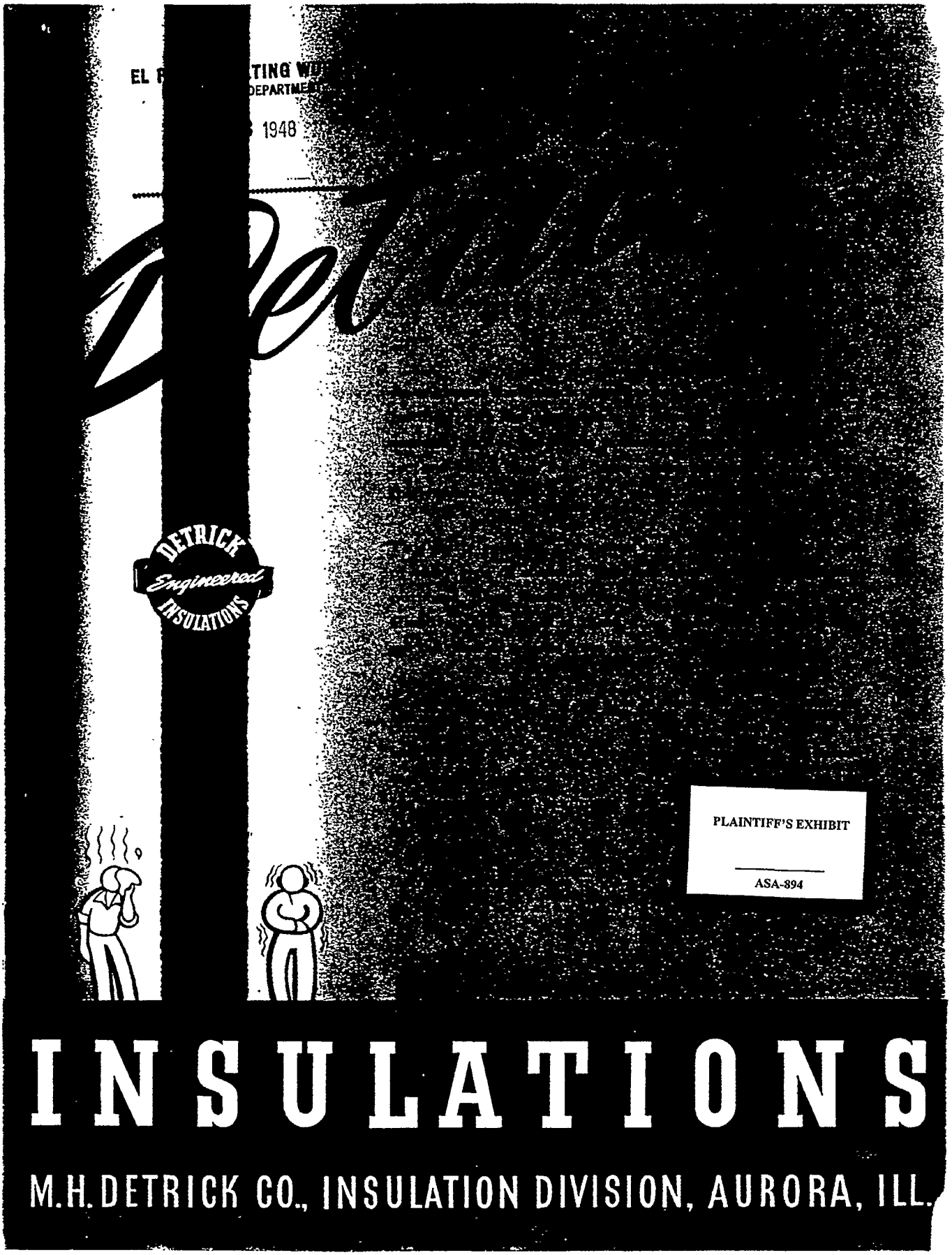
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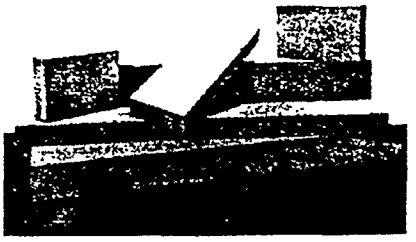
DETRICK
Engineered
INSULATIONS
PLAINTIFF'S EXHIBIT
ASA-894
INSULATIONS
M.H. DETRICK CO., INSULATION DIVISION, AURORA, ILL.

DETRICK BLOCK INSULATION

DETRICK BLOCK INSULATION



Detrick Block Insulation is manufactured by a patented process which combines light resilient wool fibers with long fiber asbestos and a suitable high temperature binder. Detrick's modern plant using precision methods and advanced processing equipment assures uniformity of composition and quality. Recommended for hot surface temperatures up to 1800° F. Detrick Block is supplied in various sizes and thicknesses for easy handling and application and is shipped in corrugated board cartons with contents clearly marked on the exterior. Detrick Block Insulation contains the following inherent qualities.

EFFICIENT

The high insulating value of the base mineral wool fibers is realized in Detrick Block Insulation by the patented process of placing the fibers in horizontal planes intermeshed one with the other. This results in a block of extremely low conductivity over a wide temperature range because of the entrapped dead air cells and the fact that the heat flow is across the fibers and not parallel to same. The conductivity at the joints is just slightly higher than the block itself due to the intermeshing of the block fibers at the points of intersection making a close tight contact with the adjacent blocks. Therefore, the high insulating value of the block plus the low joint loss assure a high overall efficiency.

