

## Park Electrochemical Nelcote® F-557 Phenolic Prepreg, Aerospace Silica Fabric Reinforced

Category : Polymer , Thermoset , Phenolic

### Material Notes:

Nelcote® F-557 is a high purity silica filler phenolic resin coated on Commercial or Aerospace grade silica fabric. F-557 is used in the manufacture of intermediate temperature ablative rocket nozzles, heat shields, and combustion chambers in highly oxidative environments. Key Features and Benefits: Provides a combination of high-strength and ablative properties for demanding applications. Low thermal expansion. Good Tack and Drape properties. Applications/Qualifications: Rocket Nozzles, Combustion Chambers, Heat Shields, Rocket Motor Throat Sections. Information provided by Park Electrochemical Corp.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Park-Electrochemical-Nelcote-F-557-Phenolic-Prepreg-Aerospace-Silica-Fabric-Reinforced.php](http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelcote-F-557-Phenolic-Prepreg-Aerospace-Silica-Fabric-Reinforced.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.70 g/cc	1.70 g/cc	ASTM D792
Volatiles	2.0 - 5.0 % @Temperature 135 °C	2.0 - 5.0 % @Temperature 275 °F	8 min
Thickness	533 microns	21.0 mil	nominal, cured, per ply

Mechanical Properties	Metric	English	Comments
Hardness, Barcol	70	70	ASTM D2583
Tensile Strength, Yield	89.6 MPa @Temperature 23.9 °C	13000 psi @Temperature 75.0 °F	0° Direction, Dry; 325°F Autoclave; ASTM D638
Tensile Modulus	17.2 GPa @Temperature 23.9 °C	2500 ksi @Temperature 75.0 °F	0° Direction, Dry; 325°F Autoclave; ASTM D638
Flexural Strength	131 MPa @Temperature 23.9 °C	19000 psi @Temperature 75.0 °F	Dry; 325°F Autoclave; ASTM D790
Flexural Modulus	15.9 GPa @Temperature 23.9 °C	2300 ksi @Temperature 75.0 °F	Dry; 325°F Autoclave; ASTM D790
Compressive Strength	207 MPa @Temperature 23.9 °C	30000 psi @Temperature 75.0 °F	Dry; 325°F Autoclave; ASTM D695
Compressive Modulus	20.0 GPa @Temperature 23.9 °C	2900 ksi @Temperature 75.0 °F	Dry; 325°F Autoclave; ASTM D695

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.00 J/g-°C	0.240 BTU/lb-°F	ASTM C351
Thermal Conductivity	0.389 W/m-K @Temperature 149 °C	2.70 BTU-in/hr-ft <sup>2</sup> -°F @Temperature 300 °F	ASTM C177

Processing Properties	Metric	English	Comments
Shelf Life	6.00 Month @Temperature 4.44 °C	6.00 Month @Temperature 40.0 °F	

Descriptive Properties	Value	Comments
Filler Content (%)	3.4-5.4	
Nominal Prepreg Weight (oz/yd)	30	
Resin Flow (%)	10-25	325°F, 150psi
Resin Solids Content (%)	30-36	

## Contact Songhan Plastic Technology Co.,Ltd.

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