

High-Performance Aerogel Insulation for Industrial Applications

Pyrogel® XTE insulation is a flexible, high-performance, aerogel blanket designed for use in industrial applications. Pyrogel XTE is engineered to deliver superior thermal performance while offering excellent protection against corrosion under insulation (CUI). Hydrophobic and breathable, Pyrogel XTE ensures long-lasting water resistance for both the insulation layer and underlying asset; they remain drier for longer, preserving process conditions, and saving energy in the harshest of environments. These characteristics make Pyrogel XTE the “go-to” insulation for industry-leading CUI defense.

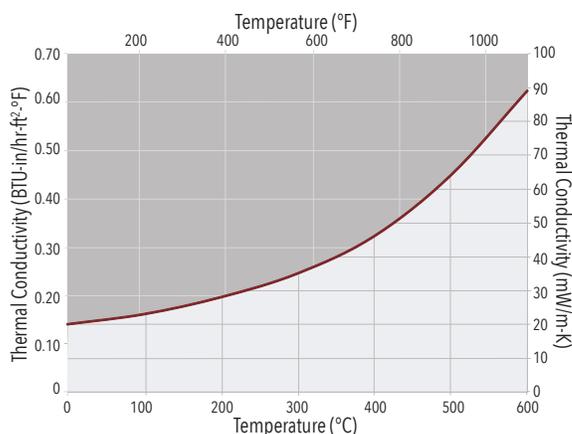
With extremely low thermal conductivity, Pyrogel XTE is up to 75% thinner than competing materials. Its thin profile makes it ideal for installation in congested areas or to resolve mechanical clashes, increasing both plant safety and efficiency. Pyrogel XTE is mechanically robust, enabling pre-insulation to save time and money. It can be removed and reused after inspection, lowering total cost of ownership.

The versatility of Pyrogel XTE makes it suitable for a wide range of applications, from small-bore pipe to the largest format process vessels and equipment.

THERMAL CONDUCTIVITY†

Tested in accordance with ASTM C177

Mean Temp. °F / °C	k BTU-in/hr-ft ² -°F / mW/m-K
32 / 0	0.14 / 20
212 / 100	0.16 / 23
392 / 200	0.19 / 28
572 / 300	0.24 / 35
752 / 400	0.32 / 46
932 / 500	0.44 / 64
1112 / 600	0.62 / 89



†Thermal conductivity measured at a compressive load of 2 psi.

ADVANTAGES

- **Best-in-class CUI protection**
- **Hydrophobic and breathable, resists liquid water and avoids the damaging effects of wet insulation**
- **Up to five-times better thermal performance versus competing materials**
- **Faster application rates, especially on large-bore pipes and vessels**
- **Tough enough to maintain thermal performance even after compression events**
- **Versatile format can be cut to fit any piece of piping or equipment**
- **Reduced logistics costs relative to rigid insulation—lower scrap, transport costs, and man hours on project and turnaround work**
- **Durable format permits pre-insulation and reuse**

PHYSICAL PROPERTIES

THICKNESS*	0.2 in (5 mm)	0.4 in (10 mm)
ROLL SIZE*	1,500 sqft (139 sqm) Bulk Rolls	850 sqft (79 sqm) Bulk Rolls
WIDTH TOLERANCE	56 - 60 in (1422 - 1524 mm)	
MAX. USE TEMP.	1200°F (650°C)	
COLOR	Maroon	
DENSITY*	12.5 lb/ft ³ (0.20 g/cc)	
HYDROPHOBIC	Yes - No added PTFE/PFOA	

*Nominal Values.

PERFORMANCE PROPERTIES OF PYROGEL XTE INSULATION BLANKET

PYROGEL XTE INSULATION COMPLIES WITH **ASTM C1728 TYPE III**, GRADE 1A AND MEETS THE FOLLOWING TEST REQUIREMENTS:

TEST PROCEDURE	PROPERTY	RESULTS
ASTM C165	Compressive Resistance [†]	≥ 3 psi (20.7 kPa) @ 10% deformation
ASTM C356	Linear Shrinkage Under Soaking Heat	< 2% @ 1200°F (650°C)
ASTM C411	Hot Surface Performance	Pass
ASTM C447	Estimation of Maximum Use Temperature	1200°F (650°C)
ASTM C795	Insulation for Use Over Austenitic Stainless Steel	Pass
ASTM C1101/1101M	Flexibility of Blanket Insulation	Flexible
ASTM C1104/1104M	Water Vapor Sorption	≤ 5% (by weight)
ASTM C1338	Fungal Resistance of Insulation Materials	Pass
ASTM C1617	Corrosiveness to Steel	Pass
ASTM C1763	Water Absorption by Immersion	Pass
ASTM E84	Surface Burning Characteristics	Flame Spread Index ≤ 5 Smoke Developed Index ≤ 10

[†]Compressive Resistance measured using a pre-load of 2 psi.

SYSTEM PERFORMANCE OF PYROGEL XTE

Pyrogel XTE's performance in acoustic service and fire protection applications has been evaluated according to the following test methods.

Contact Aspen Aerogels technical service for configuration details.

- ISO 15665 - Acoustic Insulation for Pipes, Valves, and Flanges:
Configurations meeting Class A2, B2, C2, and Shell D2 possible



CUI DEFENSE ZONE - WWW.AEROGEL.COM/CUI

Learn how Pyrogel XTE can contribute to a successful CUI defense strategy

THE AEROGEL ADVANTAGE

Aerogel is a lightweight solid derived from gel in which the liquid component of the gel has been replaced with air. The process of creating aerogel results in a material with extremely low density and the lowest thermal conductivity of any solid. These remarkable properties make aerogel one of the world's most efficient insulating materials. Our patented process integrates this unique aerogel into a fiber-batting to create flexible, resilient, and durable aerogel blankets with superior insulating performance.

WORKING WITH PYROGEL®

Clean, flush, and accurate cutting of Pyrogel can be achieved using conventional cutting tools such as scissors, tin snips, or razor knives. As with all technical insulation materials, appropriate personal protective equipment (PPE) should be worn when handling, cutting and installing Pyrogel. See SDS/AIS for complete health and safety information. Pyrogel XTE is designed for use with a properly installed jacketing system. Refer to the Pyrogel XTE Installation Guide for details.

MORE INFO



PRODUCT WEB PAGE

Scan with mobile device or go to aerogel.com/pyrogel

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