



Combined Passive Fire Protection and Thermal Insulation for High-Temperature Applications

Pyrogel® XTF aerogel blanket insulation is designed to provide exceptional passive fire protection and superior thermal performance in a thin, lightweight format.

Tested to the most stringent fire-protection standards, Pyrogel XTF delivers hydrocarbon pool-fire protection for up to 4 hours, and jet fire protection up to 2 hours. It can also be used to meet the requirements of API 521 for the sizing of pressure relief systems.

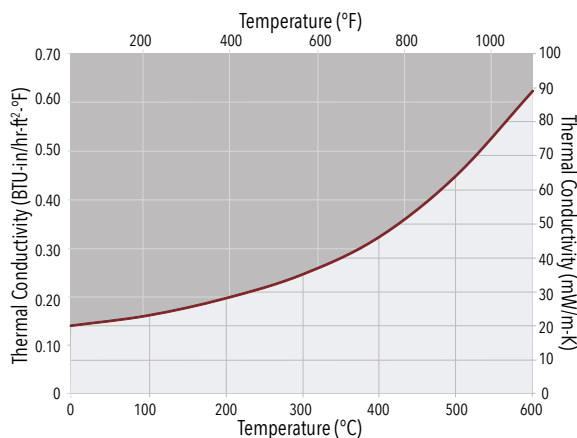
Pyrogel XTF incorporates all the insulative qualities of Pyrogel XTE to combine class-leading thermal performance with versatile passive fire protection. Hydrophobic and breathable, Pyrogel XTF keeps underlying assets drier for longer, providing superior corrosion defense and maintaining process conditions in the harshest of environments.

Offering more asset coverage per man hour, especially on large-bore piping, vessels, and skirts, Pyrogel XTF supports a faster return to service. It can be applied in all weather conditions and requires no cure time, providing immediate protection of assets.

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

- **Lower total installed cost compared to traditional passive fire protections**
- **Faster and easier application gives immediate passive fire protection—no curing or drying time needed**
- **Can be installed in all weather conditions**
- **Easily removed and reused after inspection**
- **Hydrophobic and breathable; resists liquid water and the damaging effects of CUI/CUF**
- **Lightweight, durable design allows for pre-insulation**
- **Suitable for applications from ambient to 650°C/1200°F**

PHYSICAL PROPERTIES

THICKNESS*	0.4 in (10 mm)
MATERIAL FORM*	850 sqft roll
MAX. USE TEMP.	650°C (1200°F)
COLOR	Grey
DENSITY*	12.5 lb/ft ³ (0.20 g/cc)
HYDROPHOBIC	Yes

*Nominal Values

SPECIFICATION COMPLIANCE AND PERFORMANCE

TEST PROCEDURE	PROPERTY	RESULTS
ASTM C165 ¹	Compressive Resistance	≥ 3 psi (20.7 kPa) @ 10% deformation
ASTM C411	Hot Surface Performance	Pass ²
ASTM C447	Estimation of Maximum Use Temperature	650°C (1200°F)
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	No Growth
ASTM C1617	Corrosiveness to Steel	Pass ²
ASTM C1763	Water Absorption by Immersion	Pass ²
ASTM E84	Surface Burning Characteristics	Flame Spread Index ≤ 5 Smoke Developed Index ≤ 10
ISO 15665	Acoustic Insulation for Pipes, Valves and Flanges ³	Configurations possible to meet Class A2, B2, and C2
ISO 22899 (OTI 95-634)	Jet-Fire Resistance Test of Passive Fire Protection Materials ^{3,4,5}	30 min → 30mm tubular 120 min → 70mm planar
UL 1709	Structural Steel Fire Protection ^{3,5}	75 min → 20mm 180 min → 50mm 120 min → 30mm 210 min → 60mm 150 min → 40mm 240 min → 70mm

[1] Compression resistance measured using a preload of 2 psi.

[2] Passes criteria established in ASTM C1728.

[3] Contact Aspen Aerogels for configuration details.

[4] 200 mm (8") pipe with a failure criteria of 400°C (752°F).

[5] Requires the use of stainless steel jacketing.

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.

MORE INFO



PRODUCT WEB PAGE

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

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