

FyreWrap® Tank Car Blanket*

Introduction

FyreWrap® Tank Car Blanket* from Unifrax is a flexible, lightweight, high strength, spun ceramic fiber blanket specifically designed to comply with Department of Transportation (DOT) Federal Railroad Administration (FRA) and Transport Canada requirements for thermal protection for railroad tank cars transporting crude oil, ethanol and other flammable liquids and hazardous materials. FyreWrap Tank Car Blanket is on the FRA Thermal Protection Approval List with numerous systems that have been tested to pool fire and torch fire conditions outlined in 49 CFR Part 179. It can be utilized on existing Type DOT-111 and CPC-1232 and new specification DOT-117 tank cars to comply with Final Rulemaking for Enhanced Tank Car Standards and operational Controls for High-Hazard Flammable Trains (HHFT). It can also be used for Type DOT-105, 109, 112, and 114 tank cars for compliance with DOT Hazardous Material Regulations (HMR). Unifrax has more than 30 years experience as a thermal protection supplier to the railcar industry.

Unifrax's proprietary fiber spinning technology combined with mechanical needling of the fibers eliminates the need for binders in the product. This results in a material with high tensile strength and that is completely inorganic. Tank Car Blanket offers superior handling strength for easy installation and durability while in service. Tank Car Blanket has excellent chemical stability and is unaffected by most chemicals except hydrofluoric and phosphoric acids and concentrated alkalis. If wet by water or steam, thermal and physical properties remain unaffected after drying.

FyreWrap Tank Car Blanket systems offer thin, lightweight thermal protection solutions for tank car upgrades and new car designs, saving space and minimizing added weight.

FyreWrap Tank Car Blanket provides the following product features:

- Meets 49 CFR 179 pool fire and torch fire conditions
- Approved Systems on FRA Thermal Protection List
- Utilized for Type DOT 105, 109, 111, 112, 114, 117 and CPC-1232 tank cars
- Complies with Dockets HM-144, HM-145, HM-175, HM-175a, HM-181 and HM-251
- 30-year proven performance and reliable supply source
- Systems utilize minimal space and weight



- Superior strength blanket during installation and service
- Spun ceramic fiber produced per existing formula and approved specification
- Available in scroll wrap packaging and special sizes

Typical Product Properties

Temperature Grade	2300°F (1260°C)
Recommended Operating Temperature	2150°F (1000°C)
Melting Point	3200°F (1760°C)
Organic Content	0%
Surface Burning (per ASTM E84)	Flame Spread Rating = 0 Smoke Developed Rating = 0

Data are average results of tests conducted under standard procedures and are subject to variation. Results should not be used for specification purposes.

The temperature grade is determined by irreversible linear change criteria, not product melting point.

Typical Product Parameters

Thickness	0.5", 0.65", 1.0" and 2.0"
Density	Minimum 4.5 lbs./cu.ft.
Product Availability**	Width = Up to 50" Length = Various

**For availability of standard and nonstandard sizes, contact our Customer Service Department at 716-768-6500.

Refer to the product Safety Data Sheet (SDS) for recommended work practices and other product safety information.

*Formerly designated as Fiberfrax®, supplied by The Carborundum Company on the FRA Thermal Protection Approval List.

FRA Approved Thermal Protection Systems

FyreWrap* Thickness (Min.)	FyreWrap* Density (Min.)	Additional Insulation Component	Back Plate Temperature <550°F (288°C)
0.5 inch	4.5 lb./ft. ³	none	No
0.65 inch	4.5 lb./ft. ³	none	No
0.5 inch	4.5 lb./ft. ³	1.5 inch froth-in-place urethane foam	Yes
0.5 inch	4.3 lb./ft. ^{3**}	4.0 inch, 0.75 lb./ft. ³ fiberglass	Yes
1.0 inch	4.5 lb./ft. ³	1.0 inch froth-in-place urethane foam	Yes
2.0 inch	4.5 lb./ft. ³	2.0 inch, 0.75 lb./ft. ³ fiberglass	Yes

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**Density as tested was 4.3 lb./ft.³, supplied as min. 4.5 lb./ft.³

All systems require an 11 gauge steel tank car jacket.

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Unifrax is a leading producer of high-temperature insulation products providing heat management solutions, energy savings and fire protection for applications in the worldwide commercial building, industrial facility and transportation industries.

For more information on FyreWrap Tank Car Blanket and our complete line of FyreWrap fire protection products, visit www.unifrax.com, or call 716-768-6500. For additional information about product performance or for assistance identifying the recommended product or system for your fire protection application, please contact Unifrax at 716-768-6500 and ask for Fire Protection Application Engineering.

