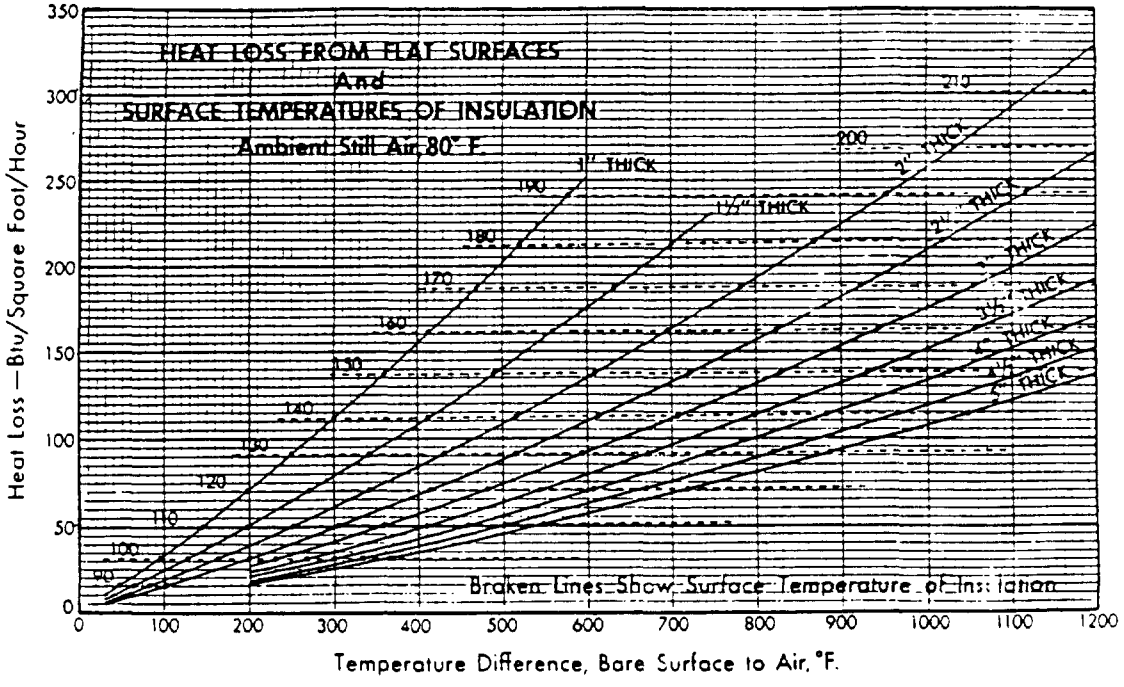
Kaylo Structural Insulating Block—is a near-white, rigid mineral insulating material weighing approximately 20 pounds per cubic foot. It is composed principally of calcium silicate. Except for density and for those characteristics that are changed by density it is similar to *Kaylo Heat Insulating Block*, a lightweight insulation used to insulate against heat loss from hot surfaces. Kaylo Structural Insulating Block (20-lb. density) is designed to develop maximum strength and fire resistance without sacrificing its advantages of light weight and low thermal conductivity. In fact the practical combination of these four properties—strength, weight, insulating value and fire resistance—makes it almost unique as a building material.

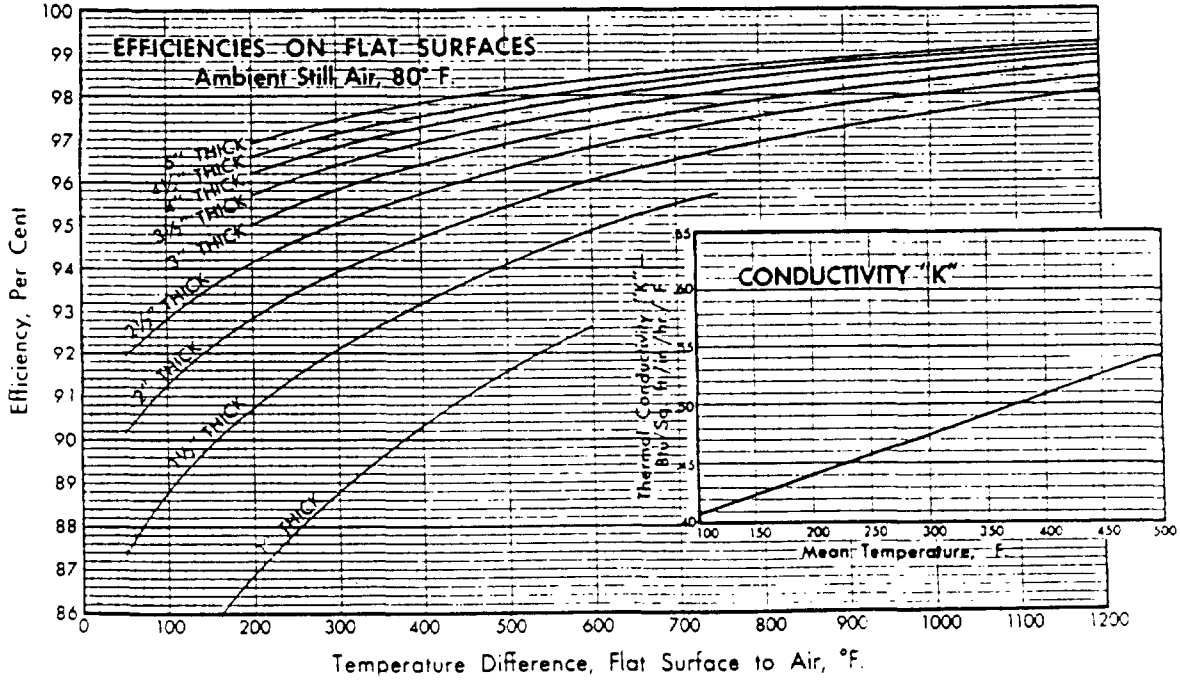
It weighs nominally 20 pounds to the cubic foot (actually on an oven dry basis from 19.5 to 22 lb.), has a compressive strength of approximately 500 lb. per sq. in., a "k" of 0.66 at 100 mean and outstanding resistance to the travel of heat and flame at building fire temperatures.

