



Industrial Insulation Group, LLC

A Calsilite/Johns Manville Joint Venture

Pipe & Equipment Insulations

Thermo-12® Gold

Pipe & Block Insulation

Description

Thermo-12 Gold is a molded, high temperature, abuse-resistant pipe and block insulation with exceptional structural strength, composed of hydrous calcium silicate for use on systems operating up to 1200°F (649°C). The gold color provides positive identification that it is asbestos-free. Thermo-12 Gold meets or exceeds the physical property requirements of ASTM C 533, Type I.

Applications

Because of its strength, low thermal conductivity and durability, it is the preferred product for application on high temperature piping and equipment. Thermo-12 Gold is especially recommended for use in the petrochemical and power generation industries where pipe and equipment operate up to 1200°F (649°C).

Advantages

- Superior resistance to breakage and physical abuse during shipping, fabrication and installation
- Fast, easy installation
- Large selection of sizes and forms

Available Forms and Sizes

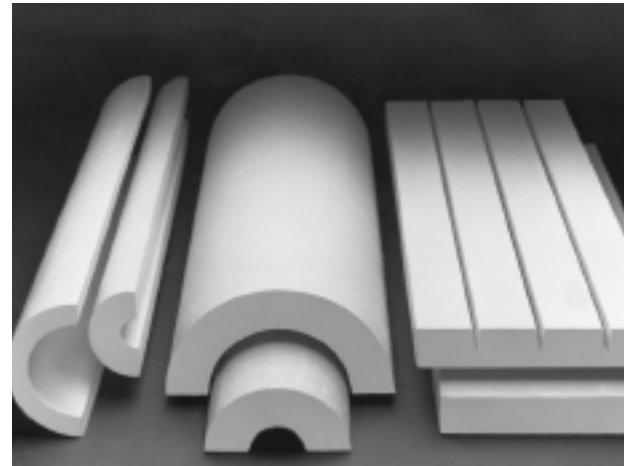
| Pipe Sizes | | Thermo-12 Gold Form |
|---------------|-------------|---|
| in. | mm | |
| ½ - 24 | 15 - 600 | Pipe Insulation |
| 20 - 37 | 500 - 925 | Quad Segments |
| 21 - 52 | 525 - 1300 | Molded Radius Block (Ruston Plant Only) |
| 38 - 52 | 950 - 1300 | Hex Pipe Covering (Ruston Plant Only) |
| 30 - 250+ | 750 - 6350+ | Scored Block [12" (305 mm) wide] |
| Flat Surfaces | | Flat Block [6", 12" and 18" wide (152 mm, 305 mm and 457 mm wide)] |

Thermo-12 Gold pipe insulation is 36" (914 mm) in length, and is available in thicknesses from 1" to 6" (25 mm to 152 mm) in ½" (13 mm) increments. Thick wall material is furnished in double layers.

Thermo-12 Gold flat block insulation is 12" (305 mm) wide and 36" (914 mm) in length, and is available in thicknesses from 1" to 4½" (25 mm to 114 mm) in ½" (13 mm) increments. Non-standard widths of 18", 24" and 36" (457 mm, 610 mm and 914 mm) are available on request on a Special Product Price Inquiry (SPPI).

Scored Block Application Guide

| Insulation Thickness | | Minimum Diameter Triple Scored | |
|----------------------|-----|--------------------------------|------|
| in. | mm | in. | mm |
| 1½ | 38 | 30 | 762 |
| 2 | 51 | 40 | 1016 |
| 2½ | 64 | 50 | 1270 |
| 3 | 76 | 60 | 1524 |
| 3½ | 89 | 70 | 1778 |
| 4 | 102 | 80 | 2032 |
| 4½ | 114 | 90 | 2286 |



