

Hexcel® HexPly® F655 Bismaleimide Resin

Category : Polymer , Thermoset , Polyimide, TS

Material Notes:

HexPly® F655 is a bismaleimide resin that cures via an addition reaction in a toughened two-phase thermoset matrix with no condensation by-products. HexPly® F655 is a controlled flow polyimide resin system designed for alternative processing capabilities such as co-curing over honeycomb core, compression molding, as well as standard autoclave processing. Information provided by HexCel

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hexcel-HexPly-F655-Bismaleimide-Resin.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.25 g/cc	1.25 g/cc	
Moisture Absorption at Equilibrium	4.1 %	4.1 %	

Mechanical Properties	Metric	English	Comments
Fracture Toughness	1.37 MPa-m ^{1/2}	1.25 ksi-in ^{1/2}	

Thermal Properties	Metric	English	Comments
CTE, linear	47.8 µm/m-°C	26.6 µin/in-°F	
	@Temperature 24.0 - 250 °C	@Temperature 75.2 - 482 °F	
	63.2 µm/m-°C	35.1 µin/in-°F	
	@Temperature 175 - 250 °C	@Temperature 347 - 482 °F	
Glass Transition Temp, Tg	>= 204 °C	>= 399 °F	Wet
	288 °C	550 °F	Dry

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.98	2.98	
	@Frequency 1.60e+10 Hz, Temperature 24.0 °C	@Frequency 1.60e+10 Hz, Temperature 75.2 °F	F655 Resin Casting; +/- 2%; ASTM D2520
	3.04	3.04	
	@Frequency 9.00e+9 Hz, Temperature 24.0 °C	@Frequency 9.00e+9 Hz, Temperature 75.2 °F	F655 Resin Casting; +/- 2%; ASTM D2520
	3.04	3.04	
	@Frequency 1.60e+10	@Frequency 1.60e+10	F655 Resin Casting; +/- 2%; ASTM

Electrical Properties	Metric Hz, Temperature 149 °C	English Hz, Temperature 300 °F	D2520 Comments
	3.08	3.08	
	@Frequency 3.00e+9 Hz, Temperature 24.0 °C	@Frequency 3.00e+9 Hz, Temperature 75.2 °F	F655 Resin Casting; +/- 2%; ASTM D2520
	3.09	3.09	
	@Frequency 9.00e+9 Hz, Temperature 149 °C	@Frequency 9.00e+9 Hz, Temperature 300 °F	F655 Resin Casting; +/- 2%; ASTM D2520
	3.11	3.11	
	@Frequency 1.60e+10 Hz, Temperature 232 °C	@Frequency 1.60e+10 Hz, Temperature 450 °F	F655 Resin Casting; +/- 2%; ASTM D2520
	3.14	3.14	
	@Frequency 3.00e+9 Hz, Temperature 149 °C	@Frequency 3.00e+9 Hz, Temperature 300 °F	F655 Resin Casting; +/- 2%; ASTM D2520
	3.15	3.15	
	@Frequency 9.00e+9 Hz, Temperature 232 °C	@Frequency 9.00e+9 Hz, Temperature 450 °F	F655 Resin Casting; +/- 2%; ASTM D2520
	3.19	3.19	
	@Frequency 3.00e+9 Hz, Temperature 232 °C	@Frequency 3.00e+9 Hz, Temperature 450 °F	F655 Resin Casting; +/- 2%; ASTM D2520
	3.44	3.44	
	@Frequency 4.90e+10 Hz, Temperature 24.0 °C	@Frequency 4.90e+10 Hz, Temperature 75.2 °F	Astro Quartz II/F655 Dry; +/- 2%
	3.6	3.6	
	@Frequency 4.90e+10 Hz, Temperature 24.0 °C	@Frequency 4.90e+10 Hz, Temperature 75.2 °F	Astro Quartz II/F655 Wet; +/- 2%
	4.44	4.44	
	@Frequency 4.90e+10 Hz, Temperature 24.0 °C	@Frequency 4.90e+10 Hz, Temperature 75.2 °F	E-Glass/F655 Dry; +/- 2%
	4.65	4.65	
	@Frequency 4.90e+10 Hz, Temperature 24.0 °C	@Frequency 4.90e+10 Hz, Temperature 75.2 °F	E-Glass/F655 Wet; +/- 2%
	0.0030	0.0030	

Electrical Properties	Metric	English	Comments
	@Frequency 4.90e+10 Hz, Temperature 24.0 °C	@Frequency 4.90e+10 Hz, Temperature 75.2 °F	E-Glass/F655 Dry; +/- 0.5
	0.0040	0.0040	
	@Frequency 3.00e+9 Hz, Temperature 24.0 °C	@Frequency 3.00e+9 Hz, Temperature 75.2 °F	F655 Resin Casting; +/- 0.5; ASTM D2520
	0.0050	0.0050	
	@Frequency 3.00e+9 Hz, Temperature 149 °C	@Frequency 3.00e+9 Hz, Temperature 300 °F	F655 Resin Casting; +/- 0.5; ASTM D2520
	0.0050	0.0050	
	@Frequency 9.00e+9 Hz, Temperature 24.0 °C	@Frequency 9.00e+9 Hz, Temperature 75.2 °F	F655 Resin Casting; +/- 0.5; ASTM D2520
	0.0060	0.0060	
	@Frequency 3.00e+9 Hz, Temperature 232 °C	@Frequency 3.00e+9 Hz, Temperature 450 °F	F655 Resin Casting; +/- 0.5; ASTM D2520
	0.0060	0.0060	
	@Frequency 9.00e+9 Hz, Temperature 149 °C	@Frequency 9.00e+9 Hz, Temperature 300 °F	F655 Resin Casting; +/- 0.5; ASTM D2520
	0.0060	0.0060	
	@Frequency 1.60e+10 Hz, Temperature 24.0 °C	@Frequency 1.60e+10 Hz, Temperature 75.2 °F	F655 Resin Casting; +/- 0.5; ASTM D2520
	0.0065	0.0065	
	@Frequency 4.90e+10 Hz, Temperature 24.0 °C	@Frequency 4.90e+10 Hz, Temperature 75.2 °F	E-Glass/F655 Dry; +/- 0.5
	0.0070	0.0070	
	@Frequency 9.00e+9 Hz, Temperature 232 °C	@Frequency 9.00e+9 Hz, Temperature 450 °F	F655 Resin Casting; +/- 0.5; ASTM D2520
	0.0070	0.0070	
	@Frequency 1.60e+10 Hz, Temperature 149 °C	@Frequency 1.60e+10 Hz, Temperature 300 °F	F655 Resin Casting; +/- 0.5; ASTM D2520
	0.0080	0.0080	
	@Frequency 1.60e+10 Hz, Temperature 232 °C	@Frequency 1.60e+10 Hz, Temperature 450 °F	F655 Resin Casting; +/- 0.5; ASTM D2520

Electrical Properties	Metric	English	Comments
	@Frequency 4.90e+10 Hz, Temperature 24.0 °C	@Frequency 4.90e+10 Hz, Temperature 75.2 °F	Astro Quartz II/F655 Wet; +/- 0.5
	0.0145	0.0145	
	@Frequency 4.90e+10 Hz, Temperature 24.0 °C	@Frequency 4.90e+10 Hz, Temperature 75.2 °F	E-Glass/F655 Wet; +/- 0.5

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