

3M Nextel™ 550 Industrial Ceramic Fiber

Category : Ceramic , Oxide , Aluminum Oxide , Silicon Oxide , Other Engineering Material , Composite Fibers

Material Notes:

Chemical composition above is wt%. Crystal phases are gamma alumina amorphous SiO₂. Filament diameter is 10-12 μm. 3M Nextel fibers 312, 440, and 550 are designed for non-structural applications where their primary purpose is to act as a flame barrier. 3M Nextel Ceramic Fiber 550 is made from Al₂O₃, SiO₂, and B₂O₃. Because 550 does not contain B₂O₃, this composition retains its strength better at high temperature. Information provided by 3M Ceramic Textile and Composites.

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Nextel-550-Industrial-Ceramic-Fiber.php

Physical Properties	Metric	English	Comments
Density	3.03 g/cc	0.109 lb/in ³	
Particle Size	<= 0.50 μm	<= 0.50 μm	Crystal size
Specific Surface Area	<= 0.20 m ² /g	<= 0.20 m ² /g	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	2000 MPa @Thickness 25.4 mm	290000 psi @Thickness 1.00 in	gauge filament
Modulus of Elasticity	193 GPa	28000 ksi	Filament in Tension

Thermal Properties	Metric	English	Comments
CTE, linear	5.30 μm/m-°C @Temperature 100 - 1100 °C	2.94 μin/in-°F @Temperature 212 - 2010 °F	
Melting Point	1800 °C	3270 °F	

Optical Properties	Metric	English	Comments
Refractive Index	1.602	1.602	

Component Elements Properties	Metric	English	Comments
Al ₂ O ₃	73 %	73 %	
SiO ₂	27 %	27 %	

Descriptive Properties	Value	Comments
Color	Blue	

Descriptive Properties	Value	Comments
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