STRONG

The process which intermeshes the fibers plus the high co-hesive strength imparted by the high temperature binders form a block that is tough, firm and resilient without sacrificing thermal efficiency.

RESILIENT

The resiliency of Detrick Block Insulation enables it to withstand severe shock and vibration. However, it can be readily cut or fabricated with a knife or saw in the field and can be shaped around projections without cracking or breaking.

MOISTURE RESISTANT

Detrick Block Insulation is highly water resistant. This feature eliminates deterioration losses during shipment, installation, storage or service.

ADAPTABLE

The high overall efficiency of Detrick Block Insulation permits minimum thickness single layer construction, thereby reducing the labor cost of application and eliminating any convection loss between the layers of broken joint construction. Blocks are furnished in various sizes and thicknesses for easy handling and application.

ENGINEERING

Our Engineering Department will gladly submit study drawings and thermal analysis on insulation applications for any type of heat unit. Complete detail layouts can be furnished for "cut to fit" block applications on specific jobs where it is deemed advisable for the purpose of minimizing time and cutting in the field. Detrick Company solicits your insulation problems.

ASARCO ELP 0006068

STOCK SIZES

To assure prompt delivery, warehouse stocks are maintained at various points throughout the U. S.

Size of block carried in stock is 6" x 36" in the following thicknesses—1", 1½", 2", 2½" and 3".

STANDARD CARTONS

18¾" x 12¾" x 25"—6" x 18" Blocks

Thickness	1"	1½"	2"	2½"	3"	3½"	4"
Blocks per Carton	48	32	24	20	16	12	12
Sq. Ft. per Carton	36	24	18	15	12	9	9
Bd. Ft. per Carton	36	36	36	37½	36	31½	36
Weight per Carton	75	75	75	76	75	65	75

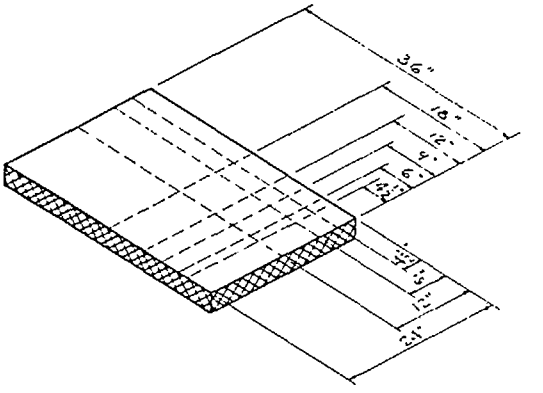
12¾" x 12¾" x 37"—6" x 36" Blocks

Thickness	1"	1½"	2"	2½"	3"	3½	4"
Blocks per Carton	24	16	12	10	8	6	6
Sq. Ft. per Carton	36	24	18	15	12	9	9
Bd. Ft. per Carton	36	36	36	37½	36	31½	36
Weight per Carton	75	75	75	76	75	65	75

FACTORY SIZES

Shipments direct from our factory at Aurora, Illinois. Can be furnished in any size that can be cut from a 24" x 36" slab without waste. Thickness of block 1" to 4" in ½" increments.

"Cut to Fit" block insulation applications can be furnished where required.

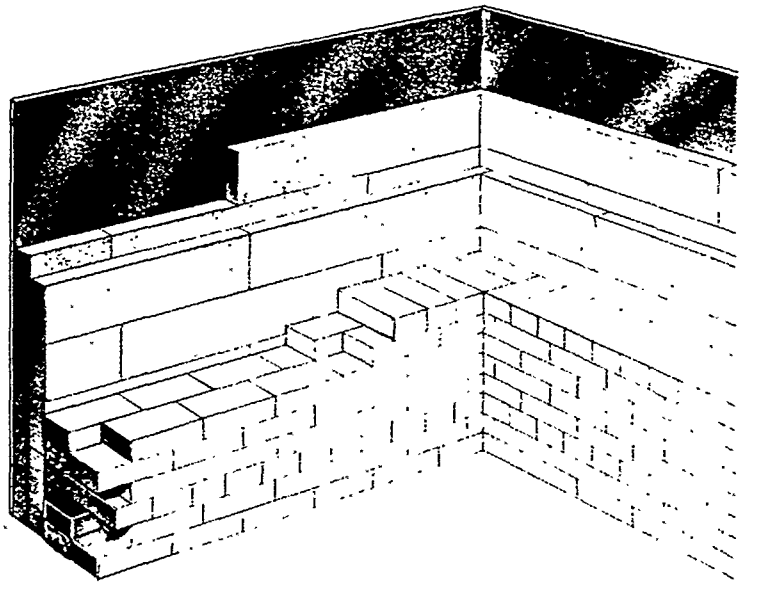


Possible cutting dimensions for 24" x 36" block slab.

APPLICATIONS

Detrick block insulation is recommended for efficient and economical insulation of the following types of equipment:

Boiler Furnace Settings
Boiler Water Walls
Preheaters
Economizers
Breechings
Hot Air Ducts
Heat Exchangers
Metallurgical Furnaces
Heat Treating Furnaces
Regenerator Chambers
Industrial Ovens
High Temp. Mains and Flues
Oil Refining Equipment
Oil Still Settings
Incinerator Settings
Pressure Vessels
Storage Tanks



Typical Application of Block Insulation in standard firebrick wall with steel casing.

