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Marinite-36 for Industrial Use

Type A (Plain Finish)—for continuous service at temperatures to 900 F
Type B (Oil Finish)—for continuous service at temperatures to 250 F (Owing to smoking of the oil)



Marinite-36, readily adaptable for continuous oven and lehr construction, decreases heat losses owing to the absence of "through metal"

Marinite*-36 was developed to meet the demand for a light-weight, fireproof sheet material to be used in ship construction for joiner work and as an insulation. The adoption of Marinite-36 as a general insulating and fireproofing material in the industrial field has met with the same outstanding success as in marine service.

Its acceptance as a structural and insulating material for use in ovens and driers, heat shields, ducts and breechings, etc., and as a fireproofing medium for structural steel, particularly in oil refineries, can be attributed to the following desirable characteristics: Fireproof, light weight, low thermal conductivity, flexibility of use, and ability to be cut and worked as wood.

Description

Marinite-36 is a solid, homogeneous sheet material made of asbestos fiber with an inorganic binder. Two types are available: Type A sheets with a plain sanded finish on both sides for use where painting is not required; and Type B sheets, sanded on both sides, with a baked-on linseed oil finish where subsequent painting is necessary or desirable. Details involving the cutting, working and painting of Marinite-36 are covered on separate data sheets.

Sheets are supplied in standard sizes of 36″ x 96″, 42″ x 96″, 48″ x 96″, and 48″ x 120″, in thicknesses of ½″, ¾″, ⅞″ and 1″. Cut sheets from these standard sizes are available at extra cost. The tolerances for standard sizes and cut sheets are: length or width, ± ⅛″; thickness, ± 1/32″. Panels, consisting of two or more sheets bolted together for oven housings and dryers, are available ± 1/16″ in any dimension. Sheets can also be obtained untrimmed to give up to 1″ oversize in width and up to 1½″ in length at no extra charge when it is desired to cut Marinite-36 on the job for individual uses. Weights of Marinite-36 are shown in the following table.

Type A (Plain Finish)		Type B (Oil Finish)	
Thickness, inches	lb* per sq ft	Thickness, inches	lb* per sq ft
½	1.55	½	1.80
¾	2.32	¾	2.57
⅞	2.71	⅞	2.95
1	3.10	1	3.34

* Weights may vary ± 10 percent; for shipping weights, add approximately 12 percent.

* Reg. U. S. Pat. Off.

The temperature limit for continuous service is 900 F for Type A (untreated) and 250 F for Type B (oil-treated). In certain cases where Type B will be protected with special heat-resisting paints, it can be used at slightly higher temperatures.

Uses of Marinite-36

The uses of Marinite-36 in industry are so numerous and varied only a few specific adaptations are listed.

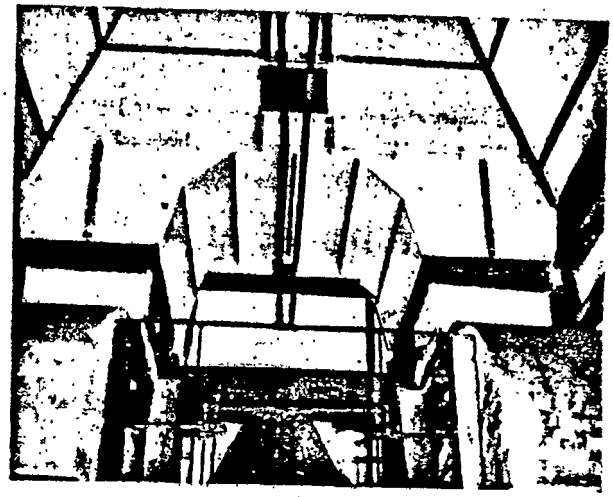
Ovens and Driers: Because of its low thermal conductivity and high structural strength, Marinite-36 is an excellent material for oven and drier housings, replacing such constructions as steel facings with common types of insulation between.

Included among the several important advantages of Marinite-36 over the usual type of housings are: Minimum amount of "through-metal" heat loss; even temperatures without "hot spots"; non-metallic material not subject to ordinary forms of corrosion; easy to construct and install; panels easily removable and replaceable.

Marinite-36 housings are equally suitable for walk-in driers and core ovens, or the tunnel type of oven or lehr. Its use assures maximum economy and efficiency for bread and biscuit ovens, paint and welding-wire driers, enameling, japanning or lacquering ovens, textile driers, etc. Full details covering Marinite-36 for industrial ovens and driers are given on separate data sheets.