KAYLO®

HEAT INSULATING BLOCK

Heat Loss, Surface Temperatures, and Efficiencies



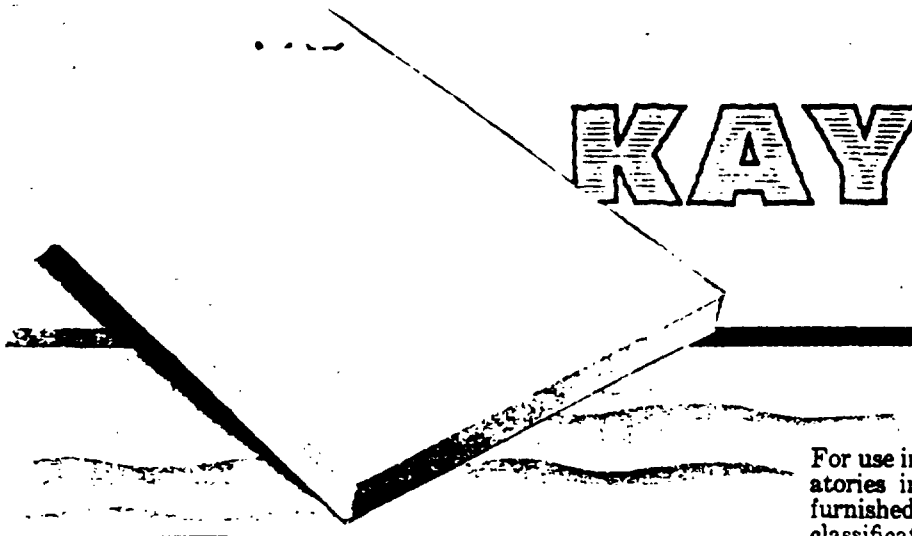


SOURCES OF TEST DATA: The data shown on these pages are supported by tests run at various laboratories, all well known to the insulation industry. They are further supported by the performance of the product in service.

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More detailed information on Kaylo Heat Insulating Block is available on request. American Structural Products Company, Toledo 1, Ohio.

KAYLO® STRUCTUI

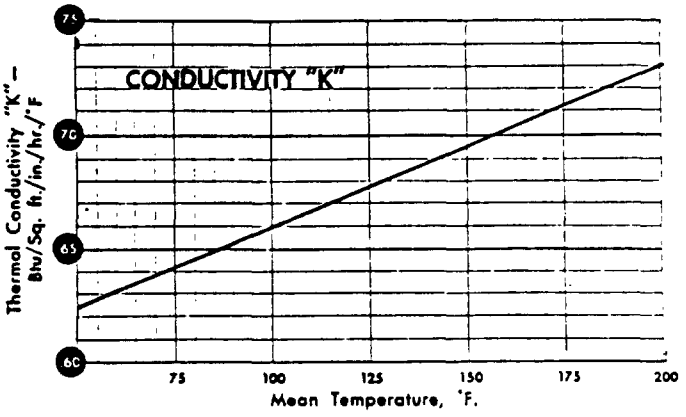


For use in fabrications that are to be Underwriters' Laboratories inspected, Kaylo Structural Insulating Block is furnished bearing the Underwriters' label for fire hazard classification for building material.

USES

Kaylo Structural Insulating Block is not a finished building material in itself and is not made for exposure to the weather. Its principal uses are as a structural roof tile, or roof deck unit, in which a steel reinforcing mat is inserted at the time of forming, and as a core material. In this latter use it serves as the core of laminated structures where the faces or laminates are applied with adhesives, and also as the core of structural shells or envelopes where the Kaylo core material is simply inserted in the open spaces and held by its own contact or by such conventional methods as clips or other attachments.

In any of these applications it adds rigidity to the structure and vastly increases insulation value and fire resistance.



PHYSICAL PROPERTIES

Light Weight—Nominal 20-lb. density Kaylo Block is about a third lighter than yellow pine. On an oven-dry basis it weighs from 19.5 to 22 pounds per cubic foot.

High Strength—Its compressive strength is approximately 500 lb. per sq. in. with a deformation of 5 per cent. Flexural strength is approximately 175 lb. per sq. in.

Fireproof—Kaylo 20-lb. density Structural Insulating Block has been tested at the Underwriters' Laboratories in Chicago and given the following rating, based on comparison with untreated Red Oak as 100.

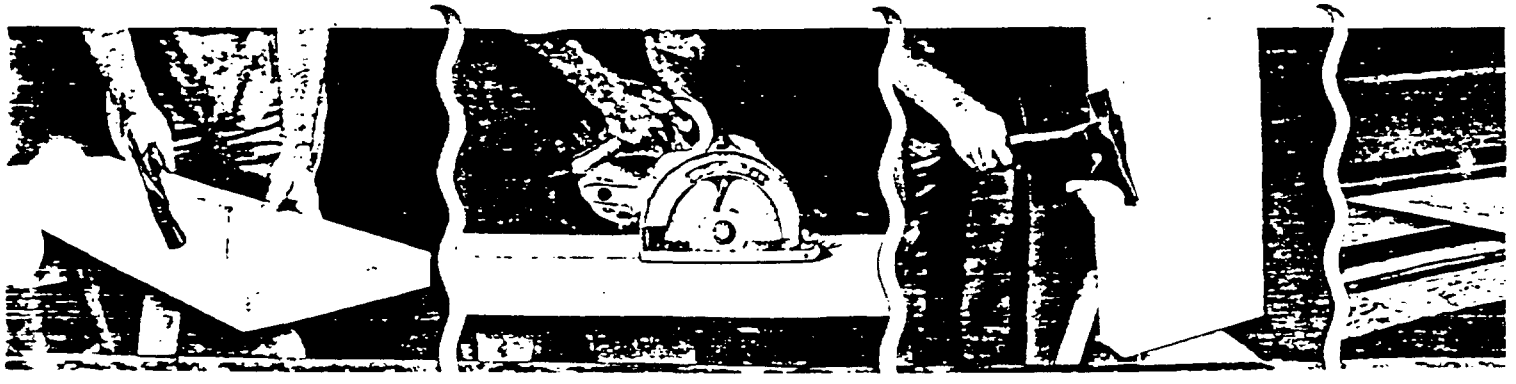
Flame spread	0.0
Fuel contributed	negligible
Smoke produced	0.0