M·H·DETRICK CO. **INSULATION DIVISION**

ASARCO ELP 0006069

DETRICK INSULATING CEMENT



Detrick Insulating Cement is manufactured by combining in proper proportions Detrick Mineral Wool, long fiber asbestos and a suitable high temperature binder producing a product which balances minimum thermal conductivity with maximum strength and adhesive qualities. Recommended for hot surface temperatures up to 1800" F. Supplied in dry form in fifty pound bags requiring only mixing with clean water to be ready for use. Manufactured in a modern plant using precision methods and advanced processing equipment assuring uniformity of composition and quality. Every bag of Detrick Insulating Cement has the following inherent qualities.

EFFICIENT

High insulating value is due to the low conductivity of the mineral wool nodules forming its base. Therefore, minimum thickness of insulation is required to secure a given temperature drop.

HIGH COVERAGE

The fiberous structure and light weight of the mineral wool nodules account for its low density and high coverage. One fifty pound bag will cover an area of twenty-five square feet one inch thick. This is approximately twice the area covered by many competitive insulating cements.

ADHESIVE

Forms a close tight bond with every inch of surface. Adheres to all types of surfaces, hot or cold, and will not check, crack, wrap or pull loose. Detrick Insulating Cement stays put.

STRONG

The high temperature binding materials produce high co-hesive strength between the resilient fiberous nodules forming a structurally strong mass. This assures a tough firm covering that resists deterioration from shock and vibration.

EASY TO USE

Easily mixed and readily applied to flat, curved and irregular surfaces. Can be applied by hand or trowel and dries with a smooth finish free from drying cracks. Can be painted; canvassing is not necessary.

RECLAIMABLE

Material can be fully reclaimed when not exposed to temperatures over 1000° F. It is only necessary to remix with clean water.

DETRICK INSULATING CEMENT
RECOMMENDED FOR HOT SURFACE TEMPERATURES UP TO 1800°F

STOCKS

To assure prompt delivery, warehouse stocks are maintained at various points throughout the U. S.

Stocks are also maintained at our factory in Aurora, Ill.

MIXING

Detrick Insulating Cement is shipped in dry form requiring only mixing with clean water to be ready for use.

Mix constantly and thoroughly with a hoe or shovel while water is being added a little at a time. Water should be added in carefully measured quantities as per the accompanying table.

COVERAGE

One fifty pound bag of Detrick Insulating Cement will cover an area of 25 square feet—1" thick (weight-2 lbs. per board foot.)

APPLICATIONS

Detrick Insulating Cement is recommended for efficient and economical insulation of the following types of equipment:

Boiler Furnace Settings
Boiler Drums and Drum Heads
Boiler Headers
Preheaters
Economizers
Breechings
Hot Air Ducts
Mains and Flues
Heat Exchangers
Industrial Furnaces
Industrial Ovens
Incinerators
Oil Refining Equipment
Oil Still Settings
Tanks
Kettles
Vessels
Valves
Fittings
Surface Finish For Blanket Insulation

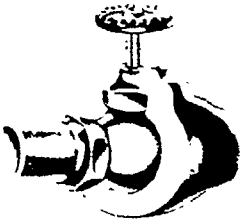
SHIPPING

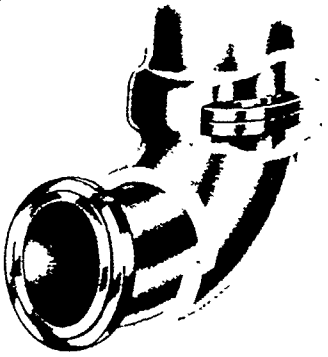
Detrick Insulating Cement is shipped in rugged four layer paper bags. Each bag contains 50 lbs. of dry cement.

MEASURE WATER AND CEMENT IN PROPORTIONS AS FOLLOWS:

Dry Insulating Cement	Water
5 lbs.	1.2 Gals.
10 lbs.	2.4 Gals.
25 lbs.	6.0 Gals.
50 lbs.	12.0 Gals.
100 lbs.	24.0 Gals.

Use fresh water free from salt.





The efficiency of your existing insulation can be easily maintained due to the adaptability of Detrick Insulating Cement. Repairs requiring special shapes, miscellaneous block thicknesses, or insulating cement can be taken care of through the use of Detrick Insulating Cement, cutting inventory to a minimum.

M·H·DETRICK CO. **INSULATION DIVISION**

ASARCO ELP 0006071

DETRICK BONDING CEMENT



Detrick Bonding Cement is an adhesive insulation cement for bonding and sealing block joints and sticking block insulation to surfaces. Recommended for hot surface temperature up to 1800° F. It is manufactured of the same basic material as the Detrick Insulation Blocks with suitable binders added. This results in no loss of insulating effect at the joints.

ADHESIVE

Due to the quality of the binders used, Detrick Bonding Cement will hold blocks in place wherever it is applied, even on the underside of a duct, until permanent support is applied. This is a great convenience in applying block insulation.

STRONG

Detrick Bonding Cement provides an extra strong joint for blocks. The joint is stronger than the block itself. When forcibly torn apart the fibers will be torn out of the block instead of the bond breaking.

HIGH COVERAGE

It is a smooth working material. It spreads readily with a trowel and grips the fibers of the block where it quickly forms a bond. Very little is required to form a tight joint.

EASY TO USE

Detrick Bonding Cement is a complete product, shipped in dry form ready for mixing with water before using. It absorbs water quickly and mixes up into a smooth plastic in a few minutes.

