



FireMaster[®] Marine Plus Blanket

Product Data Sheet

Product Description

FireMaster Marine Plus Blanket is a highly insulating blanket especially developed for passive fire protection applications that are space or weight sensitive.

Using Morgan's patented Superwool, low-shot technology manufacturing, FireMaster Marine Plus Blanket features an ultra-low-shot blanket, improving handleability and optimising thermal and physical properties. As a result of this technology, **FireMaster Marine Plus Blanket provides typical savings of 20% to 30% in applied weight.**

FireMaster Marine Plus Blanket is a low density blanket with high handling strength, allowing easy and convenient installation. No binder is used during manufacture; therefore, no smoke is emitted in a fire.

FireMaster Marine Plus Blanket is comprehensively tested and approved for the fire protection of the marine industry's steel, aluminium, and composite structures. Offering substantial weight savings over traditionally-used fibre insulation systems, FireMaster Marine Plus Blanket is suitable for use where fire insulation performance is required in the offshore, petrochemical and construction industries.

A range of thicknesses, densities and aluminium foil or glass cloth facings are available.



Fire Reaction Properties

- Non-Combustible in accordance with IMO FTP Code Part 1
- Toxicity Index < 0.5 when tested in accordance with UK MOD Defence Standard 02-713

Properties

- Classification Temperature, °C (°F): 1200 (2192)
- Thickness, mm: 6 to 65
- Density, kg/m³: 48 to 128

Thermal Insulation Performance

Thermal insulation at ambient temperatures

- R Values (m² K/W) and corresponding U values (w/m²•k)
- For densities above 64kg/m³ the values for 64kg/m³ may be used

Thickness, mm	64 / 70 kg/m ³		48 kg/m ³	
	R value	U value	R value	U value
15mm	0.47	2.13	0.47	2.13
25mm	0.78	1.28	0.78	1.28
30mm	0.94	1.06	0.93	1.08
35mm	1.09	0.92	1.09	0.92
40mm	1.25	0.80	1.25	0.80
50mm	1.56	0.64	1.56	0.64
60mm	1.88	0.53	1.87	0.53

Environmental & Health Safety

Superwool low biopersistent fibres manufactured by Morgan Advanced Materials are not classified as carcinogenic by IARC or under any national regulations on a global basis. They have no requirements for warning labels under GHS (Globally Harmonised System for the classification and labelling of chemicals).

In Europe, Superwool fibres meet the requirements specified under Note Q of European Regulation EC/1272/2008 (on Classification, Labelling and Packaging of substances and mixtures). All Morgan Advanced Materials Superwool low biopersistent fibre products are therefore exonerated from classification and labelling as hazardous in Europe.

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Thermal Conductivity Performance

Basis: Thermal conductivity of FireMaster Marine Plus Blanket measured at 10°C to BS EN 12667 method

- 0.0319 w/m•k, 64 kg/m³ density
- 0.0321 w/m•k, 48 kg/m³ density

Thermal conductivity at high temperatures Thermal conductivity, w/m•k, ASTM C201 method					
Density, kg/m ³	200°C	400°C	600°C	800°C	1000°C
64 / 70	0.06	0.11	0.17	0.26	0.38
96	0.05	0.10	0.15	0.21	0.29
128	0.05	0.08	0.12	0.18	0.25

Thermal conductivity at low and sub-zero temperatures FireMaster Marine Plus Blanket 128 kg/m ³ , ASTM C177-10 method	
Mean temperature, °C	Thermal Conductivity, w/m•k
200	0.0561
150	0.0499
100	0.0429
38	0.0367
0	0.0313
-50	0.0272

Sound Insulation Performance

Sound Absorption Tests

Test Method: BS EN ISO 354:2003

Product: FireMaster Marine Plus Blanket, 45mm x 64kg/m³

Non-faced (no surface covering material used) Sound absorption rating: "Class A"	
Frequency (Hz)	Sound absorption coefficient
125	0.15
250	0.75
500	1.00
1000	1.00
2000	1.00
4000	0.75
Overall sound absorption coefficient	1.00

Faced with glass cloth Sound absorption rating: "Class B"	
Frequency (Hz)	Sound absorption coefficient
125	0.40
250	0.95
500	0.95
1000	0.85
2000	0.80
4000	0.65
Overall sound absorption coefficient	0.80

Faced with 30µm reinforced aluminium foil Sound absorption rating: "Class C"	
Frequency (Hz)	Sound absorption coefficient
125	0.45
250	0.90
500	0.75
1000	0.65
2000	0.65
4000	0.45
Overall sound absorption coefficient	0.65



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Sound Transmission Loss

Selected data - for the full range of sound transmission loss testing refer to our Fire Divisions Manual

FireMaster Marine Plus Blanket, 45mm x 64kg/m³ attached to 5mm steel substrate

- Average reduction in transmitted noise (Rw) in accordance with ISO 717-1 Rw=45dB
- Reduction in transmitted noise (dB) at varying frequency (Hz) test method: ISO 140/3

Hz	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
dB	29.2	26.0	28.6	28.4	30.4	36.9	40.7	44.6	48.5	52.2	56.0	59.0	60.9	62.0	57.6	58.3	61.8	64.5

FireMaster Marine Plus Blanket, 45mm x 128kg/m³ attached to 5mm steel substrate

- Average reduction in transmitted noise (Rw) in accordance with ISO 717-1 Rw=46dB
- Reduction in transmitted noise (dB) at varying frequency (Hz) test method: ISO 140/3

Hz	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
dB	28.0	25.5	28.8	29.1	31.8	39.0	43.9	48.0	51.5	55.8	60.3	62.5	63.8	64.5	60.4	62.1	65.0	66.5

FireMaster Marine Plus Blanket Alu 40, 40 50mm x 48 kg/m³ attached to 6mm stiffened steel bulkhead with steel side exposed to noise source

- Average reduction in transmitted noise (Rw) in accordance with ISO 717-1 Rw=44dB
- Reduction in transmitted noise (dB) at varying frequency (Hz) test method: EN ISO 10140-2

Hz	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150
dB	22.4	23.3	25.7	30.3	36.6	39.7	43.6	46.9	51.6	52.7	51.5	49.1	47.4	44.8	46.0	49.2

FireMaster Marine Plus Blanket Alu 40, 75mm x 64 kg/m³ attached to 6mm stiffened steel bulkhead with steel side exposed to noise source* (average density).

- Average reduction in transmitted noise (Rw) in accordance with ISO 717-1 Rw=49dB.
- Reduction in transmitted noise (dB) at varying frequency (Hz) test method: EN ISO 10140-2

Hz	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150
dB	24.0	26.1	30.5	37.9	44.3	45.2	48.0	52.2	56.3	58.8	57.1	55.1	53.1	50.1	51.2	53.1

Airflow resistance of FireMaster Marine Plus Blanket, ISO 9053: 1991

45mm x 64 kg/m³ Blanket: 50.4 kPa.s/m²



Standard Dimensions and Availability

Available in rolls of 610mm width in the following thickness and densities. Availability may vary with supplying plant. Please contact your local office to confirm.

Thickness, mm	15	25	35	38	40	45	50	60
Density, kg/m ³	48, 64, 70, 96, 128	48, 64, 70, 96, 128	64, 70	96, 128	64, 70	64	48, 64, 70	48, 64, 70, 80
Roll length, m	10	7.32	4.88	4.88	4.88	4.88	3.66	3.0

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