



Description

Owens Corning High Temperature Pipe Insulation 1200 is made of inorganic fibers derived from basalt, a volcanic rock, with a thermosetting resin binder. Advanced manufacturing technology ensures consistent product quality, with high fiber density and low shot content, for excellent performance in high temperature thermal control and fire resistance applications.

Uses

Owens Corning High Temperature Pipe Insulation 1200 provides excellent thermal insulation performance for mechanical/power and process piping systems operating with continuous use surface temperatures from sub-ambient to 1200°F (649°C). This molded pipe insulation is easily fabricated, cutting cleanly and easily with a knife. Very low in-service shrinkage helps prevent gaps from forming at joints, preventing costly thermal leaks. The insulation is designed to be field-jacketed.

Features/Benefits

Excellent Thermal Performance

Good thermal conductivity values help maximize control of heat loss, contributing to reduced operating costs and greater energy savings. High dimensional stability and low shrinkage reduce the potential for gaps forming at joints.

Good Compressive Strength

These molded pipe insulation sections maintain their structural integrity under severe operating conditions. Thickness stays uniform; there is less jacket damage.

Lightweight, Low Dust

Easy to handle and fabricate, these insulations are readily cut with a knife. No sawing is required. Clean handling properties help reduce irritation and minimize job clean-up time and expense. They may be installed directly on hot surfaces; system shutdown and staged heat-up are not required.

Noncombustible

These high temperature insulation products have flame spread ratings of 5 and smoke developed ratings of 0 when tested in accordance with UL 723, ASTM E 84 or CAN/ULC-S102-M. They are rated noncombustible in accordance with ASTM E 136 and CAN4-S114-M.

Good Physical Properties

There's no loss of thermal integrity from binder burnout when thickness is maintained. Low

water vapor sorption reduces the likelihood that these insulations will mold or mildew.

Availability

Owens Corning High Temperature Pipe Insulation is available as 36-inch (914mm) sections in standard pipe sizes from 1/2" to 36" NPS (15mm to 900mm DN), and in thicknesses from 1" (25mm) to 5" (127mm) in 1/2" (13mm) increments. Sizes to 14" NPS (350mm DN) are supplied in one piece, conveniently hinged. Larger pipe sizes to 42" NPS (1050mm DN) are supplied in two-piece half sections. Also available are:

- Thermaloc® pipe insulation sections with offset joints at the butt ends, which save time and cost by eliminating double-layer installation.
- Boiling Water Tested (BWT) pipe insulation, specially formulated to pass the U.S. Navy test for continued performance following intermittent flooding conditions.

Specification Compliance

- ASTM C 547, Mineral Fiber Preformed Pipe Insulation, Types I & II
- ASTM C 585, Inner and Outer Diameters of Pipe Insulation
- U.S. Coast Guard, Approval No. 164.009, Noncombustible Materials
- CAN/CGSB-51.9 – Type 1, Class 3

For application to austenitic stainless steel, please contact your Owens Corning Representative for lot testing requirements.

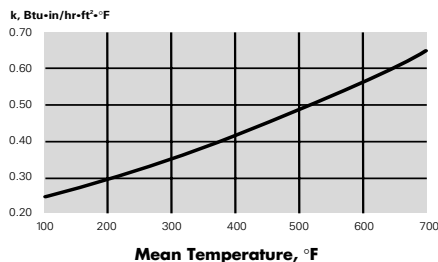
Physical Property Data

Property	Test Method	Value
Maximum service temperature	ASTM C 411	Continuous use to 1200°F (649°C)
Recovery after 10% compression		100%
In-service shrinkage	ASTM C 356	0% at 1050°F (566°C) <1% at 1200°F (649°C)
Water vapor sorption	ASTM C 1104	<1.0% by weight at 120°F (49°C), 95% R.H.
Shot content	ASTM C 1335	<20%
Surface burning characteristics	UL 723,* ASTM E 84** or CAN/ULC-S102-M*	Flame spread 5* Smoke developed 0
Noncombustibility	ASTM E 136 CAN4-S114-M USCG 164.009	Noncombustible

* The surface burning characteristics of these products have been determined in accordance with UL 723, ASTM E 84 or CAN/ULC-S102-M. These standards should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use. Values are reported to the nearest 5 rating.

High Temperature Pipe Insulation 1200

Thermal Conductivity



Apparent thermal conductivity curve determined in accordance with ASTM Practice C 1045 with data obtained by ASTM Test Method C 335. Values are nominal, subject to normal testing and manufacturing tolerances.

Mean Temp. °F	k Btu-in/hr-ft²-°F	Mean Temp. °C	λ W/m-°C
75	0.23	25	0.034
100	0.25	50	0.037
200	0.30	100	0.044
300	0.35	150	0.051
400	0.41	200	0.059
500	0.48	250	0.068
600	0.56	300	0.078
700	0.65	350	0.089

Thermal Performance, ASTM C 680

Insulation NPS x Thk. (DN x Thk.) in. (mm)	Pipe Operating Temperature, °F (°C)					
	250 (121)		600 (316)		950 (510)	
	HL	ST	HL	ST	HL	ST
3 x 1 (80 x 25)	49 (47)	98 (37)				
6 x 1 (150 x 25)	87 (84)	101 (38)				
12 x 1½ (300 x 38)	103 (99)	96 (36)				
24 x 1½ (600 x 38)	196 (188)	99 (37)				
3 x 2 (80 x 51)			130 (125)	112 (44)		
6 x 2 (150 x 51)			209 (201)	117 (47)		
12 x 2½ (300 x 64)			295 (284)	115 (46)		
24 x 2½ (600 x 64)			533 (512)	120 (49)		
3 x 4 (80 x 102)					192 (185)	113 (45)
6 x 4 (150 x 102)					285 (274)	118 (48)
12 x 5 (300 x 127)					395 (380)	117 (47)
24 x 5 (600 x 127)					670 (644)	122 (50)

Heat Loss (HL), Btu/hr-ft (W/m); Surface Temperature (ST), °F (°C).
Design Conditions: Horizontal piping, 80°F (27°C) average ambient temperature, 8 mph wind speed, weathered aluminum jacket.

Application Recommendations

Owens Corning High Temperature Pipe Insulation can be installed directly on heated piping. One piece hinged sections are opened, placed over the pipe, closed and secured with wires, bands or tape. Two-piece half sections are placed on the pipe and wired, banded or taped in place.

The insulation may be finished with various rigid jacketing depending on requirements for physical abuse, weather and chemical resistance. Jacketing may be secured using screws, rivets or bands. If a vapor retarder is required, screw, rivet or any other penetrations must be sealed.

For temperatures over 400°F (204°C), good insulation practice suggests double-layer application, regardless of insulation type. Single-layer installation of any type of insulation material requires good workmanship to minimize heat loss and hot spots at insulation joints. These insulations may be installed in either single or multiple layers at all temperatures up to 1200°F (649°C).

In multiple-layer installations, each layer must be secured in place before the next layer is installed. Joints in multiple layer installations should be staggered to reduce heat flow. Owens Corning High Temperature Pipe Insulation sections with offset joints at the butt ends may eliminate the need for multiple-layer installation.



OWENS CORNING WORLD HEADQUARTERS

ONE OWENS CORNING PARKWAY
TOLEDO, OHIO, USA 43659

1-800-GET-PINK
www.owenscorning.com

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