SEALING QUALITIES

The use of Detrick Bonding Cement helps to increase the effectiveness of insulation by sealing joints between block and other surfaces as well as between blocks. This avoids convection or flue action which may cause loss of heat.

Detrick Bonding Cement is supplied in 65-lb. bags having a coverage of 25 Bd. Ft. Comes in dry form requiring only mixing with water to be ready for use. Mixes to a smooth plastic consistency that handles well on a trowel and is easily spread over the joint surface. Joints of 1-16" or ⅛" are readily applied.

APPLICATIONS

1. For sealing between block insulation and the surface to be insulated, as well as for sealing block joints.
2. For sticking block insulation to vessels, ducts, etc., before permanent fastenings are in place.
3. For bonding insulation blocks together in multiple layer construction.
4. As a sealing compound to stop or prevent leaks thru furnace panels, oven joints, around furnace doors, etc., up to 1800° F.

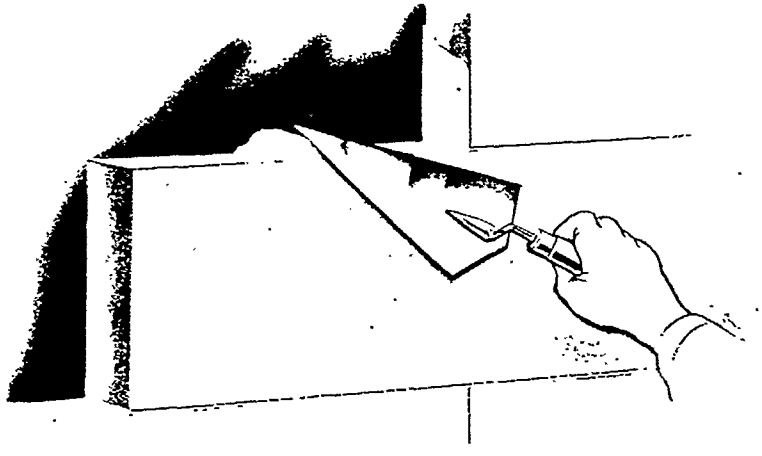
JOINT COVERAGE — FOR ESTIMATING PURPOSE

POUNDS OF BONDING CEMENT PER 100 SQUARE FEET OF FLAT JOINT

1-16" Joint — 20 lbs. ⅛" Joint — 40 lbs.

POUNDS OF BONDING CEMENT PER 100 LINEAL FEET OF SIDE JOINTS

BLOCK THICKNESS	1"	1½"	2"	2½"	3"	3½"	4"
1-16" Joint	1.6	2.5	3.3	4.0	4.9	5.7	6.5
⅛" Joint	3.3	5.0	6.5	8.0	9.8	11.4	13.



M·H·DETRICK CO. INSULATION DIVISION

ASARCO ELP 0006073

DETRICK FINISHING CEMENT

For Covering Insulation Surfaces



Detrick Finishing Cement is manufactured by combining high quality asbestos fiber with suitable binding material. The quality of materials and uniformity of the process are rigidly maintained by constant inspection and close supervision. It is a completely manufactured product needing only water to be ready for use. Provides a smooth, white, firm, protective surface for insulation. Supplied in dry form in 100-pound bags. Each bag has a coverage of 25 board feet.

APPEARANCE

Since most insulation is not suitable to be left exposed, the addition of a finishing cement is recommended both for protection and appearance. Detrick Finishing Cement provides a smooth, white, attractive surface which may be left natural, painted or canvased, as desired.

FIRM

Dries with a firm, hard, uniform surface which remains smooth and free from cracks.

PROTECTIVE

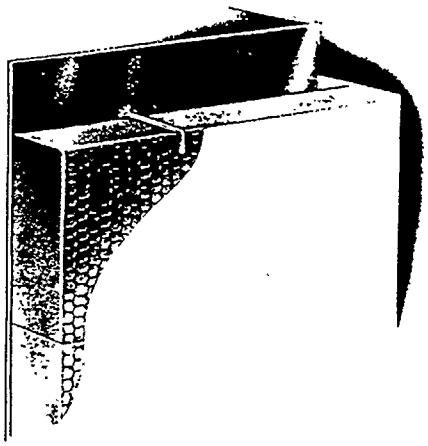
For protecting all insulation surface not exposed to the weather. Has excellent adhesive qualities and provides a hard, protective finish.

READY TO USE

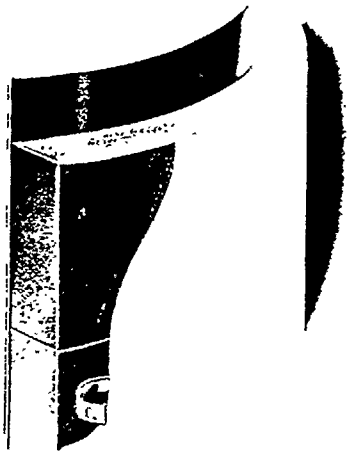
Detrick Finishing Cement comes already mixed with all ingredients except water. It quickly forms a smooth plastic that handles exceptionally well with trowel and easily works up into a plaster-smooth finish.

APPLICATION

Detrick Finishing Cement can be used wherever it is desired to protect insulation not exposed to the weather. If the insulation itself does not provide a keying reinforcement, chicken wire or expanded metal lath should be applied to the outer surface before applying the finishing cement. Such reinforcement should be tied together, bound with strap, or tied back to the structure being insulated.



