

Fibermax® Needled Blankets

Introduction

Fibermax® Needled Blankets are high temperature, light weight and flexible products manufactured from polycrystalline mullite fiber that can be exposed to temperatures up to 1600°C (2912°F).

Fibermax Needled Blankets contain no organic binders or other additives which cause outgassing fumes or associated problems. In addition to exhibiting excellent resistance to most corrosive agents, Fibermax Needled Blankets also resist oxidation and reduction.

Fibermax Needled Blankets are virtually free from shot (unfiberized particles). That makes it ideal for use in environments where the presence of shot is undesirable. The low shot content results in a product with extremely low thermal conductivity.

Its unique fiber layup and needling process provide Fibermax Needled Blankets with outstanding consistency, handling strength and resiliency at elevated temperatures.

General Characteristics

Fibermax Blankets have these outstanding characteristics:

- Excellent thermal stability and thermal shock resistance
- Excellent chemical stability
- Excellent tensile strength
- Low thermal conductivity
- Low heat storage
- High heat reflectance
- Excellent corrosion resistance
- Excellent hot strength



Typical Product Parameters – Fibermax Needled Blanket

Available Density

kg/m ³	100	130
(lb/ft ³)	(6)	(8)

Binder Content

0%

Chemical Composition

Al ₂ O ₃	72%
SiO ₂	27%
ZrO ₂	—
Fe ₂ O ₃	0.02%
TiO ₂	0.001%
MgO	0.05%
CaO	0.05%
Na ₂ O ₃	0.10%
Alkali	—
Leachable Chlorides	11 ppm
Other Inorganics	—



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

Test data shown are average results of tests conducted under standard procedures and are subject to variation.

Results should not be used for specification purposes.

Typical Product Properties

	Fibermax Needled Blanket
Color	White
Temperature Grade*	1650°C (3000°F)
Recommended Operating Temperature	1600°C (2912°F)
Melting Point:	1870°C (3400°F)
Fiber Diameter	2-3.5 microns (mean)
Specific Gravity:	3 g/cm ³
Tensile Strength – 100 kg/m ³ (6 pcf)	45 kPa (6 psi)
– 130 kg/m ³ (8 pcf)	60 kPa (8 psi)
Specific Heat Capacity at 1093°C (2000°F):	1246 J/kg °C (0.297 Btu/lb °F)
Fiber Surface Area:	7.65 m ² /g
Permanent Linear Shrinkage (24-hour soak, 1500°C)	0.7%

*The temperature grade of Fibermax Needled Blankets is determined by irreversible linear change criteria, not product melting point.

Typical Applications

Ceramic	Steel Production	Speciality Applications	General Refractory Construction
<ul style="list-style-type: none"> • Porcelain kilns • Substrate kilns • Refractory production kilns 	<ul style="list-style-type: none"> • Reheat furnacing • Continuous annealing furnaces 	<ul style="list-style-type: none"> • Feritic cores • Aluminum Homogenizing Furnaces • Catalyst supports • Incineration • High-performance atmospheric furnaces • High Vibration Applications 	<ul style="list-style-type: none"> • Burner block wraps • Expansion joints • Gaskets • Batten strips

Availability

Standard Dimensions (mm)	25 x 610 x 7,200 (1" x 24" x 23'7½") 1 Roll/carton
	13 x 610 x 14,400 (½" x 24" x 47'3") 2 Rolls/carton

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