Fire Protection of Structural Steel: Owing to the detrimental effect of high temperature on the strength of steel, all load-bearing members, such as beams, girders and columns should be enclosed with an efficient fireproofing material. One of the most practical methods of providing this vital protection consists of enclosing or boxing the structural members with Marinite-36. Its light weight makes the material easy to handle and imposes a minimum amount of additional load on the steel and foundations. In addition to providing adequate protection and easy erection, the sheets can be removed and replaced quickly. This is an important advantage since the steel is readily accessible for inspection or painting. Complete details are given on separate data sheets.

Insulation of Indoor Breechings: The use of Marinite-36 has proved to be a practical and economical material for the insulation of indoor breechings. One of the important functions of breeching insulation is to prevent condensation of the moisture in flue gases and resultant corrosion of the breeching steel. To accomplish this, the insulation must be applied to the outside of the breeching. When block insulation with cement finish is used, expansion of the breeching with temperature often causes cracking of the finish, necessitating frequent maintenance. This problem is eliminated with Marinite-36, a structural material which can be easily secured to the outside of the breeching by a method which permits ready movement of the sheets with expansion of the steel.



Marinite-36 is a particularly effective material for the insulation and protection of indoor breechings

The Marinite-36 presents an attractive panel finish, requiring no supplemental protection.

Boiler and Engine Rooms: Marinite-36 in 1" thickness offers a very practical material for insulating the ceilings and walls of boiler and engine rooms, steam distribution rooms, pipe corridors, etc., for apartments, hotels, and industrial buildings. It serves as a decorative as well as an insulating medium.

Other Uses

The unusual combination of structural characteristics and low thermal conductivity makes Marinite-36 suitable for a large variety of industrial uses such as heat shields to confine high temperature air and increase the efficiency of sulphur burners in paper mills, shields around hot equipment such as involved in welding operations, insulation of crane cabs and fire pits in steel mills, etc.

Other miscellaneous uses include fireproofing filing cabinets, housings for motor-operated valves, duct construction, lining dust collecting equipment, and a base for decorative veneers.

J-M Marine Joiner Materials and Structural Insulations



Marinite was used for the bulkheads and ceiling of this modern stateroom

Ships' accommodation spaces demand walls and ceilings that are both attractive and durable. Governmental regulations require that the materials used must provide an incombustible barrier to the passage of fire. For decorative designs, a diversity of fine finishes is essential. For comfort, a reasonable freedom from nearby noise, a warmth of feeling and touch compatibility should be expected.

Structurally, the joiner materials comprising the walls and ceilings must possess the following qualities: ample strength with minimum weight; immunity to mold or vermin under, at times, highly moist atmospheres; and satisfactory resistance to heat and sound. Collateral essentials are ease of handling, working and installing, satisfactory screw-holding power, and an absence of drumming.

The accompanying deck and shell insulation must fulfill the essential requirements of low thermal conductivity combined with light weight, incombustibility, high resistance to moisture and immunity to mold. The insulations must also permit rapid and economical installation.

The installation of over 30 million square feet of Johns-Manville Marine Joiner Materials aboard ships fully demonstrates their suitability. Under the severe conditions of war-transport service, Marinite-36 and Marinite-65 panels successfully met the abuse from the hundreds of thousands of troop-passengers. Today, they are the standard joiner materials for the building or reconversion of ships in this country.

The group of J-M products which fall under the general classification of marine joiner materials and structural insulations are: Marinite*-36, Marinite-23, Marinite-65, Transitone* Marinite, Marine Veneer, Marine Acoustical Unit, BX-Spintex*, Reeferite*, and BX-Marine Block. All of the products mentioned are approved for passenger and passenger-cargo vessels by the U. S. Coast Guard and meet the requirements of the U. S. Maritime Administration and the U. S. Public Health Service.

A summary of these materials is given in the following table. The J-M designations shown in the last column are used in ordering. Each designation is fully explained in a separate table which follows after the main summary table.

* Reg. U. S. Pat. Off.