Block Insulation, secured to steel casing with welding rod and covered with Finishing Cement reinforced with chicken wire.



Diamond Lath Blanket Insulation bound with metal strip and covered with Finishing Cement.

COVERAGE

100-pound bag of Detrick Finishing Cement will cover an area of 25 board feet or 100 square feet ¼-inch thick; 50 square feet, ½-inch thick. Since Detrick Finishing Cement is used only as a protective coating we recommend that it be applied in thicknesses of about ¼ to ½ an inch.

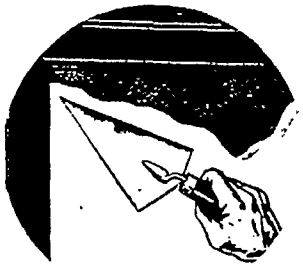
MIXING

Detrick Finishing Cement is supplied in dry form requiring only mixing with clean water to be ready for use. Mix cement constantly and thoroughly with a hoe or shovel while water is being added, a little at a time. Water should be added in carefully measured quantities as follows: One pint to one pound of cement, or 12 gallons to 100 pounds of cement—one bag.

M·H·DETRICK CO. **INSULATION DIVISION**

ASARCO ELP 0006075

DETRICK CASING CEMENT



Detrick Casing Cement is a hard exterior finish for Detrick Furnace Wall Construction. It comes in dry form and is mixed with Portland Cement and water. It is troweled into place in panels formed by the supporting castings of the Detegral and Thinsulite wall constructions. Takes the place of steel casing and provides a neat protective covering for the insulation, effectively sealing the enclosure. In addition to being economical and easy to apply, it has the advantage of being air tight, strong and weatherproof.

APPLIED WITH A TROWEL

Since Detrick Casing Cement is applied with a trowel, it is economical not only as a material but as a labor saver. It speeds up erection because there are no pre-fabricated panels which require precision fitting.

PERMANENT-AIRTIGHT

Since the main object of the casing is to provide an air tight enclosure, this casing Cement is much more effective than preformed materials. It is molded into position and keyed in place by the horizontal and vertical supporting bars. It always 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 easy to repair. There can be no blind leaks short circuiting gases to another part of the furnace.

ECONOMICAL

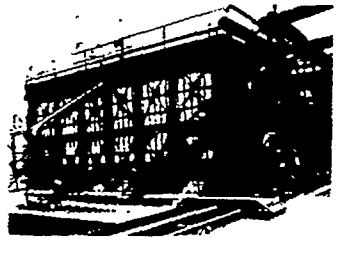
The economy of Detrick Casing Cement starts with the lower priced material. It also saves labor on the erection job because it is ready to apply in a few minutes notice. A great deal of engineering detail, necessary with fabricated panels, is also saved.

APPEARANCE

After the Casing Cement has been applied it may be left unfinished just as it dries and it will present a pleasing, neat appearance. However, if desired, it may be painted in harmony with the steel and metal structure around it.

ENGINEERING

It is characteristic of Detrick engineering that materials are employed where they are most effective. In this case a moldable cement material is used to form a permanent, air tight, weatherproof exterior finish to protect the insulation and provide an effective enclosure for the furnace. It is designed for use with the Detegral and Thinsulite walls, not only as part of the supported wall, but with other construction that may go with it.



Recommended for hot surface temperatures up to 1000° F. Detrick Casing Cement is shipped in dry form in rugged multi-wall paper bags, each containing 60 pounds of dry cement aggregate.

MIXING

Detrick Casing Cement Aggregate and Portland Cement in proper proportions should be mixed thoroughly with a hoe or shovel before water is added. Add water a little at a time. Continue to mix until water is thoroughly worked through mixture. Use proportions given in the accompanying table.

MIXING PROPORTIONS

Casing Cement	Portland Cement	Water
10 lbs.	8 lbs.	7 Pints
20 lbs.	16 lbs.	7 Quarts
One-half bag—30 lbs.	24 lbs.	2½ Gals.
One bag—60 lbs.	48 lbs.	5 Gals.
Two bags—120 lbs.	96 lbs.	10 Gals.

