

**Data sheet**

ENGLISH

# FireMaster® MarineFlex and MarineFlex HY

## Description

**FireMaster MarineFlex** is a microporous insulation flexible quilted blanket available both in an hydrophilic and hydrophobic formulation, specifically designed for fire protection applications and fire rated enclosures requiring flexibility properties, together with high temperature stability, good handling and cutting properties and very low thermal conductivity up to 1000°C (1832°F).

Like any other microporous insulation of our industrial range produced with our exclusive WDS® Technology process, it features extremely good handling and cutting properties, low thermal conductivity coefficient giving it very good insulating properties in limited thickness allowing to design equipment where high energy efficiency, space optimization and reduction of weight are premium factors to be considered.

FireMaster MarineFlex is EU MED approved as non-combustible material.

## Environmental & Health Safety

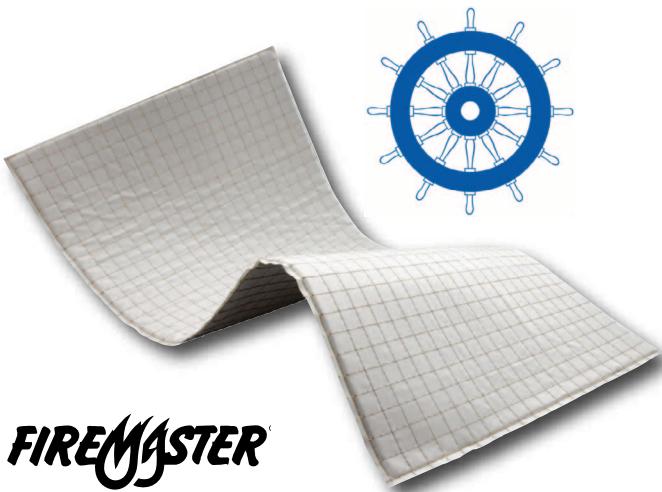
FireMaster MarineFlex does not contain any hazardous substance as defined by EU Directive 2006/1907/EEC and IARC. The fibers or filaments used as reinforcement of the mineral core are also exonerated from any classification falling under EU Directive 97/69/EC.

## Resistance to Moisture and Water

FireMaster MarineFlex can also be supplied in an hydrophobic version which is water repellent in its entire thickness; the water repellent treatment withstands up to 250°C (482°F) continuously.

Alternatively, the product can be supplied with an aluminum encapsulation which prevents water absorption up to 500°C (932°F).

Non condensed moisture does not affect the product, even in its hydrophilic version.



## Features

- Flexible in three dimensions, can be twisted
- Non combustible
- Very low thermal conductivity in a wide temperature spectrum
- Not affected by thermal shock
- Favorable thermal conductivity / density ratio
- Improved product mineral matrix core features minimal dust release and very good handling and machining properties

## Benefits

- Best-in-class for thermal conductivity /density ratio allowing to design the thinnest systems with the lowest weight in comparison to other existing solutions available on the market.
- Dimensionally stable over time up to the entire temperature spectrum
- Helps to control energy efficiency and heat flow very precisely
- Easy to cut and with proven installation techniques
- Allows freedom in engineering at the design stage
- Increases effective volume inner capacity or reduces encumbrance in equipment, pipes and apparels of various nature having curved or irregular surface and geometry.
- Large size allowing faster installation time
- Low weight solutions due to the extremely low thermal conductivity
- Environmentally friendly

## Applications

Our microporous Insulation highly contributes in delivering premium valued solutions where size and weight are premium, where space is limited, to improve heat flow control, for optimal energy efficiency and to reduce carbon footprint.

FireMaster MarineFlex microporous insulation blankets are designed to be installed on curved or irregular surfaces and to meet high dimensional stability as highly effective back-up insulation and fire resistance even under very high temperature exposure and to feature structural integrity up to 1000°C (1832°F).

- A-Class decks and bulkheads
- Fire rated structural and light weight systems for GRP
- Conveyer systems and fire rated enclosures in the railways industry
- Highly effective insulation in fire resistant systems and enclosures
- Fire rated cable trays in construction and building
- Jet-fire system barriers and enclosures
- Fire Resistant Ducting
- Exhaust systems
- Fire shutter curtains

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	Test Method	FireMaster MarineFlex	FireMaster MarineFlex HY
<b>Water Resistance</b>		Hydrophilic	Hydrophobic
<b>Surface Covering</b>		E-Glass Cloth	
<b>Classification Temperature, °C (°F)</b>		1000 (1832)	1000 (1832)
<b>Density, kg/m³ (pcf), nominal</b>		270 (16.8)	270 (16.8)
<b>Cold Compressive strength, MPa (psi)</b>	ASTM C 165	0.40 (58.1)	0.38 (55.11)
<b>Linear Shrinkage, %</b>			
Full soak, 1000°C (1832°F), 24 hours	ASTM C365	<3.0	<3.0
One side exposed soak, 1000°C (1832°F), 12 hours		<0.7	<0.7
<b>Thermal Conductivity, W/m•K (BTU•in/hr•ft²•°F), per ASTM C177</b>			
200°C (392°F)	ASTM C177	0.022 (0.152)	
400°C (752°F)		0.025 (0.173)	
600°C (1112°F)		0.029 (0.201)	
800°C (1472°F)		0.035 (0.242)	
<b>Chemical Analysis, % weight basis after firing</b>			
Silica, SiO₂		55-75	
Silicon Carbide, SiC		25-40	
Others		3-10	
Loss of Ignition, Dry condition)		<2.5	

**Shelf life**

- Keep the product in dry conditions and in its original packaging.
- The material remain stable over time and has no aging effect.

**Standard Dimensions and Quilting Options**

Board Size, mm (in)	Thickness, mm (in)	Quilting Options, on demand
1000 x 500 (39 x 19.5)		2D: Semi-quilted (L or W) 3D: Full-quilted (L or W)
915 x 610 (36 x 24)	5, 6, 8, 10, 12 (0.20, 0.25, 0.31, 0.39, 0.50)	Stitching path options: 25 x 25mm (1 x 1in) 50 x 50mm (2 x 2in)
1000 x 1000 (39 x 39)		
1200 x 1000 (47.24 x 39)		

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