

# PYROGEL XTF

## 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



### Physical Properties

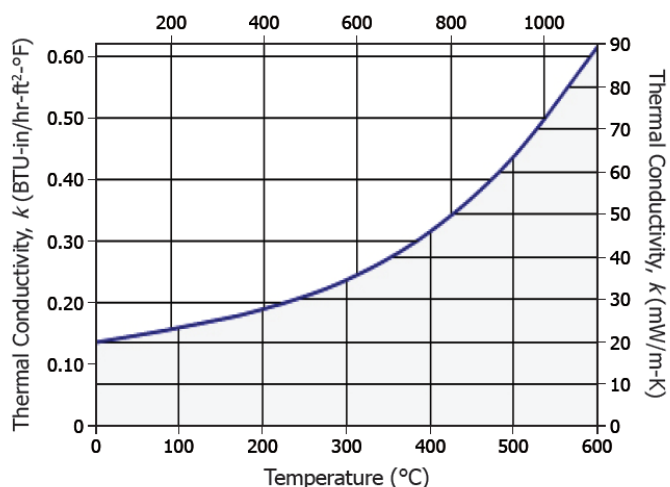
Thickness*	10 mm
Roll size*	78.977 m <sup>2</sup> roll
Width tolerance	1422 – 1524 mm
Max. use temp.	650°C
Color	Grey
Density*	0,20 g/cc
Hydrophobic	Yes

\* Nominal Values

### 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

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## Thermal conductivity\* - Tested in accordance with ASTM C1777

Mean Temp. °C	0	100	200	300	400	500	600
K mW/m-K	20	23	28	35	46	64	89

\* Thermal conductivity measurements taken at a compressive load of 2 psi

## Performance properties of Pyrogel XTF insulation blanket

Test procedure	Property	Results
ASTM C165 <sup>1</sup>	Compressive Resistance	≥ 3 psi (20.7 kPa) @ 10% deformation
ASTM C411	Hot Surface Performance	Pass <sup>2</sup>
ASTM C447	Estimation of Maximum Use Temperature	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	No Growth
ASTM C1617	Corrosiveness to Steel	Pass <sup>2</sup>
ASTM C1763	Water Absorption by Immersion	Pass <sup>2</sup>
ASTM E84	Surface Burning Characteristics	Flame Spread Index ≤ 5 Smoke Developed Index ≤ 10

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

[2] Passes criteria established in ASTM C1728

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## System performance of Pyrogel XTF

**Pyrogel XTF's** performance in acoustic service and fire protection applications has been evaluated according to the following test methods. Contact our technical service department for configuration details.

- UL 1709 - Rapid Rise Fire Test: Up to 240 min of protection
- OTI-95-634 - Jet Fire Protection: Up to 120 min of protection
- ISO 15665 - Acoustic Insulation for Pipes, Valves, and Flanges: Configurations meeting Class A2, B2, and C2 are possible.

## 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 XTF** is designed for use with a properly installed jacketing system. Refer to the **Pyrogel XTF** Installation Guide for details.

## Technical services

**Pyrogel XTF** represents the state of the art in passive fire protection, minimizing total installed costs while facilitating long-term operating cost savings. To ensure a successful project, our Technical Services team offers comprehensive assistance, from initial design and specification, through to training, and site start up.