



Thermo-12® Gold MITERED FITTINGS

DESCRIPTION

Mitered Fittings are fabricated from Thermo-12 Gold pre-formed, high temperature, abuse-resistant pipe insulation with exceptional structural strength, composed of hydrous calcium silicate for use on systems operating up to 1200°F (650°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 is, **XOX** a distinctive formula and process that inhibits corrosion to outside surfaces of pipe and equipment.

ADVANTAGES

- **Excellent resistance to damage** enhancing the life of the system.
- **Inhibits corrosion on carbon steel** and stainless steel piping and equipment.
- **Consistent thermal performance to 1200°F(650°C).**
- **Noncombustible Insulation.**
- **Structural strength protects** against damage to lagging.
- **Asbestos, Mercury and Lead Free.**
- **No organic binders;** No loss of insulation integrity due to binder burn out.
- **Large selection** of sizes.

APPLICATIONS

Thermo-12 Gold Mitered Fittings is the product of choice for high temperature pipe and equipment due to its high strength and durability and low thermal conductivity and corrosion inhibiting performance. 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 (650°C). The **XOX** corrosion inhibiting properties are not diminished by temperature cycling so the corrosion protection will continue for the life of the product. Thermo-12 Gold will not burn and may be used as a component in fire protection systems in the some applications. Please visit our website at www.iig-llc.com for specific application information.



Thermo-12® Gold

OPERATING TEMPERATURE LIMIT: 1200°F (650°C)



AVAILABLE FORMS AND SIZES

Fitting covers are manufactured to fit any standard butt welded, long or short radius 90 degree elbows and 45 degree elbows and tees found in normal piping schemes.

*SINGLE LAYER	
Pipe Size, NPS(in) ½" increments	Insulation Thickness
½" to 6"	1"
½" to 19"	1 ½"
½" to 24"	2", 2 ½", 3"
DOUBLE LAYER GLUED	
½" to 20"	3 ½", 4"
1" to 20"	4 ½", 5"

* Select sizes may only be available in Double Layer Glued. See the List Price Schedule for specifics.

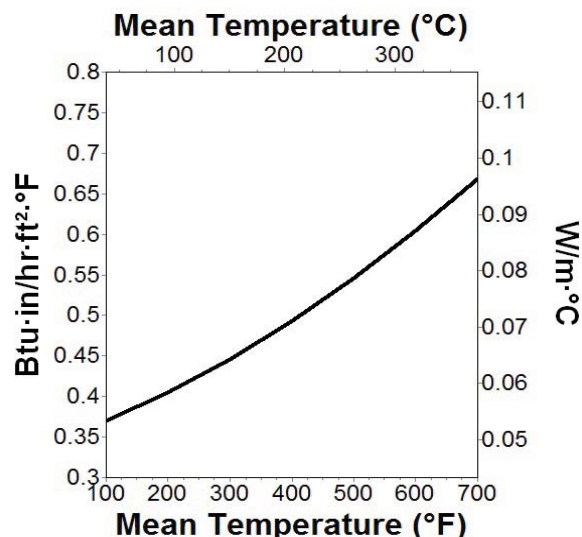
MITERED FITTING COVERS

Fitting covers are manufactured from Thermo-12 Gold Pipe Insulation mitered into precision segments. The segments are adhered with CalFab® Adhesive, for ease of installation following the MICA National Commercial and Industrial Insulation Standards. For more information on CalFab Quick-Set Calcium Silicate Fabrication Adhesive reference data sheet IIG-13.

ADDITIONAL INFORMATION AND MSDS

Please visit our website at www.iig-llc.com.

THERMAL CONDUCTIVITY *



Mean Temperature	°F	100	200	300	400	500	600	700
	°C	38	93	149	204	260	316	371
Btu-in/(hr-ft²-°F)		.37	.41	.45	.49	.55	.60	.67
W/m-°C		.053	.058	.064	.071	.079	.087	.096

* Thermo-12 Gold Pipe & Block Insulation as tested in accordance with ASTM C177, ASTM C518 and ASTM C335.

PRODUCT 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 IIG-CSP-3 for Certification Procedures and Charges. Call customer service for more information.

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-party auditing for compliance, is your assurance that this product delivers consistent high quality.

SPECIFICATION COMPLIANCE*

ASTM C165 Compressive Strength	>100psi(690kPa) 5% compression
ASTM C203 Flexural Strength	>50psi(450kPa)
ASTM C302 Density (Dry) Average	>14pcf(230kg/m³)
ASTM C356 Linear Shrinkage	<2.0% after 24hr Soaking period at 1200°F(650°C)
ASTM C421 Abrasion Resistance	After the first 10min <20% After the second 20min <40% Weight Loss by Tumbling
ASTM C447 Maximum Service Temperature	1200°F(650°C)
ASTM C533, Type I Material Specification	Passes
ASTM C665 Corrosivity to Steel	Passes-Inhibits
ASTM C795/C871/C692 Corrosion	Passes-Inhibits
ASTM C1338 Fungi Resistant	Passes
ASTM C1617 Corrosion	Passes-Inhibits
ASTM E84 Surface Burning Characteristics	Flame Spread -0 Smoke Developed -0
ASTM E119 Building Fire Test	Passes
ASTM E136 Non Combustibility	Passes
BS 476 PART II	Passes
Can/ULC S-102 Surface Burning Characteristics	Flame Spread -0 Smoke Developed -0
City of New York MEA	436-88-M
ISO 8143 Material Specification	Passes
MIL-I-24244 Military Specification	Passes
MIL-I-2781F to 1200°F(650°C) [Pipe] Military Specification	Passes
MIL-I-2819F Class 2 to 1200°F(650°C) [Block] Military Specification	Passes
NRC Reg. Guide 1.36	Passes
NFPA 255 Surface Burning Characteristics	Flame Spread -0 Smoke Developed -0
UL 1709 Hydrocarbon Fire Test	Rated (See IIG document TB005)

*Thermo-12® Gold Pipe & Block Insulation

Industrial Insulation Group, LLC is a Johns Manville company. 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.

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.



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