Good Insulation Value—At low mean temperatures Kaylo Structural Insulating Block is one of the most efficient structural mineral insulations. At high mean temperatures it still compares favorably with heat insulating materials of its own weight.

High Light Reflectivity—Where left exposed and untreated (as with the underside of a roof deck) Kaylo Structural Insulating Block has high light reflectivity. Its light reflection factor is from 70 to 80 per cent.

Non-Abrasive Surface—Its surface is non-abrasive. It has a somewhat "soapy" feel that makes it pleasant to handle. At the same time it has a firm surface that assures good contact with surfaces applied over it.

No Added Binder—It contains no added binder, but instead constitutes its own binder. Hence its characteristics are not modified as to temperature limit, solubility, insulation value, fire resistance or otherwise by "binder limitations."



L INSULATING BLOCK (20-LB. DENSITY)

ood Workability—Kaylo Structural Insulating Block is esponsive to wood working tools. It can be sawed with a and saw or power saw, can be routed, tongue-and-rooved, sanded, and, in fact, run through most wood-orking equipment.

igh Modulus of Elasticity—The modulus of elasticity of 0-lb. density block is approximately 160,000 lb. per sq. in.

ow Specific Heat—The specific heat of Kaylo Structural nsulating Block is approximately 0.22.

ellular Structure—Kaylo Structural Insulating Block is bout 80 per cent inter-communicating air cells. The cells re extremely small, less than a micron in diameter.

ow Moisture Absorption—Kaylo Structural Block is hy-roscopic. It will absorb moisture from humid air and will each equilibrium at lower moisture contents when exposed o lower humidities. However, because of its extremely mall pore size and other characteristics, its behavior with espect to moisture differs from that of most porous ma-eri It has unusual capacity to distribute moisture its mass, and to give it off to surrounding air of moisture content.

noisture absorption when surrounded by humid air s low. Test specimens dried for 24 hours at 215° F., cooled and then exposed on all surfaces to an atmosphere of 90 per cent relative humidity and a temperature of 120° F. or six hours, absorbed less than one per cent of moisture y volume.

onsistent with the common practice for good construc-on involving porous insulating materials of high interna! rface area, Kaylo Structural Insulating Block should e sealed against moisture on the warm side when it is bjected to extremely low temperatures.

High Wet Strength—Kaylo Structural Insulating Block, like most other insulating materials, is not intended to serve immersed in water or exposed to extremely damp or humid conditions, yet its flexural strength when wet (immersed 10 hours) is reduced only about 15 per cent.

Dimensionally Stable—The dimensions of Kaylo Structural Insulating Block change little with changes in moisture content. Experience has shown from the manufacture of thousands of units of laminated structures that they have unusual dimensional stability and unusual freedom from warping.

Available with and without Reinforcing—In the form of roof tile Kaylo Structural Insulation is available with a steel reinforcing mat. In the form of core material for various types of structure it is available without reinforcing.

Accepts Nails and Screws—Both nails and screws can be used with Kaylo Structural Block. Tables showing holding power of both are available on request. Nails should be of the cement-coated type without barbs that abrade the sides of the opening they make as they are driven into the block. Galvanized or non-ferrous nails may be used where greater resistance to corrosion is required. Screws may be inserted either with or without drilling a pilot hole.

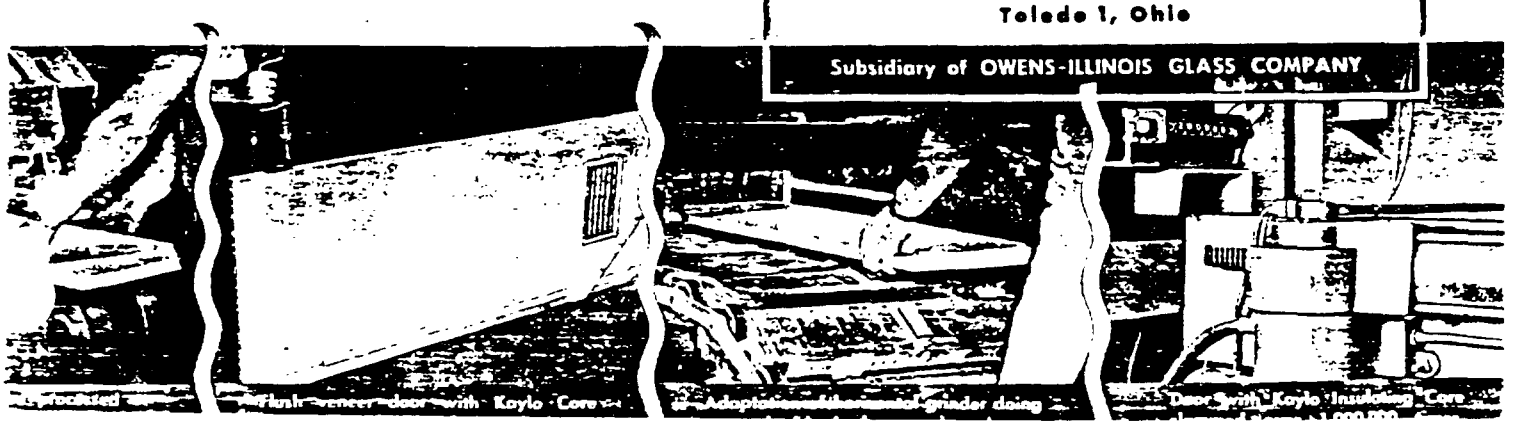
Sizes—Kaylo Structural Insulating Block is made in a standard size of 18 x 36 inches.

