

Fire Protection

Wherever high heat or potential fire is a problem, Unifrax fire protection products offer solutions to a variety of passive fire protection applications when lightweight, thin materials are needed to prevent flame penetration and achieve a significant temperature drop. Materials are lightweight, easy to fabricate and capable of providing protection up to 2300 °F. A variety of product forms are used as passive fire protection in commercial and industrial applications including through penetration fire stops, construction joints, fire doors & glazing systems, and kitchen extraction and HVAC duct insulation systems. This product family provides proven systems to meet fire standards and code requirements in the commercial building, marine & offshore, transportation and manufacturing industries.



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FyreWrap® Blanket

FyreWrap® Blanket from Unifrax is a totally inorganic, flexible and lightweight high temperature insulation blanket, specifically designed for passive fire protection applications and for use in FyreWrap systems.

Unifrax's proprietary fibre manufacturing technology, combined with mechanical self needling of the fibres, eliminates the need for binders in the product. This results in a material with high tensile strength which is maintained after exposure to fire and superior thermal and acoustic insulation properties. This blanket is chemically stable and its thermal properties are unaffected after exposure to water immersion or high humidity.

It provides fire protection insulation for a variety of rated assemblies on marine structures and vessels including systems designed to resist cellulosic, hydrocarbon and jet fires. Thin, lightweight systems combined with a flexible product form results in lower installation costs and significant weight savings. This offers builders and owners reduced structure weight, which may yield increased vessel speed, fuel savings and available payloads



FyreWrap® Marine Application:

- EU MED, U.S. Coast Guard and MRA+ approved for steel and aluminum structures
- Complies with SOLAS safety objectives and new IMO FTP Code fire test requirements; Res.A.754(18)
- Fire Resisting Division for High Speed Craft (HSC); Res. MSC.45(65)
- Non-combustible to IMO A 799 (19)
- Surface burning characteristics (ASTM E 84) - Rating-Flame spread = zero, & smoke developed = zero
- Flexible blanket is easy to cut and install & significant weight savings versus mineral wool systems
- ABS (American Bureau of Shipping) approved for Steel and Aluminum structures

Typical applications include:

- IMO Steel & Aluminum bulkheads and decks including extruded thin plate designs (min. 2mm thick)
- Hydrocarbon and Jet fire protection of vessel and pipes
- Vehicle loading areas, engine rooms, storage areas, etc
- "A" & "H" class steel bulkhead & deck insulation for offshore oil platforms & FPSO's
- 60 minute jet fire pipe and structural member approval
- Infill for fire doors and lightweight cladding panels
- Cabin panel extensions & movement joints
- Non-combustible insulation.

For additional information on FyreWrap® Blanket, typical applications, product properties and performance, or to identify the recommended product for your application, see the product information sheet below or contact your local Unifrax office.

FyreWrap® Cable Insulation

FyreWrap® Cable Insulation is a thin, flexible, insulation wrap designed to provide a fire-protective enclosure around cable trays and conduit. The FyreWrap® system ensures electrical circuit integrity during exposure to an external hydrocarbon fire, permitting continued operation or controlled shutdown of critical equipment during emergency conditions. This system is FM Global approved and meets ASTM E-1725 "Fire Tests of Fire-Resistive barrier Systems for Electrical System Components", the newest industry standard, requiring the highest level of performance for trays with zero to full cable loading. The system also meets ASTM E-1529 and provides circuit integrity ratings. FyreWrap® complies with API and ExxonMobil specifications on fireproofing for petroleum and petrochemical processing plants.

FyreWrap® Cable Insulation system incorporate FyreWrap® Thermal Insulation blanket as its core material. FyreWrap® is a high-temperature insulation blanket made from alumina- silica / calcia-magnesia-silica chemistry designed to enhance high performance. It provides excellent insulation in a non-combustible blanket form. FyreWrap® Blanket is covered with aluminum / galvanized cladding as a protection from tearing and moisture absorption. FyreWrap® blankets are also available with reinforced aluminum foil. For additional information on FyreWrap® Cable Insulation, typical applications, product properties and performance, or to identify the recommended product for your application, please contact your local Unifrax office.

Technical Details: FyreWrap® Blankets

	Fyrefrax® Blankets	Insulfrax® Blankets
Colour	White	White
Chemistry	Al ₂ O ₃ , SiO ₂	Cao, Mgo, Sio ₂
Melting Point	1760°C	>1310°C
Temperature Grade	1260	1200°C
Density	96 & 128 Kg/m ³	96 & 128 Kg/m ³
Blanket Tensile Strength Longitudinal		
for 96 kg/m ³ blanket	40 to 70 Kpa	40 to 60 Kpa
for 128 kg/m ³ blanket	55 to 100 Kpa	50 to 80 Kpa
Permanent linear shrinkage		
After 24 hrs soaking at 1250°C/1200°C	3.5 %	1 %

Thermal Resistance Values

Blanket Thickness (mm)	25	38	50	75	100
R Value (m ² K/W)	0.73	1.10	1.46	2.19	2.93

Based on thermal conductivity of 96kg/m³ density blanket, measured at 20° C to BS 874 section 2.1:1996 of 0.0347 W/mK

Availability

Density Kg/m ³	Thickness mm			
	13	25	38	50
96	√	√	√	√
128	√	√	√	√
144		√		√
Roll length m	7.32	7.32	4.88	3.66

Note : Blankets with Aluminum foil facing and blankets completely encapsulated in an Aluminum foil fiberglass scrim covering will be supplied on request. Please contact Unifrax Sales office for more details.



Fire Protection Applications

Typical Applications:	Product Forms
Marine Bulkheads and Decks	FyreWrap Blanket
Jet Fire Pipes	FyreWrap Blanket
Ductwork	FyreWrap Duct Insulation Systems
Fire Door Infil	FyreWrap Blanket
Cable Trays	FyreWrap Cable Insulation Systems

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Any new and / or special use of these products, whether or not in an application listed in this data sheet must be submitted to our technical department for their prior written approval.

Unifrax maintains a continuous programme of product development and reserves the right to change the product specification without prior notice. Therefore, it remains at all times the responsibility of the customer to ensure that Unifrax materials are suitable for the particular purpose intended.

Similarly, in so far as materials not manufactured nor supplied by Unifrax are used in conjunction with or instead of Unifrax materials, the customer should ensure that all technical data and other such information relating to such materials has been obtained from the manufacturer or supplier. Unifrax accepts no liability arising from the use of such materials.

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