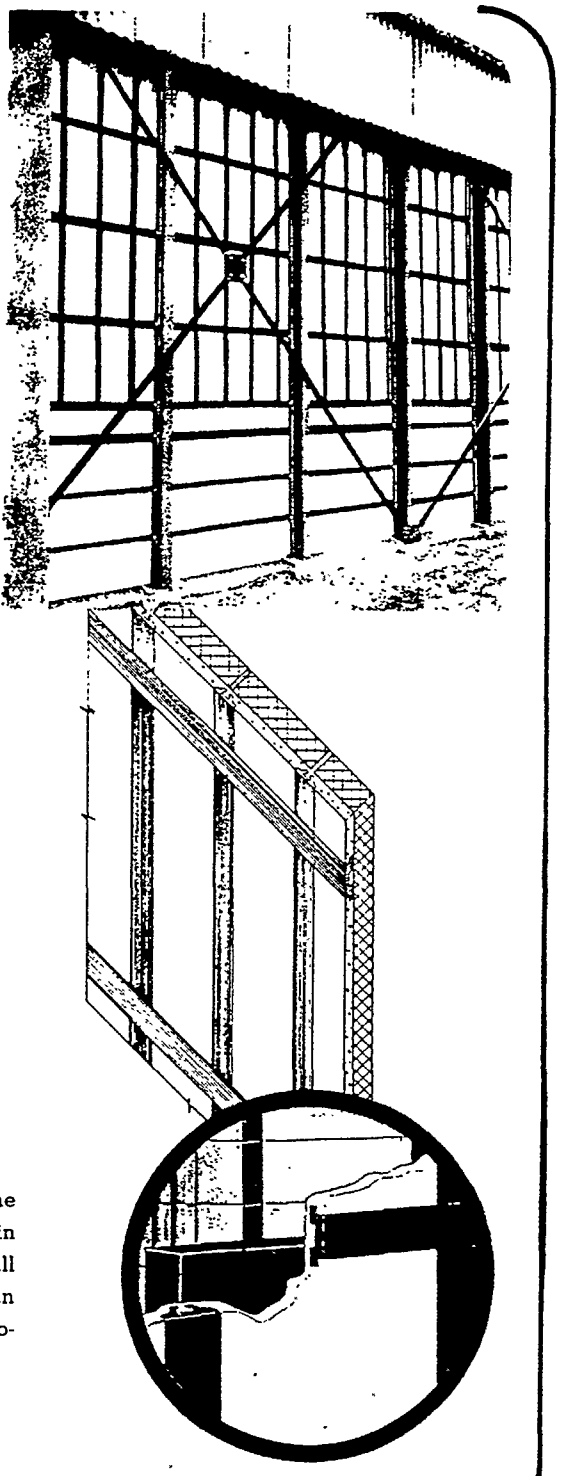
COVERAGE

One 60 lb. bag of Detrick Casing Cement mixed with one-half bag of Portland cement will cover 22.5 square feet of Thinsulite or Detegral wall area. For coverage other than Detrick wall construction, figure 16.2 board feet per 60 pound bag.

MATERIAL	Weight Per Sq. Ft. of Detrick Wall Area	Weight Per Bd. Ft. (Sq. Ft.—1" Thick)
Detrick Casing Cement	2.66 lbs.	3.7 lbs.
Portland Cement	2.2 lbs.	3.1 lbs.
Total	4.86 lbs.	6.8 lbs.

REINFORCEMENT

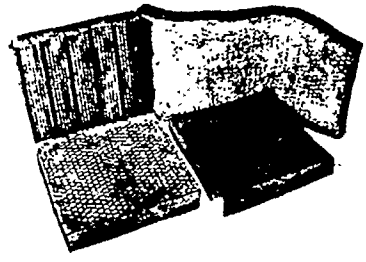
The horizontal and vertical supporting castings of the Detegral and Thinsulite wall construction securely lock in place and reinforce the Detrick Casing Cement in small panels. When Casing cement is used for areas other than Detrick wall construction reinforcing bars must be provided so as to divide the casing in small panels.



M·H·DETRICK CO. **INSULATION DIVISION**

ASARCO ELP 0006077

DETRICK BLANKET INSULATION



Detrick Blanket Insulation is an efficient and economical insulation recommended for hot surface temperatures up to 1000° F. It is made of light resilient mineral wool carefully felted and compressed between wire mesh, metal lath and other metal fabrics. The metal fabrics are firmly bound together by strong metal tie wires forming a flexible, strong, compact unit. Detrick Blankets are made in a large variety of styles depending on the application. Detrick Blanket Insulation contains the following inherent qualities.

EFFICIENT

High insulating value is due to the low thermal conductivity of Detrick Mineral Wool which is compressed to a proper density for maximum efficiency.

STRONG

Tough resilient Detrick Mineral Wool is properly packed and securely held in place between the metal fabrics by a sufficient number of metal tie wires. This results in a product which is structurally strong yet light in weight. It will not settle, break or fray. Detrick Blanket Insulation will withstand shock and vibration and will resist damage during handling, application and operation.

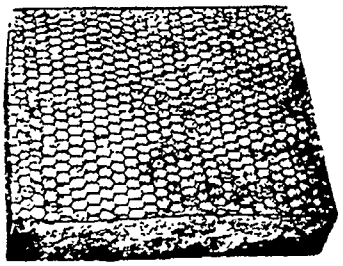
ADAPTABLE

Detrick Blankets are made in a large variety of styles and thicknesses. The exterior metal fabrics can be used to make either a flexible or rigid construction. They can be curved to fit snugly against a curved surface or laid flat against a flat surface. They are furnished in large sizes requiring fewer pieces to cover a given area, therefore, requiring less application labor.

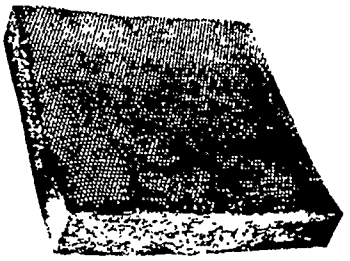
STANDARD BLANKET STYLES

Style No. 1 — 1" Galvanized wire mesh, both sides.
Style No. 2 — Diamond lath, both sides.
Style No. 3 — 1" Galvanized wire mesh one side, diamond lath other side.
Style No. 4 — 1" Galvanized wire mesh one side, ⅜" rib lath other side.
Style No. 5 — Same as style No. 4 except rib turned out.
Style No. 6 — Diamond lath one side, ⅜" rib lath other side.
Style No. 7 — Same as style No. 6 except rib turned out.
Style No. 8 — 1" Galvanized wire mesh one side, ¾" rib lath other side.
Style No. 9 — Same as style No. 8 except rib turned out.
Style No. 10 — Diamond lath one side, ¾" rib lath other side.
Style No. 11 — Same as style No. 10 except rib turned out.
Style No. 12 — ⅜" rib lath both sides, rib turned in.
Style No. 13 — ⅜" rib lath both sides, rib turned out.
Style No. 14 — Black screen wire, both sides.

