

3M Nextel™ AF-14 Industrial Woven Fabric 312

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Information provided by 3M

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Nextel-AF-14-Industrial-Woven-Fabric-312.php

Physical Properties	Metric	English	Comments
Density	2.70 g/cc	0.0975 lb/in ³	
Permeability	30	30	[ft ³ /min/ft ²], Air w/o sizing
Thickness	360 microns	14.2 mil	
Fiber Count	1000 dtex	900 denier	1/2

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	1700 MPa	247000 psi	filament 25.4mm
Tensile Modulus	152 GPa	22000 ksi	filament
Tear Strength	23.5 kN/m	134 pli	Fill, Breaking Strength w/o Sizing
	26.5 kN/m	151 pli	Warp, Breaking Strength w/o Sizing

Thermal Properties	Metric	English	Comments
CTE, linear	3.00 µm/m-°C @Temperature 25.0 - 500 °C	1.67 µin/in-°F @Temperature 77.0 - 932 °F	
Specific Heat Capacity	1.05 J/g-°C @Temperature 500 °C	0.251 BTU/lb-°F @Temperature 932 °F	
Thermal Conductivity	0.122 W/m-K @Temperature 93.0 °C	0.847 BTU-in/hr-ft ² -°F @Temperature 199 °F	
	0.130 W/m-K @Temperature 316 °C	0.902 BTU-in/hr-ft ² -°F @Temperature 601 °F	
	0.152 W/m-K @Temperature 500 °C	1.05 BTU-in/hr-ft ² -°F @Temperature 932 °F	
	0.170 W/m-K	1.18 BTU-in/hr-ft ² -°F	

Thermal Properties	@Temperature 600 °C Metric	@Temperature 1110 °F English	Comments
Melting Point	1800 °C	3270 °F	

Optical Properties	Metric	English	Comments
Refractive Index	1.568	1.568	

Component Elements Properties	Metric	English	Comments
Al2O3	62.5 %	62.5 %	
B2O3	13 %	13 %	
SiO2	24.5 %	24.5 %	

Electrical Properties	Metric	English	Comments
Dielectric Constant	5.2	5.2	
	@Frequency 9.375e+9 Hz	@Frequency 9.375e+9 Hz	
Dissipation Factor	0.018	0.018	
	@Frequency 9.375e+9 Hz	@Frequency 9.375e+9 Hz	

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