

Renegade Materials Corporation MVK-14 Polyimide FreeForm™ Astroquartz 4581 Fabric

Category : Polymer , Thermoset , Filled/Reinforced Thermoset

Material Notes:

MVK-14 Polyimide Astroquartz and S2 glass preregs are an affordable, easy-to-process material for high-temperature radome and antenna applications. MVK-14 is a non-MDA alternative to BMI, cyanate ester and other polyimides. MVK-14 Polyimide Astroquartz and S2 glass composites exhibit a superior combination of electrical, mechanical and thermal resistant properties in aircraft radome and missile applications up to 600°F. MVK-14 Polyimide materials can be cured using autoclave or compression-molding processes, and are available in fabric, tape and non-woven prepreg forms using Astroquartz or S2 glass fiber. Exportable with a license as required. Information provided by Renegade Materials Corporation. Typical Properties for 10 mil CPT; autoclave cured at 600°F, with 625°F post-cure in oven.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Renegade-Materials-Corporation-MVK-14-Polyimide-FreeForm-Astroquartz-4581-Fabric.php

Physical Properties	Metric	English	Comments
Oxidative Stability	125 hour	125 hour	<1.5% wt loss
	@Temperature 316 °C, Pressure 1.03 MPa	@Temperature 600 °F, Pressure 150 psi	
Thickness	55.9 - 66.0 microns	2.20 - 2.60 mil	Cured ply, Typical

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	710 MPa	103000 psi	RT, Dry, 90° Direction
	786 MPa	114000 psi	RT, Dry, 0° Direction
Tensile Modulus	27.6 GPa	4000 ksi	RT, Dry, 90° Direction
	29.6 GPa	4300 ksi	RT, Dry, 0° Direction
Compressive Strength	359 MPa	52000 psi	Dry
	@Temperature 288 °C	@Temperature 550 °F	
	807 MPa	117000 psi	Dry
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	641 MPa	93000 psi	RT test after Oxidative Stability test (600F, 150 psig, 125 hrs)
	@# of Cycles 1.00 , Temperature 316 °C	@# of Cycles 1.00 , Temperature 600 °F	
Shear Strength	55.2 MPa	8000 psi	In-plane, Dry
	@Temperature 288 °C	@Temperature 550 °F	

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
Dielectric Constant	@Frequency 4.00e+9 - 1.80e+10 Hz	@Frequency 4.00e+9 - 1.80e+10 Hz	X-band at RT
Dissipation Factor	0.0030 @Frequency 4.00e+9 - 1.80e+10 Hz	0.0030 @Frequency 4.00e+9 - 1.80e+10 Hz	X-band at RT

Descriptive Properties	Value	Comments
Areal Fiber Weight	42-52 gsm	Typical
Prepreg Resin Content	65-75%	Typical
Volatile Content	17-25% by wt	Typical

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