Since most uses involve manufacturing operations, thicknesses that are practical can best be worked out with the manufacturer of Kaylo Insulating Products after approximate quantities needed are known. These will usually be between one and two inches thick.

Certain thicknesses are suggested by certain building requirements. A thickness of from 1¾ to 2 inches of Kaylo Structural Insulating Block is required to withstand a typical building fire for one hour—usually somewhat more for a partition than for a door because of the greater performance required of a partition.

20-Lb. and 11-Lb. Density Block Can Be Used in Combination. Where two thicknesses of insulation are used to build up an insulating structure it is possible to use the two densities in combination to develop the best insulation value strength and fire resistance.

AMERICAN STRUCTURAL PRODUCTS COMPANY
Toledo 1, Ohio
Subsidiary of OWENS-ILLINOIS GLASS COMPANY



LAMINATION

.amination over a Kaylo Insulating Core—Almost any face material may be bonded to Kaylo Structural Insulating Block surfaces. Bonding agents can be selected to meet the requirements o: the particular facing—also to satisfy the service requirements of the finished product—and still offer some choice in curing procedures.

Some adhesives which may be used with various types of face materials are listed below. (This list is not intended to be complete. Its only purpose is to identify a partial list of adhesives. These have been found to provide a tensile strength of 35 lb. per sq. in. and a minimum shear strength of 100 lb. per sq. in. when cured in the manner indicated.)

ADHESIVES FOR JOINING KAYLO STRUCTURAL INSULATING BLOCK TO:

Wood Veneer	Aluminum	Stainless Steel
Durite No. 3026A (A) 3026AWH707 3026AWF	Durite No. 3026A (A)	Durite No. 3026 (A) No. A, NH267
Penacolite G1131 (A)	Pecora 718 (E)	N100 (C)
Pecora 718 (E)	Weldwood (A)	3 MEC 826 (C D E)
Catabond 720 (A)	Insolute No. 1 (A)	Weldwood (A)
Vinylseal MA 28-18 (E)	Interlake 4162 (C D)	Insolute No. 1 (A)
Amberlite PR14 (D)	Vulcalock (A B)	Interlake 4162 (C D)
Bostik 7026 (D)	Dupont 4653 (C D E)	Vulcalock (A B)
Redux (D)	Dupont 4646 (C D E)	Dupont 4653 (C D E)
Synco X-8348 + 130LW (DW) (D)	G. E. 2142 (C)	Dupont 4646 (C D E)
	G. E. 7031 (C)	G. E. 2142 (C)
	Vinylseal MA 28-18 (E)	G. E. 7031 (C)
	Amberlite PR14 (D)	Vinylseal MA 28-18 (E)
	Bostik EXE 138 (D)	Amberlite PR14 (D)
	Redux (D)	Bostik 7026 (D)
		Sodium Silicate (A)
		Redux (D)

ADHESIVES FOR JOINING LIKE MATERIALS:

Insulating Block to Insulating Block	Aluminum to Aluminum	Stainless Steel to Stainless Steel
Durite 3026A (A)	Vulcalock (A B)	Dupont 4653 (C D E)
Penacolite G1131 (A)	Dupont 4653 (C D E)	G. E. 7031 (C)
Weldwood (A)	Dupont 4646 (C D E)	Bostik 7026 (D)
Insolute 1 (A)	G. E. 7031 (C)	Bostik EXE 138 (D)
G. E. 2142 (C)	Bostik 7026 (D)	Redux (D)
Plaskon 911 (C D)	Bostik EXE 138 (D)	
Selectron 5003 (E)	Redux (D)	
Vinylseal MA 28-18 (E)		
Amberlite PR14 (D)		
Bostik 7026 (D)		
Bostik EXE 138 (D)		
Sodium Silicate (A)		
Redux (D)		
Synco X-8348 + 130LW (DW) (D)		

Symbols for method of cure:
For Maximum Strength

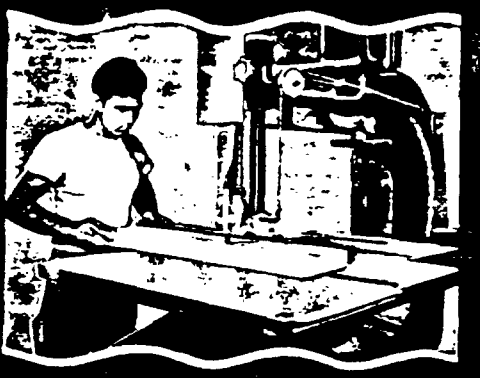
- (A) Clamped at room temperature for 24 hours.
- (B) Clamped in oven at 120° F. for 1 hour.
- (C) Placed in press at 10 p.s.i. at 300° F. for 10-30 minutes.
- (D) Placed in press at 100 p.s.i. at 300° F. for 10-30 minutes.
- (E) Clamped in oven at 250° F. for 10-30 minutes.

High-frequency curing has been tried successfully on an experimental basis with wood, aluminum and stainless steel bonded to a Kaylo sulating core. Many of the manufacturers making the above listed adhesives can provide adhesives suitable for high-frequency curing.

