Product Information Sheet

FyreWrap® Tank Car Insulation

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 Characteristics (per ASTM E-84)	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 = 48", Length = 32 LF

*For availability of nonstandard sizes, contact our Customer Service Department at 716-278-3800.

Introduction

FyreWrap® Tank Car Insulation from Unifrax is a flexible, lightweight, high-temperature, fire protection insulation blanket specifically designed to meet Department of Transportation (DOT) Federal Railroad Administration thermal protection requirements for railroad tank cars carrying hazardous materials. Tank Car Insulation systems have been tested to pool fire and torch fire conditions outlined in 49 CFR Part 179 and are utilized on tank car Classes DOT-105, 109, 112, and 114. Systems comply with DOT Dockets HM-144, HM-145, HM-175, HM-175a, and HM-181 for cars carrying flammable and combustible liquids and gases and chlorine that are approved by the Association of American Railroads (AAR).

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 Insulation offers superior handling strength for easy installation and durability while in service. Tank Car Insulation blanket has excellent chemical stability and is unaffected by most chemicals except hydrofluoric and phosphoric acids and concentrated alkalies. If wet by water or steam, thermal and physical properties remain unaffected after drying.

FyreWrap Tank Car Insulation systems offer thin, lightweight solutions for compliance with tank car fire protection requirements. Thin systems yield increased available tank car payload, and lower operational costs for tank car owners.

FyreWrap Tank Car Insulation provides the following product features:

- Complies with 49 CFR 179 Specification on Tank Cars
- Meets DOT thermal protection requirements in Dockets HM-144, HM-174, HM-175, HM-175a, and HM-181
- Utilized for Class 105, 109, 112, and 114 tank cars
- Proven performance when tested to pool fire and torch fire conditions
- Inorganic, noncombustible product form, no issues with use under tank car jacket
- Significant space and weight savings, lower operational costs
- Strong, flexible blanket is easy to handle, cut, and install

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

DOT and AAR Approved Systems

DOT Docket	Tank Car Insulation Thickness	Tank Car Insulation Density	Additional Insulation Component
HM-144	.65" min.	4.5pcf	N/A
HM-144	.5" min.	4.5pcf	N/A
HM-174, HM-175, HM-175a	.5" min.	4.5pcf	1.5" froth-in-place urethane foam
HM-174, HM-175, HM-175a	.5" min.	4.3pcf*	4" fiberglass, compressed to 3.5"
HM-174, HM-175, HM-175a	1.0" min.	4.5pcf	1.0" froth-in-place urethane foam
HM-181	2.0" min.	4.5pcf	2" fiberglass insulation

*Density as tested was 4.3 pcf, supplied as min. 4.5 pcf.
All systems require 11 gauge steel tank car jacket.

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Unifrax has a wide range of FyreWrap fire protection materials available to provide passive fire protection solutions in a variety of applications in the commercial building, industrial facility and transportation industries.

For additional information about product performance or to identify the recommended product for your fire protection application, please contact the Unifrax Application Engineering Group at 716-278-3888.

FyreWrap®

Form C-1448
Effective 6/07

Printed in USA

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