DETRICK BLANKET INSULATION



STYLE 1



STYLE 2



STYLE 5

SIZES

Standard size blankets 24" x 96" or 24" x 48" in thicknesses 1" to 8".

Detrick blanket can also be manufactured in special sizes and thicknesses to desired specifications.

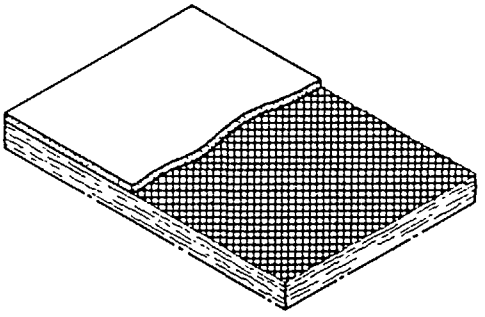
APPLICATIONS

Detrick Blanket Insulation is recommended for efficient and economical insulation of the following types of equipment:

Boiler Settings
Boiler Water Walls
Breechings
Hot Air Ducts
Stacks
Drying Ovens
Core Ovens
Enameling Ovens
Heaters
Oil Still Settings
Oil Refining Equipment
Condensers
Heat Exchangers
Hot Storage Tanks
Pulp Digesters
Glass Lehrs
Fire Walls

SHIPPING

Detrick blankets are shipped direct from our factory at Aurora Illinois. All blankets are shipped in sturdy crates regardless of quantity.



BLANKET INSULATION WITH AN EXTERIOR FINISH OF PLASTIC INSULATION

• • •

Combination Detrick blanket and Detrick Insulating Cement gives an efficient and economical insulating job. The insulating cement adheres tightly to the blanket producing a firm smooth finish having a neat pleasing appearance.

M·H·DETRICK CO. **INSULATION DIVISION**

ASARCO ELP 0006079

DETRICK INSULATING WOOL

DETRICK INSULATING WOOL



Detrick Insulating Wool is a light weight efficient insulating material recommended for hot surface temperatures up to 1500° F. It is supplied in thirty-five pound bags in two forms, loose wool and granulated wool. Detrick Wool is manufactured from selected basic materials in a modern plant using precision methods. It is blown while in a molten state from materials with a high fusion point into light resilient fibers of extremely small diameter. These fibers are strong, tough and ductile and form an insulating material having the following inherent qualities.

EFFICIENT

Detrick Insulating Wool is clean and easy to handle. It has an extremely low thermal conductivity due to its light fluffy structure of resilient fibers that contain countless dead air cells.

LIGHT

The fibers of Detrick Wool are strong and resilient yet very small in diameter giving a light wooly structure. The material from which it is made is expanded forty times in the finished product.

HIGH COVERAGE

Exceptional coverage is obtained due to the springy tough nature of the fibers which do not pack. Detrick Insulating Wool is clean and free from hard heavy particles.

NON-SETTLING

The long fine fibers are not brittle, but flexible and tough. Detrick Wool will not pack, settle or disintegrate after it is applied.

MOISTURE RESISTANT

Detrick Insulating Wool will not absorb moisture and is not affected by atmospheric conditions.

UNIFORM

Highest quality basic materials are obtained from selected sources of supply. Precision methods are used in the manufacture together with constant check on the product. Quality of Detrick Wool never varies.

PERMANENT

Detrick Insulating Wool maintains the same high efficiency year after year. It is fireproof, vermin proof and chemically stable.

DETRICK INSULATING WOOL
RECOMMENDED FOR HOT FURNACE TEMPERATURES UP TO 1500°F

GRANULATED WOOL

Composed of small mineral wool nodules that can be installed either by hand or pneumatic methods. Recommended for a poured insulation filler or an insulation to be spread over large horizontal areas.

LOOSE WOOL

Composed of long fibre mineral wool to be installed by hand packing method. Recommended as an insulation filler for hollow spaces.

DENSITY AND COVERAGE TABLE OF GRANULATED AND LOOSE WOOL

Packing Pressure	Density Per Cu. Ft.	Weight Per Bd. Ft.	Coverage Per 35 lb. Bag	Coverage Per Ton
LIGHT	6 lbs.	½ lbs.	70.0 Bd. Ft.	4000 Bd. F.
MEDIUM	9 lbs.	¾ lbs.	46.7 Bd. Ft.	2667 Bd. F.
HEAVY	12 lbs.	1 lbs.	35.0 Bd. Ft.	2000 Bd. Ft.

DENSITY RECOMMENDATIONS

Light—Poured or laid on horizontal surfaces.

Medium—Poured or packed in hollow spaces with no vibration.

Heavy—Poured or packed in hollow spaces subject to vibration.

STOCKS

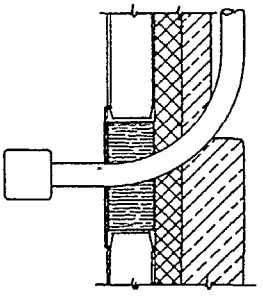
To assure prompt delivery warehouse stocks are maintained at various points throughout the U.S.

Stocks are also maintained at our factory in Aurora, Ill.

