

## Hexcel® HexPly® 954-3 Curing Cyanate Resin

Category : Polymer , Thermoset , Epoxy

### Material Notes:

HexPly® 954-3 is a 350°F (177°C) curing cyanate resin with excellent resistance to moisture absorption, outgassing and microcracking.

HexPly® 954-3 is formulated for autoclave or press molding using a standard cure of two hours at 350°F (177°C). Glass transition temperature can be maximized by post curing at 450°F (232°C). The recommended lay-up procedure is HSP-L3. The recommended cure procedure is HSP-C1 or HSP-C2. Typical applications for HexPly® 954-3 include primary and secondary space structures and other applications where dimensional stability is critical. Information provided by HexCel

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Hexcel-HexPly-954-3-Curing-Cyanate-Resin.php](http://www.lookpolymers.com/polymer_Hexcel-HexPly-954-3-Curing-Cyanate-Resin.php)

Physical Properties	Metric	English	Comments
Density	1.19 g/cc	0.0430 lb/in <sup>3</sup>	
Water Absorption	0.70 %	0.70 %	50% GH/EQ
Moisture Absorption at Equilibrium	0.18 %	0.18 %	55% RH/EQ
Outgassing - Total Mass Loss	0.20 %	0.20 %	954-3; ASTM E595
	1.0 %	1.0 %	ASTM LIMITS; ASTM E595
Collected Volatile Condensable Material	0.010 %	0.010 %	954-3; ASTM E595
	0.10 %	0.10 %	ASTM LIMITS; ASTM E595

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	57.0 MPa @Temperature 23.0 °C	8270 psi @Temperature 73.4 °F	
Elongation at Break	2.4 %	2.4 %	
Tensile Modulus	2.80 GPa @Temperature 23.0 °C	406 ksi @Temperature 73.4 °F	
Flexural Yield Strength	77.0 MPa @Temperature 163 °C	11200 psi @Temperature 325 °F	Wet (7 day immersion at 71°C)
	87.0 MPa @Temperature 163 °C	12600 psi @Temperature 325 °F	
	119 MPa @Temperature 23.0 °C	17300 psi @Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
	2.10 GPa	305 ksi	Moisture conditioned (71 °C and 95% RH for 140 days immersion at 71 °C)
	@Temperature 163 °C	@Temperature 325 °F	
	2.30 GPa	334 ksi	
	@Temperature 163 °C	@Temperature 325 °F	
	3.00 GPa	435 ksi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	55.1 $\mu\text{m}/\text{m}\cdot\text{°C}$	30.6 $\mu\text{in}/\text{in}\cdot\text{°F}$	
Glass Transition Temp, Tg	206 °C	403 °F	No post cure
	258 °C	496 °F	With post cure

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.73	2.73	
	@Frequency 1.00e+10 Hz, Temperature 23.0 °C	@Frequency 1.00e+10 Hz, Temperature 73.4 °F	Unconditioned; ASTM D2520
	2.73	2.73	
	@Frequency 1.00e+10 Hz, Temperature 163 °C	@Frequency 1.00e+10 Hz, Temperature 325 °F	Unconditioned; ASTM D2520
	2.85	2.85	
	@Frequency 1.00e+10 Hz, Temperature 23.0 °C	@Frequency 1.00e+10 Hz, Temperature 73.4 °F	Moisture conditioned (71 °C and 95% RH for 140 days); ASTM D2520
	2.85	2.85	
	@Frequency 1.00e+10 Hz, Temperature 163 °C	@Frequency 1.00e+10 Hz, Temperature 325 °F	Moisture conditioned (71 °C and 95% RH for 140 days); ASTM D2520
Dielectric Loss Index	0.0060	0.0060	
	@Frequency 1.00e+10 Hz, Temperature 23.0 °C	@Frequency 1.00e+10 Hz, Temperature 73.4 °F	Unconditioned; ASTM D2520
	0.0080	0.0080	
	@Frequency 1.00e+10 Hz, Temperature 163 °C	@Frequency 1.00e+10 Hz, Temperature 325 °F	Unconditioned; ASTM D2520
	0.010	0.010	Moisture conditioned (71 °C and 95% RH for 140 days); ASTM D2520

Electrical Properties	@Frequency 1.00e+10 Metric Hz, Temperature 23.0 °C	@Frequency 1.00e+10 English Hz, Temperature 73.4 °F	RH for 140 days); ASTM D2520 Comments
	0.020	0.020	Moisture conditioned (71 °C and 95% RH for 140 days); ASTM D2520
	@Frequency 1.00e+10 Hz, Temperature 163 °C	@Frequency 1.00e+10 Hz, Temperature 325 °F	

## Contact Songhan Plastic Technology Co.,Ltd.

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