AMERICAN STRUCTURAL PRODUCTS COMPANY
TOLEDO 1, OHIO
Subsidiary of OWENS-ILLINOIS GLASS COMPANY

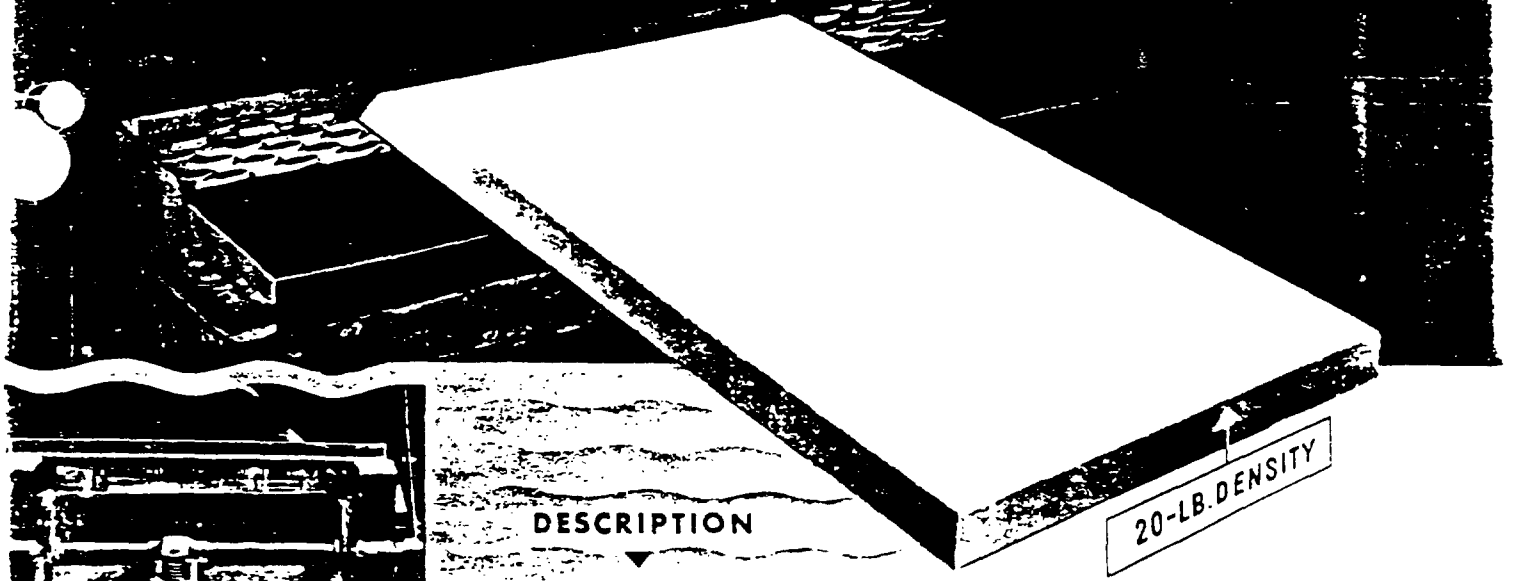
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KAYLO®

20-LB. DENSITY
STRUCTURAL INSULATING BLOCK





DESCRIPTION

Kaylo Structural Insulating Block—is a near-white, rigid mineral insulating material weighing approximately 20 pounds per cubic foot. It is composed principally of calcium silicate. Except for density and for those characteristics that are changed by density it is similar to *Kaylo Heat Insulating Block*, a lightweight insulation used to insulate against heat loss from hot surfaces. Kaylo Structural Insulating Block (20-lb. density) is designed to develop maximum strength and fire resistance without sacrificing its advantages of light weight and low thermal conductivity. In fact the practical combination of these four properties—strength, weight, insulating value and fire resistance—makes it almost unique as a building material.

It weighs nominally 20 pounds to the cubic foot (actually on an oven dry basis from 19.5 to 22 lb.), has a compressive strength of approximately 500 lb. per sq. in., a "k" of 0.66 at 100 mean and outstanding resistance to the travel of heat and flame at building fire temperatures.

KAYLO®

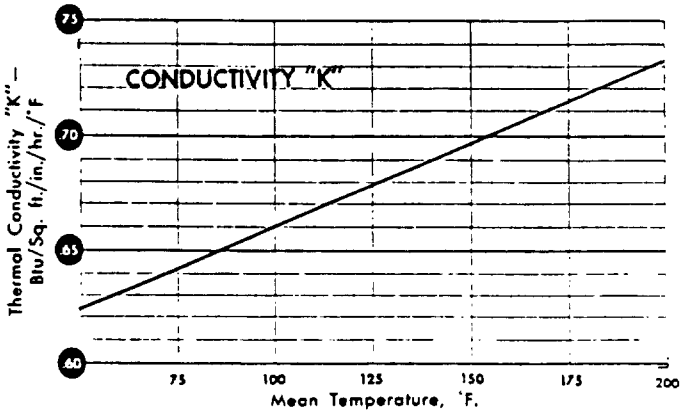
20-LB. DENSITY

USES

Kaylo Structural Insulating Block is not a finished building material in itself and is not made for exposure to the weather. Its principal uses are as a structural roof tile, or roof deck unit, in which a steel reinforcing mat is inserted at the time of forming, and as a core material. In this latter use it serves as the core of laminated structures where the faces or laminates are applied with adhesives, and also as the core of structural shells or envelopes where the Kaylo core material is simply inserted in the open spaces and held by its own contact or by such conventional methods as clips or other attachments.

In any of these applications it adds rigidity to the structure and vastly increases insulation value and fire resistance.

For use in fabrications that are to be Underwriters' Laboratories inspected, Kaylo Structural Insulating Block is furnished bearing the Underwriters' label for fire hazard classification for building material.



PHYSICAL PROPERTIES

Light Weight—Nominal 20-lb. density Kaylo Block is about a third lighter than yellow pine. On an oven-dry basis it weighs from 19.5 to 22 pounds per cubic foot.

High Strength—Its compressive strength is approximately 500 lb. per sq. in. with a deformation of 5 per cent. Flexural strength is approximately 175 lb. per sq. in.

Fireproof—Kaylo 20-lb. density Structural Insulating Block has been tested at the Underwriters' Laboratories in Chicago and given the following rating, based on comparison with untreated Red Oak as 100.

