



## Thermo-12® Gold

### PIPE & BLOCK INSULATION

#### DESCRIPTION

Thermo-12 Gold is a pre-formed, 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). It is inorganic, noncombustible, asbestos-free and meets or exceeds the physical and thermal property requirements of ASTM C533, Type 1. Integral to Thermo-12 Gold **XOX** is, a distinctive formula and process that inhibits corrosion to outside surfaces of pipe and equipment.

#### ADVANTAGES

- **Guards pipe and equipment** surfaces against corrosion
- **Excellent resistance** to breakage and physical abuse
- **No binders to burn out**; No loss of insulation integrity.
- **Excellent thermal performance** to 1200°F
- **Superior thermal performance** from 450°F to 1200°F
- **Resistant** to mold growth
- **Fast, easy installation**
- **Large selection** of sizes and forms

#### APPLICATIONS

Because of its low thermal conductivity, durability, compressive strength and corrosion inhibiting properties, it is the preferred product for application on high temperature piping and equipment. Thermo-12 Gold is especially recommended for use in the petrochemical, power generation and process industries where piping and equipment operating up to 1200°F (649°C). The **XOX** corrosion inhibiting properties are not diminished by heating and cooling so the corrosion protection will continue for the life of the product. Thermo-12 Gold will not burn and may be used for fire protection in some applications. Please e-mail [info@iig-llc.com](mailto:info@iig-llc.com) for specific application information.

#### 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



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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).

#### AVAILABLE FORMS AND SIZES

Pipe Sizes		Thermo-12 Gold
in.	mm	
½-24	15-600	Pipe Insulation
20-37	500-925	Quad Segments
38-52	950-1300	Hex Pipe Covering (Ruston Plant Only)
30-250+	750-6350+	Scored Block [12" (305 mm) wide] [18 (mm) wide (Mesa Plant Only)]
Flat Surfaces		Flat Block [6"12" and 16" wide (152 mm, 305 mm and 457 mm wide)]

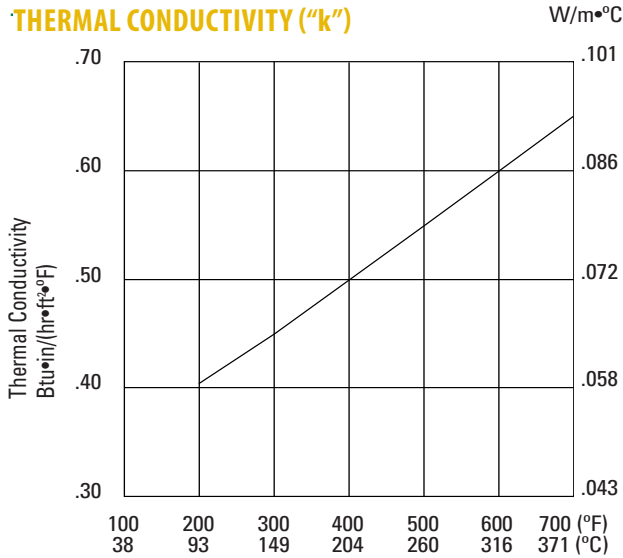
Thermo-12 Gold pipe insulation is 36" (914 mm) in length, and is available in thicknesses from 1" to 6" (25 mm to 150 mm) in ½" (15 mm) increments. Thick wall material is furnished in double layers.

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 4" (25 mm to 100 mm) in ½" (15 mm) increments. Non-standard widths of 18", 24" and 36" (457 mm, 610 mm and 914 mm) are available on a made-to-order basis. Inquire for price and availability.



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Mean Temperature	°F	200	300	400	500	600	700
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 C177, ASTM C518 and ASTM C335.

### GOVERNMENT CERTIFICATION

When ordering material that requires Certificate of Conformance to ASTM, government, or other specifications, a statement of the fact must appear on the purchase order. These specifications require specific lot testing and prohibit the certification of the lot after the shipment has been made. There may be additional charges associated with compliance testing. Refer to customer service for more information.

Industrial Insulation Group, LLC is a Calsilite/Johns Manville joint venture. IIG manufactures MinWool-1200® mineral fiber pipe, block and a variety of other insulations; Thermo-12® Gold Calcium Silicate pipe and block insulation; Super Firetemp® fireproofing board; SprouleWR-1200™ Perlite pipe and block insulation; high temperature adhesives, and insulating finishing cement.



**Industrial Insulation Group, LLC**  
A Calsilite/Johns Manville Joint Venture

2100 LINE STREET • BRUNSWICK, GA 31520

### SPECIFICATION COMPLIANCE

ASTM C 533, Type I  
ASTM C 795  
ASTM C 1338  
ASTM C 665 (Corrosiveness)  
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 Reg. Guide 1.36

### PHYSICAL PROPERTY REQUIREMENTS

ASTM C 533, Type I  
Density (Dry) Average ..... 14.5 lbs. per cu. ft.  
ASTM C 302 (232 kg/m³)  
Flexural Strength ..... 65 psi (448 kPa)  
ASTM C 203  
Compressive Strength ..... >100 psi (690 kPa)  
5% Compression  
ASTM C 165  
Abrasion Resistance ..... After First 10 Min. - 15  
(% Weight Loss by Tumbling) After Second 10 Min. - 30  
ASTM C 421  
Linear Shrinkage ..... Less Than 2.0% After 24-hr.  
Soaking Period at 1200°F (649°C)  
ASTM C 356  
Max. Service Temperature ..... 1200°F (649°C)  
ASTM C 411  
Mold Growth ..... Does Not Support  
ASTM C 1338  
Surface Burning Characteristics ..... Flame Spread - 0  
Smoke Developed - 0  
ASTM E 84

### ISO 9000 CERTIFICATION

Thermo-12 Gold is designed, manufactured, and tested in our own facilities, which are certified and registered to stringent ISO 9000 (ANSI/ASQ 90) series quality standards. This certification, along with regular independent third-auditing for compliance, is your assurance that all our products deliver consistently high quality.

The physical and chemical properties 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. Numerical flame spread and 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, email - info@iig-llc.com.

**CUSTOMER SERVICE,  
TECHNICAL & GENERAL INFORMATION**

(800) 866-3234

[www.iig-llc.com](http://www.iig-llc.com)