

## THERMO-1200®

Thermo-1200 is a water resistant, Type I calcium silicate pipe and block insulation, designed for applications that operate at temperatures up to 1200°F (650°C).

### BENEFITS

**Water Resistant\*:** Thermo-1200 is the only North American calcium silicate insulation available that is water resistant. The insulation is engineered to withstand a heavy rainfall (1¼" of rain/ hour) for up to 20 minutes without absorbing more than 15% of its weight in water. This will allow contractors to install the insulation without immediately applying the jacketing afterward, offering more time and flexibility in the installation process than has traditionally been available.

**Inhibits Corrosion:** A proprietary corrosion inhibitor, called XOX Corrosion Inhibitor®, is integral to the chemical makeup of Thermo-1200. XOX Corrosion Inhibitor helps protect against corrosion under insulation (CUI) and makes Thermo-1200 one of the least corrosive thermal insulations available.

**Durable:** Thermo-1200 is a cementitious insulation with exceptional compressive strength (>100 psi/690kPa), making it ideal for applications where mechanical abuse is likely. The inorganic binder will hold its shape and maintain the physical integrity of the insulation, even past 450°F, the point at which most organic binders burn off.

**Extended Life Cycle:** When properly installed and maintained, Thermo-1200's superior physical strength and inorganic binders can provide an insulation lifespan of up to 25 years or more.

### FEATURES

- Non-combustible, cementitious insulation
- Temperature range: Ambient to 1200°F
- Asbestos, lead, and mercury-free

### APPLICATIONS

In addition to water resistance, Thermo-1200 offers superior durability and compressive strength. This is coupled with high-temperature, corrosion-inhibiting performance, making it ideal for the following applications:

Pipe and Equipment:

- Chemical Processing
- Power Generation
- Petroleum Refining

### QUALITY STATEMENT

Johns Manville industrial products are designed, manufactured and tested to strict quality standards in our own facilities. This, along with third party auditing is your assurance that this product delivers consistently high quality.

*\*Thermo-1200 water resistant calcium silicate is not hydrophobic. Thermo-1200 is designed to be able to withstand short periods of rainfall without absorbing water in excess. The volume of water absorption depends on the duration of exposure and the amount of rainfall. The insulation is not meant to withstand extreme weather conditions without jacketing. While this new water resistant feature can be helpful during prolonged field installations, it is nevertheless recommended that an installer weatherproof and jacket the thermal insulation as soon as it is feasibly possible. Should water enter the system, the corrosion inhibitors will still activate to continue to help combat corrosion at a chemical level, and once the system reaches operating temperatures, the water will vaporize and leave the system.*



### FIRE SAFETY

**Surface Burning Characteristics.** When tested in accordance with ASTM E84 and UL 723, Thermo-1200 has flame spread/smoke developed ratings of 0/0.

**Non-Combustible.** When tested in accordance with ASTM E136 as defined by NFPA 101.

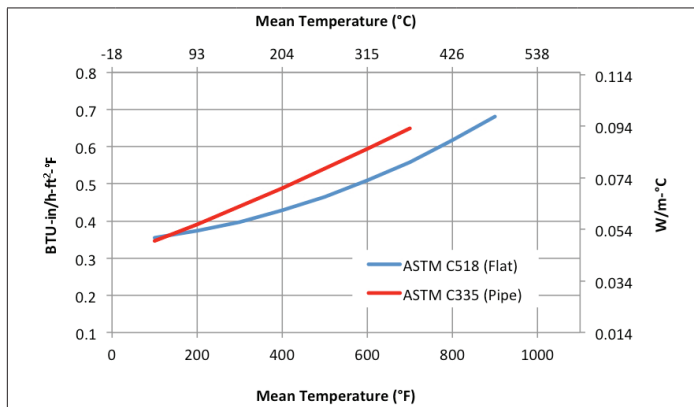
### ISO 9000 CERTIFICATION

Thermo-1200 is manufactured and tested in our own facilities under implemented Quality Management Systems which are certified to be in accordance with ISO 9001 quality standards. This certification, along with regular, independent third-party auditing of our plant and records for compliance, is your assurance that this product consistently delivers high quality performance.

### 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 JM-IND-CSP-3 for Certification Procedures and Charges. Call customer service for more information (1-800-866-3234).

**THERMAL CONDUCTIVITY**



Mean Temperature	°F	100	200	300	400	500	600	700
	°C	38	93	149	204	260	316	371
ASTM C335 (Pipe)	Btu • in/(hr • ft² • °F)	.344	.389	.437	.486	.538	.591	.647
	W/m • °C	.050	.056	.063	.070	.078	.085	.093
ASTM C518 (Flat)	Btu • in/(hr • ft² • °F)	.355	.373	.397	.428	.465	.509	.559
	W/m • °C	.051	.054	.057	.062	.067	.073	.081

\* Thermo-1200 Insulation is tested in accordance with ASTM C518 and ASTM C335.

**AVAILABLE FORMS & SIZES**

Insulation Form: Round Surfaces	Pipe Size (in)	Pipe Size (mm)
Pipe Insulation	½-24	13-600
Quad Segments	20-37	500-925
Hex Pipe Covering (Ruston Plant Only)	38-52	950-1300
3-V Scored Block Width: 12"/305mm Length: 36"/914mm	30 minimum	762 minimum
Curved Segments	30-126	762 - 3200
Beveled Lags	126 and higher	3200 and higher
Insulation Form: Flat Surfaces	Insulation Size (in)	Insulation Size (mm)
Flat Block	Width: 6 and 12 Length: 36	Width: 152 and 305 Length: 914

**SPECIFICATION COMPLIANCE**

ASTM C165 Compressive Strength	>100psi (690kPa) 5% compression
ASTM C203 Flexural Strength	>50psi (450kPa)
ASTM C302 Density (Dry) Average	<15pcf (240kg/m³)
ASTM C356 Linear Shrinkage	<2.0% after 24hr Soaking period at 1200°F (650°C)
ASTM C421 Abrasion Resistance Weight Loss by Tumbling	After the first 10min <20% After the second 10min <40%
ASTM C447 Maximum Service Temperature	1200°F (650°C)
ASTM C533, Type I Material Specification	Passes
ASTM C795/C871/C692 Corrosion: Austenitic Stainless Steel	Passes
ASTM C1338 Fungi Resistant	Passes
ASTM C1617 Corrosion	Passes (<DI Water)
ASTM E84 Surface Burning Characteristics	Flame Spread: 0 Smoke Developed: 0
ASTM E136 Non-Combustible	Passes
NRC Reg. Guide 1.36	Passes
MIL-I-24244	Passes
MIL-I-2781 1200°F (650°C) [Pipe] Military Specification	Passes
MIL-PRF-2819 Class 2 to 1200°F (650°C) [Block] Military Specification	Passes
UL 1709 Rapid Rise Fire Test	Call for design details

**3-V SCORED BLOCK APPLICATION GUIDE**

Minimum Diameter			
Insulation Thickness		Triple Scored	
in	mm	in	mm
1½	38	30	762
2	51	40	1016
2½	64	50	1270
3	76	60	1524



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Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The physical and chemical properties of the Thermo-1200 listed 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 Regional Sales Office nearest you for current information.

**All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, which includes a Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions or for information on other Johns Manville thermal insulation and systems, visit [www.jm.com/terms-conditions](http://www.jm.com/terms-conditions) or call (800) 654-3103.**