

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
- Reuseable after maintenance
- Large selection of sizes and forms

Available Forms and Sizes

Pipe Sizes		Thermo-12 Gold Form
in.	mm	
1/2 - 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+	3V [12" (305 mm) wide]
Panels		Flat Block [6", 12", 18" wide (152 mm, 305 mm, 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 1/2" (13 mm) increments. Thick wall material is furnished in double layers.

Thermo-12 Gold block insulation is 12" (305 mm) wide and 36" (914 mm) in length, and is available in thicknesses from 1" to 4 1/2" (25 mm to 114 mm) in 1/2" (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
1 1/2	38	30	762
2	51	40	1016
2 1/2	64	50	1270
3	76	60	1524
3 1/2	89	70	1778
4	102	80	2032
4 1/2	114	90	2286



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

Fire Safety

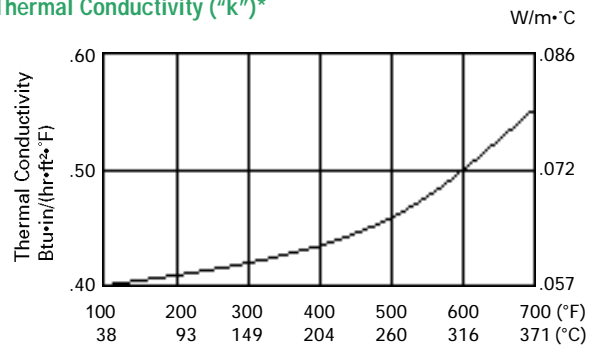
Surface Burning Characteristics. When tested in accordance with ASTM E 84, NFPA 255, and UL 723, Thermo-12 Gold has flame spread/smoke developed ratings of 0/0.

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

Specification Compliance

- ASTM C 533, Type I
- ASTM C 795
- MIL-I-24244
- MIL-I-2781F to 1200°F (649°C) [Pipe]
- MIL-I-2819F Class 2 to 1200°F (649°C) [Block]
- U.S. Coast Guard Certificate of Approval 164.009/77/0
- NRC 1.36

Thermal Conductivity ("k")*



Mean Temperature	°F	100	200	300	400	500	600	700
Temperature	°C	38	93	149	204	260	316	371
Btu·in/(hr·ft²·°F)		.40	.41	.45	.50	.55	.60	.65
W/m·°C		.058	.059	.065	.072	.079	.086	.094

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

Thermo-12[®] Gold

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Minimum 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 (Based on 1 1/2" (38 mm) Thickness in Accordance with 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. - 20 After Second 10 Min. - 40
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

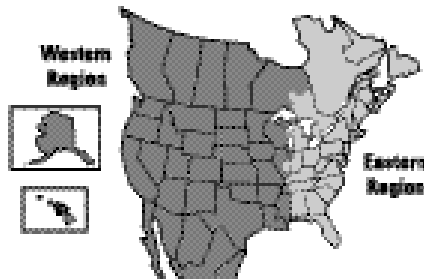
When ordering material to comply with any government specification or any other listed specification, a statement of that fact must appear on the purchase order. Government regulations and other listed specifications require specific lot testing, and prohibit the certification of compliance after shipment 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.

Thermo-12[®] Gold Pipe & Block Insulation
is manufactured by:



Industrial Insulation Group, LLC

A Calsilite/Johns Manville Joint Venture



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The physical and chemical properties of Thermo-12[®] Gold Pipe and Block Insulation 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 Regional Sales Office nearest you to assure current information.

All Johns Manville products are sold subject to Johns Manville's Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville Limited Warranty and Limitation of Remedy, call the 800 number below. For information on other Johns Manville thermal insulations and systems, and a copy of the Spec-Line[®] CSI formatted specification, call **1-800-654-3103**. To access automated fax-on-demand service in the United States and Canada, simply call **1-888-INSULFX** (1-888-467-8539) from a phone or fax.