

Park Electrochemical Nelcote® F-529 Phenolic Prepreg, 7781 E-Glass Reinforced

Category : Polymer , Thermoset , Phenolic

Material Notes:

Nelcote® F-529 is a non-halogenated phenolic resin designed specifically for use in aircraft and mass-transit interior laminate and sandwich panels. F-529 was formulated for applications requiring non-halogenated FST (flame, smoke, toxicity) performance. Key Features and Benefits: Self-Adhesive resin system for sandwich panel applications Non-Halogenated and antimony-free resin formulation Excellent FST performance Low OSU heat-release (< 20/20) Good Tack and Drape properties White color after cure for superior cosmetics Applications/Qualifications: Aircraft Interiors Mass-Transit Interiors Meets all requirements of: FAR 25.853 FAR 25.856 ATS 1000.001 OSU 1990 Information provided by Park Electrochemical Corp.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelcote-F-529-Phenolic-Prepreg-7781-E-Glass-Reinforced.php

Physical Properties	Metric	English	Comments
Volatiles	<= 3.5 %	<= 3.5 %	8 min
	@Temperature 135 °C	@Temperature 275 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	2.14 MPa	310 psi	Flatwise; Dry; MIL-STD 401
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	2.34 MPa	340 psi	Flatwise; Dry; MIL-STD 401
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	290 MPa	42000 psi	0° Direction, Dry; Autoclave, 50 psi, 90min; ASTM D638
Tensile Modulus	@Temperature 71.1 °C	@Temperature 160 °F	0° Direction, Dry; Oven Cure, 90min, 260°F; ASTM D638
	372 MPa	54000 psi	
	@Temperature 23.9 °C	@Temperature 75.0 °F	0° Direction, Dry; Autoclave, 50 psi, 90min; ASTM D638
	414 MPa	60000 psi	
	@Temperature 23.9 °C	@Temperature 75.0 °F	0° Direction, Dry; Autoclave, 50 psi, 90min; ASTM D638
Tensile Modulus	22.1 GPa	3200 ksi	0° Direction, Dry; Autoclave, 50 psi, 90min; ASTM D638
	@Temperature 71.1 °C	@Temperature 160 °F	
	23.4 GPa	3400 ksi	0° Direction, Dry; Oven Cure, 90min, 260°F; ASTM D638
	@Temperature 23.9 °C	@Temperature 75.0 °F	0° Direction, Dry; Autoclave, 50 psi, 90min; ASTM D638
	24.8 GPa	3600 ksi	
	@Temperature 23.9 °C	@Temperature 75.0 °F	

Mechanical Properties	Metric	English	Comments
Compressive Strength	@Temperature 71.1 °C	@Temperature 160 °F	Dry; Autoclave, 50 psi, 90min; ASTM D695
	331 MPa	48000 psi	Dry; Oven Cure, 90min, 260°F; ASTM D695
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	427 MPa	62000 psi	Dry; Autoclave, 50 psi, 90min; ASTM D695
Compressive Modulus	@Temperature 23.9 °C	@Temperature 75.0 °F	
	18.6 GPa	2700 ksi	Dry; Autoclave, 50 psi, 90min; ASTM D695
	@Temperature 71.1 °C	@Temperature 160 °F	
	24.1 GPa	3500 ksi	Dry; Oven Cure, 90min, 260°F; ASTM D695
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	24.8 GPa	3600 ksi	Dry; Autoclave, 50 psi, 90min; ASTM D695
	@Temperature 23.9 °C	@Temperature 75.0 °F	
	36.5 MPa	5300 psi	Interlaminar; Dry; Autoclave, 50psi, 90min; ASTM D2344
Shear Strength	@Temperature 23.9 °C	@Temperature 75.0 °F	

Optical Properties	Metric	English	Comments
Optical Density	2.0	2.0	Dm, Non-Flaming Mode; FAR 25.853, Part 25 Appendix F, Part V
	6.0	6.0	Dm, Flaming Mode; FAR 25.853, Part 25 Appendix F, Part V

Processing Properties	Metric	English	Comments
Gel Time	7.00 min	7.00 min	
Shelf Life	6.00 Month	6.00 Month	
	@Temperature 4.44 °C	@Temperature 40.0 °F	

Descriptive Properties	Value	Comments
Burn Length (in)	2.5	Vertical Burn, 60 sec; FAR 25.853, Part 25 Appendix F, Part I (b) (4)
Climbing Drum Peel (in-lb/3in)	10	ASTM D1781; Dry, 75°F; Oven Cure, 90min, 260°F
	16	ASTM D1781; Dry, 75°F; Autoclave, 50psi, 90min
Drip	None	Vertical Burn, 60 sec; FAR 25.853, Part 25 Appendix F, Part I (b) (4)
Fabric Area Weight (g/m²)	300	
Heat Release, Peak (KW/m²)	17	FAR 25.853 Part 25 Appendix F, Part IV

Descriptive Properties	Value	Comments
Heat Release, Total (KW-min/m ²)	0	FAR 25.853 Part 25 Appendix F, Part IV
Long Beam Flexure (in-lb/in)	148	Dry, 75°F; Autoclave, 50psi 90min
Prepreg Resin Content (%)	41-47	
Resin Flow (%)	25	260°F, 150psi
Self Extinguish Time (sec)	0	Vertical Burn, 60 sec; FAR 25.853, Part 25 Appendix F, Part I (b) (4)

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