

Unifrax Fibermax® Needled Blanket

Category : Ceramic , Oxide , Aluminum Oxide , Silicon Oxide

Material Notes:

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
 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 Applications
 Ceramic: Porcelain kilns, Substrate kilns, Refractory production kilns
 Steel Production: Reheat furnacing, Continuous annealing furnaces
 Specialty Applications: Feritic cores, Aluminum homogenizing furnaces, Catalyst supports, Incineration, High-performance atmospheric furnaces, High vibration applications
 General Refractory Construction: Burner block wraps, Expansion joints, Gaskets, Batten strips

Information Provided by Unifrax I LLC

Order this product through the following link:

http://www.lookpolymers.com/polymer_Unifrax-Fibermax-Needled-Blanket.php

Physical Properties	Metric	English	Comments
Specific Gravity	3.00 g/cc	3.00 g/cc	
Density	0.0961 g/cc	0.00347 lb/in ³	
	0.128 g/cc	0.00463 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	0.0414 MPa	6.00 psi	6 lb/ft ^{<sup>3</sup>}
	0.0552 MPa	8.00 psi	8 lb/ft ^{<sup>3</sup>}

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.246 J/g-°C @Temperature 1093 °C	0.2978 BTU/lb-°F @Temperature 1999 °F	
Melting Point	1870 °C	3400 °F	
Maximum Service Temperature, Air	1600 °C	2910 °F	Recommended Operating Temperature
Shrinkage	0.70 % @Temperature 1500 °C, Time 86400 sec	0.70 % @Temperature 2730 °F, Time 24.0 hour	Permanent Linear Shrinkage

Component Elements Properties	Metric	English	Comments
Al2O3	72 %	72 %	
CaO	0.050 %	0.050 %	
Fe2O3	0.020 %	0.020 %	
MgO	0.050 %	0.050 %	
SiO2	27 %	27 %	
TiO2	0.0010 %	0.0010 %	

Descriptive Properties	Value	Comments
Appearance	White	
Fiber Diameter (microns)	2-3.5	
Fiber Surface Area (m2/g)	7.65	
Leachable Chlorides (ppm)	11	
Na2O3 (%)	0.1	
Temperature Grade (°C)	1650	

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