

## Park Electrochemical Nelcote® F-502 Phenolic Prepreg, 3K 8HS PAN Reinforced

Category : Polymer , Thermoset , Phenolic

### Material Notes:

Nelcote® F-502 is a MIL-R-9299 phenolic resin system suitable for impregnation on any MIL-C-9084 fabric with a compatible finish. F-502 is used in the manufacture of ablative reinforcements in rocket nozzles, as well as ducting and secondary structures. GMS4001 qualified specifications. Key Features and Benefits: Provides a combination of high-strength and ablative properties for demanding applications. Low thermal expansion. Good Tack and Drape properties. Conforms to MIL-R-9299 Type B. Applications/Qualifications: Rocket Nozzles, Ducting, Secondary Structures. Information provided by Park Electrochemical Corp.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Park-Electrochemical-Nelcote-F-502-Phenolic-Prepreg-3K-8HS-PAN-Reinforced.php](http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelcote-F-502-Phenolic-Prepreg-3K-8HS-PAN-Reinforced.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.35 g/cc	1.35 g/cc	ASTM D792
Volatiles	2.0 - 8.0 % @Temperature 135 °C	2.0 - 8.0 % @Temperature 275 °F	8 min
Thickness	406 microns	16.0 mil	cured laminate, per ply

Mechanical Properties	Metric	English	Comments
Hardness, Barcol	75	75	ASTM D2583
Tensile Strength, Yield	614 MPa @Temperature 23.9 °C	89000 psi @Temperature 75.0 °F	0° Direction, Dry; 325°F Autoclave Cured; ASTM D638
Tensile Modulus	59.3 GPa @Temperature 23.9 °C	8600 ksi @Temperature 75.0 °F	0° Direction, Dry; 325°F Autoclave Cured; ASTM D638
Flexural Strength	841 MPa @Temperature 23.9 °C	122000 psi @Temperature 75.0 °F	Dry; 325°F Autoclave Cured; ASTM D790
Flexural Modulus	55.8 GPa @Temperature 23.9 °C	8100 ksi @Temperature 75.0 °F	Dry; 325°F Autoclave Cured; ASTM D790
Compressive Strength	531 MPa @Temperature 23.9 °C	77000 psi @Temperature 75.0 °F	Dry; 325°F Autoclave Cured; ASTM D695
Compressive Modulus	64.8 GPa @Temperature 23.9 °C	9400 ksi @Temperature 75.0 °F	Dry; 325°F Autoclave Cured; ASTM D695
Shear Strength	33.1 MPa	4800 psi	Short-Beam, Dry; 325°F Autoclave

Mechanical Properties	@Temperature 23.9 °C Metric	@Temperature 75.0 °F English	Cured: ASTM D5379 Comments
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Processing Properties	Metric	English	Comments
Gel Time	0.800 - 3.30 min	0.800 - 3.30 min	
Shelf Life	3.00 Month	3.00 Month	
	@Temperature 4.44 °C	@Temperature 40.0 °F	
	6.00 Month	6.00 Month	
	@Temperature -17.8 °C	@Temperature 0.000 °F	

Descriptive Properties	Value	Comments
Fabric Area Weight (g/m <sup>2</sup> )	617	
Prepreg Resin Content (%)	32-38	
Resin Flow (%)	10-25	325°F, 15psi

## Contact Songhan Plastic Technology Co.,Ltd.

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