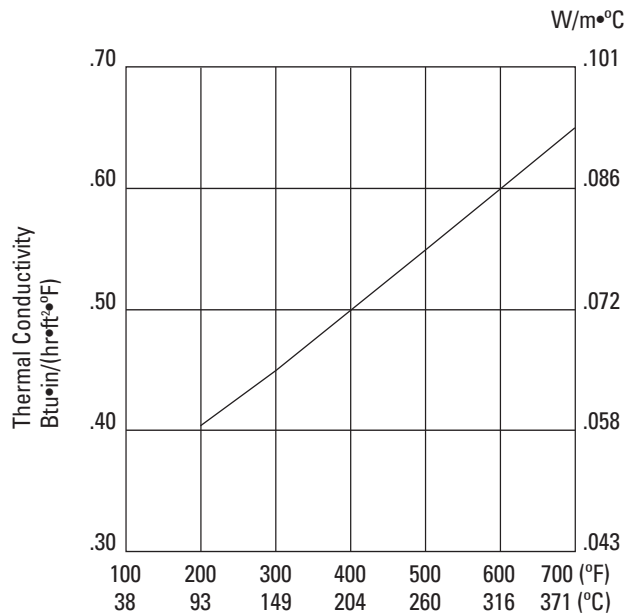
Operating Temperature Limit: 1200°F (649°C)

Fire Safety

Surface Burning Characteristics. When tested in accordance with ASTM E 84, NFPA 255, and UL 723, Thermo-12 Gold has flame spread/smoke developed ratings of 0/0.

Hot Surface Performance. Thermo-12 Gold passes ASTM C 411 to 1200°F (649°C).

Thermal Conductivity ("k")*



| Mean Temperature °F | 200 | 300 | 400 | 500 | 600 | 700 |
|---------------------|------|------|------|------|------|------|
| Mean Temperature °C | 93 | 149 | 204 | 260 | 316 | 371 |
| Btu·in/(hr·ft²·°F) | .41 | .45 | .50 | .55 | .60 | .65 |
| W/m·°C | .059 | .065 | .072 | .079 | .086 | .094 |

* Thermo-12 Gold Pipe & Block Insulation as tested in accordance with ASTM C 177 and ASTM C 335.

Thermo-12® Gold

Pipe & Block Insulation

Specification Compliance

ASTM C 533, Type I
ASTM C 795
ASTM E 136 (Noncombustible)
MIL-I-24244
MIL-I-2781F to 1200°F (649°C) [Pipe]
MIL-I-2819F Class 2 to 1200°F (649°C) [Block]
NRC 1.36

Physical Property Requirements

ASTM C 533, Type I

| | |
|--|--|
| Density (Dry) Average ASTM C 302 | 14.5 lbs. per cu. ft. (232 kg/m ³) |
| Flexural Strength ASTM C 203 | 65 psi (448 kPa) |
| Compressive Strength ASTM C 165 | 100 psi (690 kPa) to Produce 5% Compression |
| Abrasion Resistance (% Weight Loss by Tumbling) ASTM C 421 | After First 10 Min. - 15 After Second 10 Min. - 30 |
| Linear Shrinkage ASTM C 356 | Less Than 2.0% After 24-hr. Soaking Period at 1200°F (649°C) |
| Max. Service Temperature ASTM C 411 | 1200°F (649°C) |
| Surface Burning Characteristics ASTM E 84 | Flame Spread - 0 Smoke Developed - 0 |

Government Certification

When ordering material to comply with any government specification or any other listed specification, a statement of that fact must appear on the purchase order. Government regulations and other listed specifications require specific lot testing, and prohibit the certification of compliance after shipment has been made. There may be additional charges associated with specification compliance testing. Please refer to price page IIG-CSP-3 for Certification details and charges.

For Customer Service and Order Placement

(800) 334-7997
Fax: (912) 267-6096

For Sales Information

(800) 866-3234
Fax: (610) 358-0602

For Technical Information

(800) 872-0338
Fax: (970) 858-9641



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IIG-300 4-04 (Replaces IIG-125 3-04)

The physical and chemical properties of the Thermo-12® Gold Pipe and Block Insulation presented herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the Customer Service Office to assure current information. **All Industrial Insulation Group products are sold subject to the IIG Limited Warranty and Limitation of Remedy. For a copy of the IIG Limited Warranty and Limitation of Remedy, call (800) 334-7997.**

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