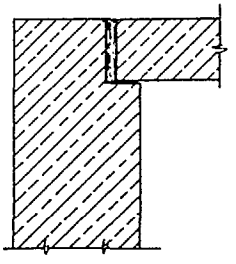
SHIPPING

Detrick Wool Insulation is shipped in rugged paper bags. Each bag contains 35 pounds of wool.

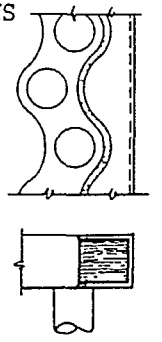
TYPICAL APPLICATIONS



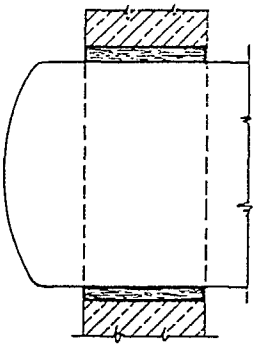
Tube Seal



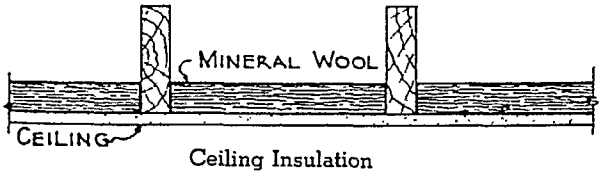
Typical Exp. Joint



Header Seal



Drum Seal

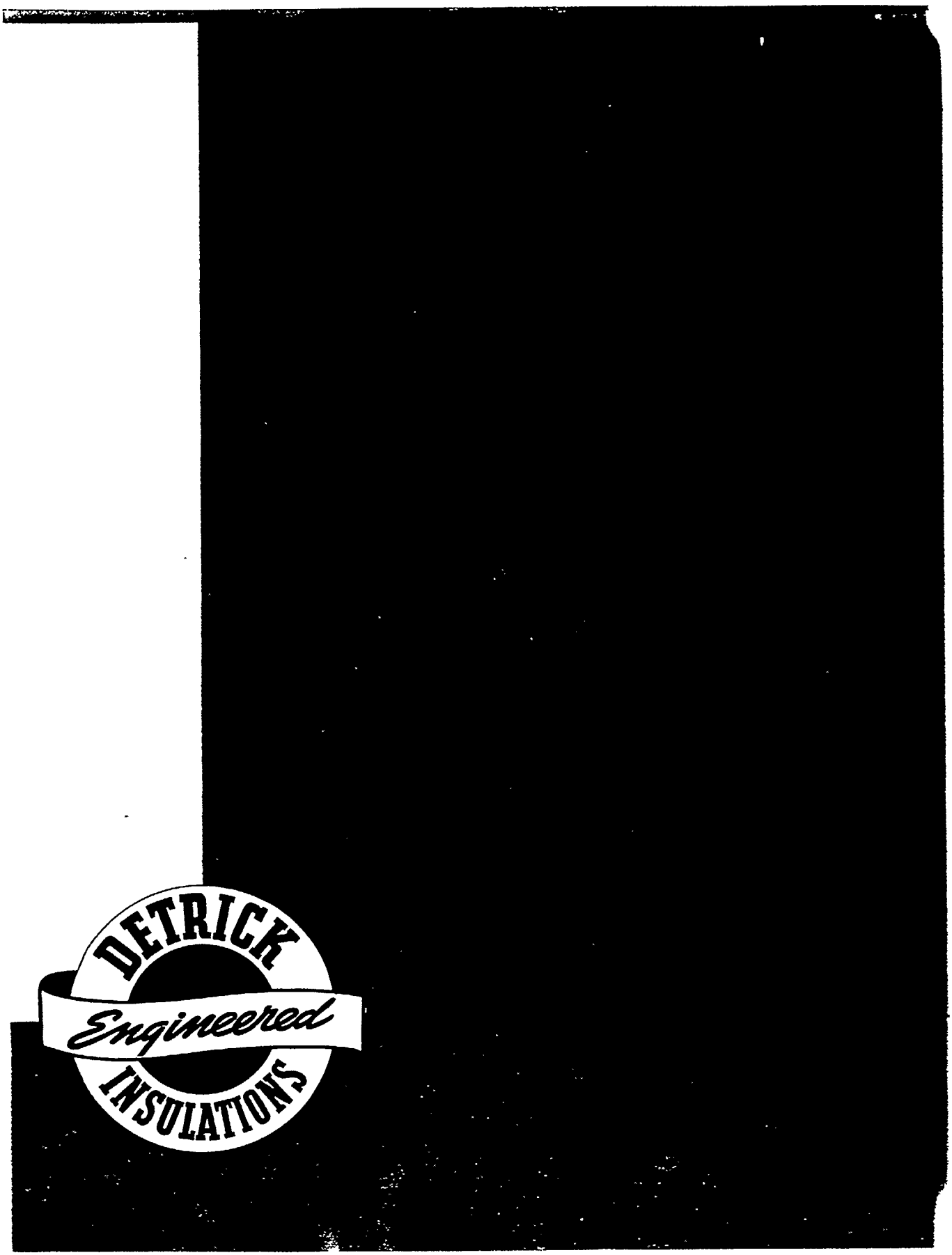


Ceiling Insulation

Detrick Mineral Wool is also recommended for insulating homes and industrial buildings.

M·H·DETRICK CO. **INSULATION DIVISION**

ASARCO ELP 0006081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INSULATIONS