

## Hexcel® HexPly® F652 Bismaleimide Resin

Category : Polymer , Thermoset , Polyimide, TS

### Material Notes:

HexPly® F652 is a bismaleimide resin that cures via an addition reaction with no condensation by-products. HexPly® F652 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-F652-Bismaleimide-Resin.php](http://www.lookpolymers.com/polymer_Hexcel-HexPly-F652-Bismaleimide-Resin.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.26 g/cc	1.26 g/cc	
Moisture Absorption at Equilibrium	4.4 %	4.4 %	

Mechanical Properties	Metric	English	Comments
Fracture Toughness	0.639 MPa-m <sup>1/2</sup>	0.582 ksi-in <sup>1/2</sup>	

Thermal Properties	Metric	English	Comments
CTE, linear	52.0 µm/m-°C	28.9 µin/in-°F	
	@Temperature 24.0 - 299 °C	@Temperature 75.2 - 570 °F	
Glass Transition Temp, Tg	>= 232 °C	>= 450 °F	Wet
	>= 316 °C	>= 601 °F	Dry

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.01	3.01	
	@Frequency 1.60e+10 Hz, Temperature 24.0 °C	@Frequency 1.60e+10 Hz, Temperature 75.2 °F	+/- 2%; ASTM D2520
	3.05	3.05	
	@Frequency 9.00e+9 Hz, Temperature 24.0 °C	@Frequency 9.00e+9 Hz, Temperature 75.2 °F	+/- 2%; ASTM D2520
Dielectric Constant	3.05	3.05	
	@Frequency 1.60e+10 Hz, Temperature 149 °C	@Frequency 1.60e+10 Hz, Temperature 300 °F	+/- 2%; ASTM D2520
	3.08	3.08	

Electrical Properties	@Frequency 9.00e+9 Metric Hz, Temperature 149 °C	@Frequency 9.00e+9 English Hz, Temperature 300 °F	+/- 2%; ASTM D2520 Comments
	3.09	3.09	
	@Frequency 3.00e+9 Hz, Temperature 24.0 °C	@Frequency 3.00e+9 Hz, Temperature 75.2 °F	+/- 2%; ASTM D2520
	3.09	3.09	
	@Frequency 1.60e+10 Hz, Temperature 232 °C	@Frequency 1.60e+10 Hz, Temperature 450 °F	+/- 2%; ASTM D2520
	3.12	3.12	
	@Frequency 9.00e+9 Hz, Temperature 232 °C	@Frequency 9.00e+9 Hz, Temperature 450 °F	+/- 2%; ASTM D2520
	3.13	3.13	
	@Frequency 3.00e+9 Hz, Temperature 149 °C	@Frequency 3.00e+9 Hz, Temperature 300 °F	+/- 2%; ASTM D2520
	3.17	3.17	
	@Frequency 3.00e+9 Hz, Temperature 232 °C	@Frequency 3.00e+9 Hz, Temperature 450 °F	+/- 2%; ASTM D2520
Dielectric Loss Index	0.0050	0.0050	F652 Resin Casting; +/- 0.5; ASTM D2520
	@Frequency 3.00e+9 Hz, Temperature 24.0 °C	@Frequency 3.00e+9 Hz, Temperature 75.2 °F	
	0.0060	0.0060	F652 Resin Casting; +/- 0.5; ASTM D2520
	@Frequency 3.00e+9 Hz, Temperature 149 °C	@Frequency 3.00e+9 Hz, Temperature 300 °F	
	0.0060	0.0060	F652 Resin Casting; +/- 0.5; ASTM D2520
	@Frequency 9.00e+9 Hz, Temperature 24.0 °C	@Frequency 9.00e+9 Hz, Temperature 75.2 °F	
	0.0070	0.0070	F652 Resin Casting; +/- 0.5; ASTM D2520
	@Frequency 3.00e+9 Hz, Temperature 232 °C	@Frequency 3.00e+9 Hz, Temperature 450 °F	
	0.0070	0.0070	F652 Resin Casting; +/- 0.5; ASTM D2520
	@Frequency 9.00e+9 Hz, Temperature 149 °C	@Frequency 9.00e+9 Hz, Temperature 300 °F	

Electrical Properties	0.0070 Metric	0.0070 English	Comments
	@Frequency 1.60e+10 Hz, Temperature 24.0 °C	@Frequency 1.60e+10 Hz, Temperature 75.2 °F	F652 Resin Casting; +/- 0.5; ASTM D2520
	0.0080  @Frequency 9.00e+9 Hz, Temperature 232 °C	0.0080  @Frequency 9.00e+9 Hz, Temperature 450 °F	F652 Resin Casting; +/- 0.5; ASTM D2520
	0.0080  @Frequency 1.60e+10 Hz, Temperature 149 °C	0.0080  @Frequency 1.60e+10 Hz, Temperature 300 °F	F652 Resin Casting; +/- 0.5; ASTM D2520
	0.0090  @Frequency 1.60e+10 Hz, Temperature 232 °C	0.0090  @Frequency 1.60e+10 Hz, Temperature 450 °F	F652 Resin Casting; +/- 0.5; ASTM D2520

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