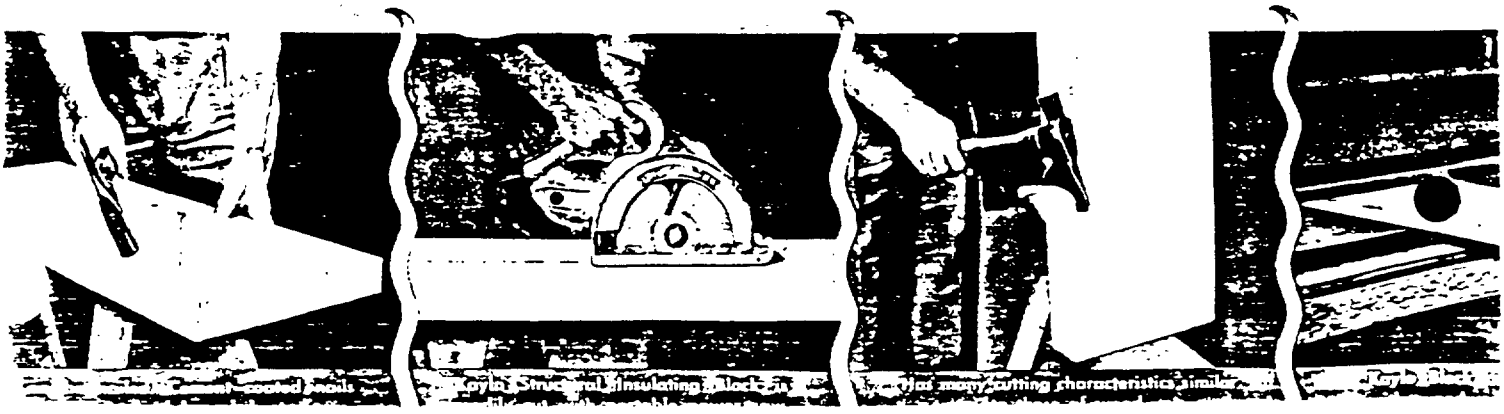
Flame spread	0.0
Fuel contributed	negligible
Smoke produced	0.0

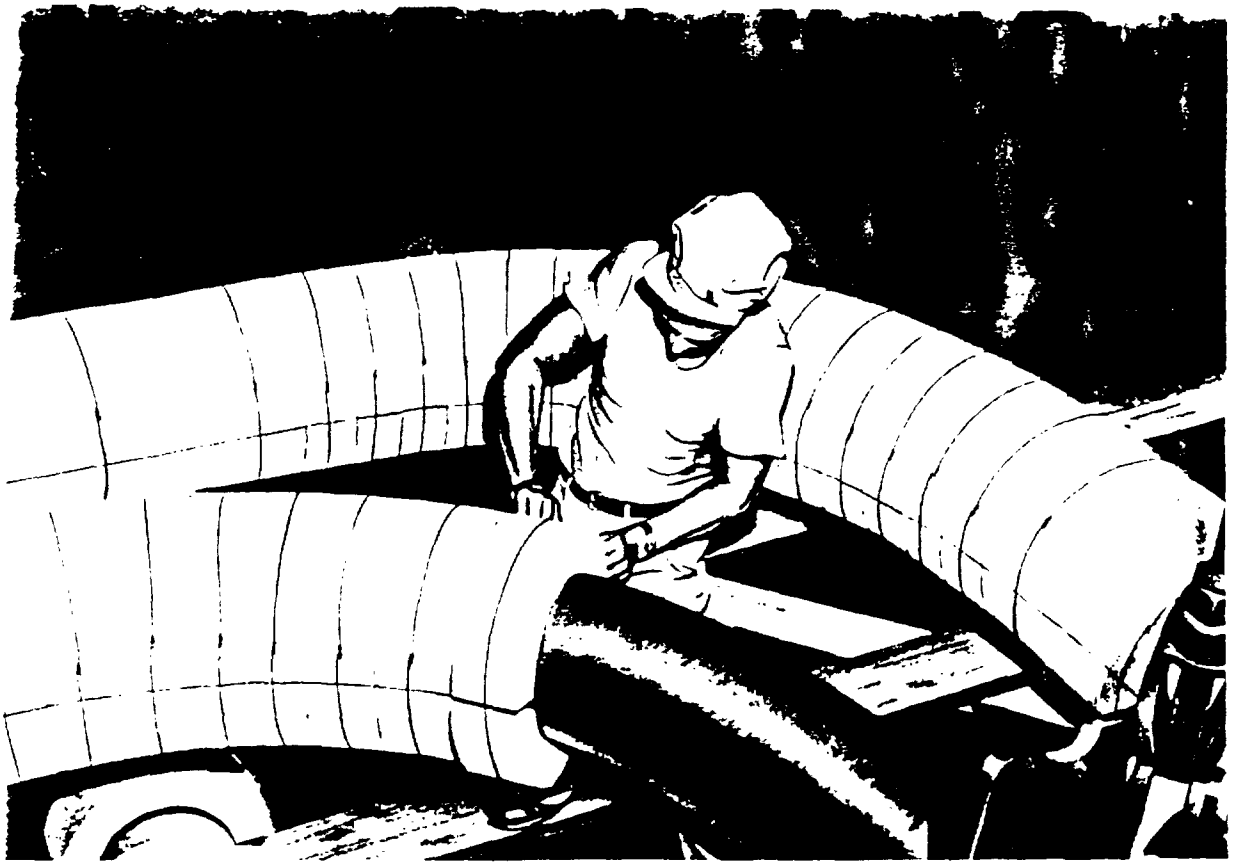
Good Insulation Value—At low mean temperatures Kaylo Structural Insulating Block is one of the most efficient structural mineral insulations. At high mean temperatures it still compares favorably with heat insulating materials of its own weight.