Summary of J-M Marine Joiner Materials and Structural Insulations

Description of Material and Recommended Use	Standard Sizes	Standard Overall Thicknesses	Finishes (also see separate table)
MARINITE-36: A lightweight, incombustible, solid panel of high thermal insulating and acoustical value. Made of asbestos fiber, diatomaceous silica and an inorganic binder. Designed primarily for use in ⅞" thickness as a divisional bulkhead. It is also used for shell lining and occasionally as a ceiling for fireproofing the deck overhead without supplementary insulation.	36" x 96", 42" x 96" 48" x 96", 48" x 120" Tolerances: ± 1/16" in length and width	½", ¾", ⅞", 1" Tolerances: Unfaced = ± 1/32" Veneered = ± 1/16"	PP, OO, SB1, SB2, MO, MM, Wood, Metal, Plastic
MARINITE-65: Similar in appearance to Marinite-36 but heavier and stronger. Used primarily for erection to furring in ½" thickness for linings, and in ⅜" thickness for ceilings.	(Same as for Marinite-36 above)	⅜", ½", ¾", ⅞", 1" Tolerance (Unfaced): ± 1/32"	PP, OO, SB1
MARINITE-23: Extra lightweight core panel, similar in appearance to Marinite-36 but lighter and less strong. Furnished only on special order as a core panel for supplemental veneered facings.	(Same as for Marinite-36 above except no MO or MM on 48" x 120")	⅞", 1" Tolerance (Veneered): ± 1/16"	PP or OO for veneering by others. MO, MM, Wood, Metal, Plastic
TRANSITONE MARINITE: An integrally colored material, much heavier and stronger than Marinite-36. Provides a bulkhead and lining panel requiring no paint or other finish. On special order only.	48" x 96"	⅜", 7/16", ¾"	Light Tan or Light Green
MARINE VENEER: A strong, hard, flexible material in thin sheets, made of asbestos fiber and cement. A hard facing for Marinite-36 and Marinite-23, or used alone for sheathing of curved areas and as a ceiling material.	48" x 96" Tolerances: ± 1/32" in length and width	⅛", 3/16" Tolerance: ± 1/32"	Light-gray mottled appearance. Can be waxed or lacquered on the job
MARINE FURRING (and INSULATING GROUNDS): Strips or blocks cut from sheets of Marinite-65 for securement and insulating sheathing and ceiling panels from structural steel.	Widths, 2" thru 10" Lengths, thru 96" (as ordered)	1", 1½", 2"	PP
MARINE BATTENS: Thin strips cut from sheets of Marine Veneer or Marinite-65. Used for molding, base and joint covering strips.	Widths, 2" thru 10" Lengths, thru 96" (as ordered)	Marine Veneer, 3/16" Marinite-65, ⅜", ½"	Marine Veneer SB1
REEFERITE: A laminated panel of Marine Veneer and metal offering good structural strength plus low maintenance as a sanitary sheathing for refrigeration and food handling spaces. Also, when suitably erected, provides a long-life, incombustible ship's awning.	48" x 96", 48" x 84"	3/16", ¼" (According to how laminated)	MAM, MZM, MA, MZ
PERFORATED MARINE VENEER: Sheets of Marine Veneer perforated with holes to permit passage of sound waves through separately erected acoustical absorbing element.	24", x 24", 24" x 48" (48" x 48" on special order)	3/16"	Same as Marine Veneer Edges square or beveled
MARINE ACOUSTICAL UNIT: A rigid unit consisting of a Perforated Marine Veneer face securely fastened to a sound-absorbing mineral wool element.	24" x 24"	The unit is 1 3/16" thick overall, with sound element cut back from edge ¼" or 1⅝" as ordered. Edges can be squared or beveled.	
BX-SPINTEX: A semi-rigid mineral wool blanket for thermal and acoustical insulation. The blanket has a low conductivity and is furnished in different densities to meet Naval, Coast Guard and Maritime Administration requirements.	15", 20", 30" and 60" wide by 24" thru 60" long	Navy 340M (1" and 2" thick)—Faced with flame-proof muslin—meets Spec. MIL-I-15365B 3.25 lb Density (1" thru 5" thick)—meets Spec. MIL-I-16688B 3.5 lb Density (1" thru 5" thick)—meets Spec. 32-MC-1 (Maritime Adm.) 6 lb Density (1" thru 4" thick)—For fireproofing requirements U.S. Coast Guard—meets Spec. 32-MC-I (Maritime Adm.)	
BX-MARINE BLOCK: A rigid type of mineral wool for thermal and acoustical insulation.	24" x 36"	½", 1", 1½", 2" also piled to 3" or 4"	15 lb per cu ft average density

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