High Light Reflectivity—Where left exposed and untreated (as with the underside of a roof deck) Kaylo Structural Insulating Block has high light reflectivity. Its light reflection factor is from 70 to 80 per cent.

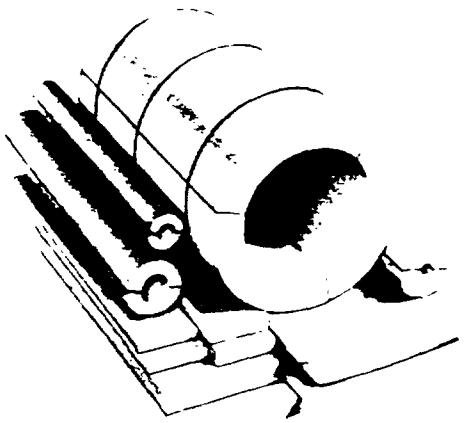
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No Added Binder—It contains no added binder, but instead constitutes its own binder. Hence its characteristics are not modified as to temperature limit, solubility, insulation value, fire resistance or otherwise by "binder limitations."





The Right Material... Expert Application



First, Kaylo Heat Insulation is *proved* a *better* material - hydrous calcium silicate. Its light weight, strength, water-insolubility, low conductivity and wide temperature range give you extra advantages *at no extra cost.*

Second, Kaylo distributors have the technical knowledge and experience to provide you with a complete insulating service. Their trained applicators are skilled craftsmen who do neat and efficient installation.

To be *sure* of getting the most out of your insulating dollars for your next job, call the nearest Kaylo distributor. Chances are you can find him listed in the yellow pages of your phone book. If not contact us and we'll give you his name.

WRITE FOR FREE BOOK—"Kaylo Heat Insulation" Address: Dept. N-370, Owens-Illinois Glass Company, Kaylo Division, Toledo 1, Ohio.



KAYLO® ... *first in calcium silicate*

...*pioneered by* OWENS (I) ILLINOIS Glass Company

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Owens-Illinois Glass Company—Kaylo Division
Advertisement No. K-153, appearing in the following publications:
Chemical Engineering—Jan., 1953
Oil & Gas Journal—Jan. 12, 1953
Plant Engineering—Jan., 1953
Power—Jan., 1953
Petroleum Refiner—Feb., 1953
Chemical Processing—Feb., 1953
Combustion—Feb., 1953
Industries & Power—Feb. 1953

LAMINATION

.amination over a Kaylo Insulating Core—Almost any face material may be bonded to Kaylo Structural Insulating Block surfaces. Bonding agents can be selected to meet the requirements of the particular facing—also to satisfy the service requirements of the finished product—and still offer some choice in curing procedures.

Some adhesives and primers which may be used with various types of face materials are listed below. (This list is not intended to be complete. Its only purpose is to identify a partial list of adhesives. An adhesive not listed does not imply that it is not suitable. These have been found to provide a tensile strength of 35 lb. per square inch and a minimum shear strength of 100 lb. per square inch when cured according to the manufacturer's recommendation. They are not listed in the order of their adhesive strength.)

ADHESIVES AND PRIMERS FOR JOINING KAYLO STRUCTURAL INSULATING BLOCK TO:

Wood Veneer or Paper or Plastics		Steel, Stainless Steel Galvaneal, or Aluminum		Kaylo Insulating Block or Cement-Asbestos Board	
Durite No. 3026A	A	Durite No. 3026A or No. A NH267	A	Durite 3026A	A
Penacolite G1131	A	N100	C	Penacolite G1131	A
Pecora 718	E	Pecora 718	E	Armstrong J 1162	D
Catabond 720	A	3MEC 826	C D E	Insolute 1	A
Vinylseal MA 28-18	E	Penacolite G1131	A	G.E. 2142	C
Amberlite PR 14	D	Insolute No. 1	A	Selectron 5003	E
Bostik 7026	D	Interlake 4162	C D	Vinylseal MA 28-18	E
Redux	D	Vulcalock	A B	Amberlite PR-14	D
Synco S-8348+130LW (DW)	D	DuPont 4653	C D E	Bostik 7026	D
Resorsabond R-12	A	DuPont 4646	C D E	Bostik EXE 138	D
Armstrong J-1162	D	Resorsabond R-12	A	Sodium Silicate	A
Tego	D	G.E. 2142	C	Redux	D
		G.E. 7031	C	Synco X-8348+130LW (DW)	D
		Bostik 7026	D	Resorsabond R-12	A
		Bostik EXE 138	D	Tego	D
		Bostik 1007	A		
		Vinylseal MA 28-18	E		
		Amberlite PR-14	D		
		Redux	D		
		Armstrong J-1162	D		

Symbols for method of cure:
For Maximum Strength

- **A** Clamped at room temperature for 24 hours.
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- **C** Placed in press at 10 p.s.i. at 300° F. for 10-30 minutes.
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Kaylo Division
OWENS-ILLINOIS GLASS COMPANY
Toledo 1, Ohio

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Cellular Structure—Kaylo Structural Insulating Block is about 80 per cent inter-communicating air cells. The cells are extremely small, less than a micron in diameter.

Low Moisture Absorption—Kaylo Structural Block is hygroscopic. It will absorb moisture from humid air and will reach equilibrium at lower moisture contents when exposed to lower humidities. However, because of its extremely small pore size and other characteristics, its behavior with respect to moisture differs from that of most porous materials. It has unusual capacity to distribute moisture within its mass, and to give it off to surrounding air of lower moisture content.

Its moisture absorption when surrounded by humid air is low. Test specimens dried for 24 hours at 215° F., cooled and then exposed on all surfaces to an atmosphere of 90 per cent relative humidity and a temperature of 120° F. for six hours, absorbed less than one per cent of moisture by volume.

Consistent with the common practice for good construction involving porous insulating materials of high internal surface area, Kaylo Structural Insulating Block should be sealed against moisture on the warm side when it is subjected to extremely low temperatures.

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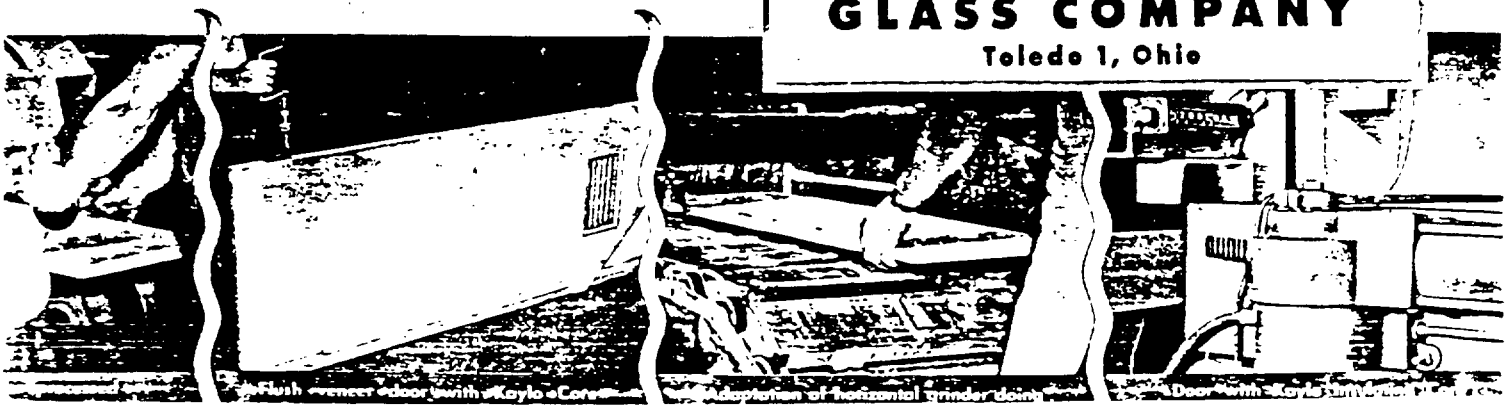
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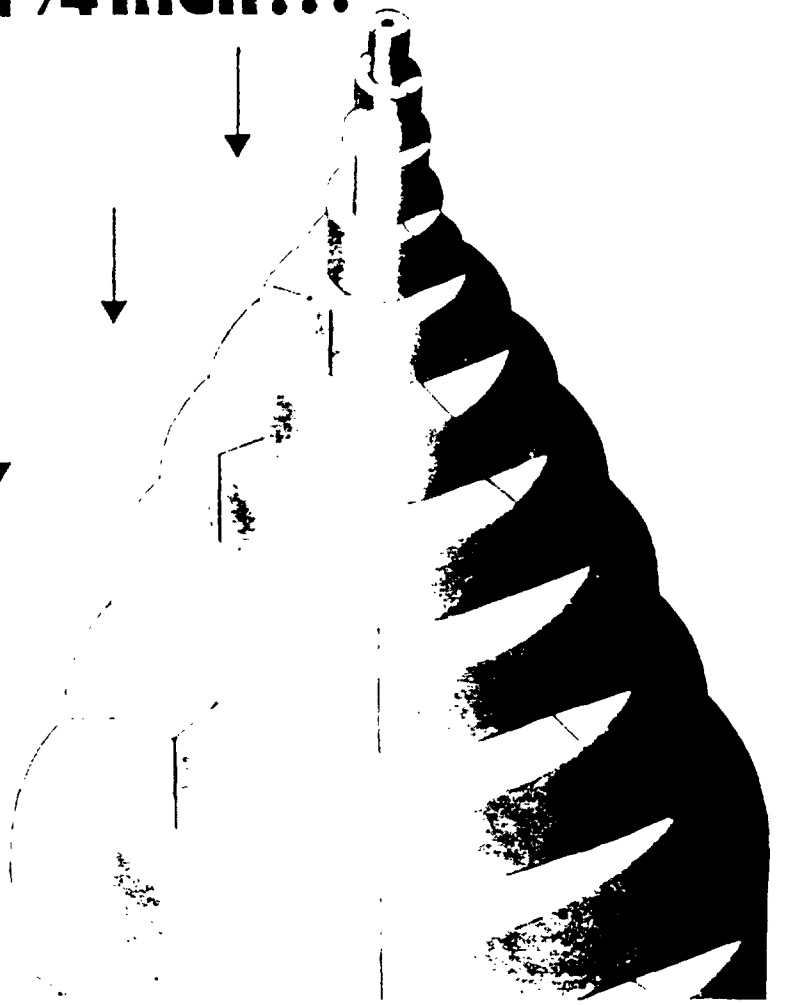
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Kaylo Division
OWENS-ILLINOIS GLASS COMPANY
Toledo 1, Ohio



For Radii from ¼ inch...



to

Infinity...

Nesting Kaylo Heat Insulation Requires Fewer Pieces Per Job

The complete range of Kaylo Insulation includes pipe covering in Simplified Dimensional Standards for diameters from ¼ in. to 72 in., curved block from 72 in. to 60 ft. and flat block for surfaces of less curvature whose radii approach infinity. With its wide selection of interchangeable sizes and shapes, Kaylo Insulation reduces the number of items needed per job and permits substantial savings in warehousing maintenance stock.

WRITE FOR FREE BOOK—"Kaylo Heat Insulation." Address: Dept. N-371, Owens-Illinois Glass Company, Kaylo Division, Toledo 1, Ohio.



KAYLO® ...first in calcium silicate

...pioneered by OWENS-ILLINOIS Glass Company

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Owens-Illinois Glass Company
Advertisement No. K-154—appearing in the following publications:
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Oil & Gas Journal—March 23, 1953
Chemical Engineering—March, 1953
Chemical Processing—April, 1953
Petroleum Refiner May, 1953