



# HexPly® 954-6

250°F (121°C) curing cyanate matrix



## Product Data Sheet

### Description

HexPly® 954-6 is a 250°F (121°C) curing toughened cyanate resin with 300°F (149°C) Tg. HexPly® 954-6 is formulated for autoclave curing. Recommended cure is three hours at 250 F (121°C). Service temperatures are maximized by a post cure of 350°F - 450°F (177°C - 205°C). The recommended lay-up procedure is HSP-L3. The recommended cure procedure is HSP-C4.

Typical applications for HexPly® 954-6 include space structures, such as solar arrays, antennae and support structures, or any application where impact resistance, light weight, excellent dielectric and low outgassing properties are required. HexPly® 954-6 can be impregnated on all available fibers and fabrics.

### Features

- Low temperature curing toughened cyanate
- Controlled flow, good tack and out-life
- Good impact resistance
- Attractive electrical properties
- 250°F (121°C) cure
- Available on broad range of fibers and in forms including tape and fabric
- Low outgassing

### Typical Neat Resin Properties

Properties	RT
<b>Tensile Strength</b>	13.6 ksi 94 MPa
<b>Tensile Modulus</b>	0.54 Msi 3.7 GPa
<b>Tensile Ult. Strain</b>	2.52 %
<b>Compression Strength</b>	26.1 ksi 180 MPa
<b>Flexural Strength</b>	21.5 ksi 148 MPa
<b>Flexural Modulus</b>	0.56 Msi 3.9 GPa
<b>Density</b>	1.25 g/cc



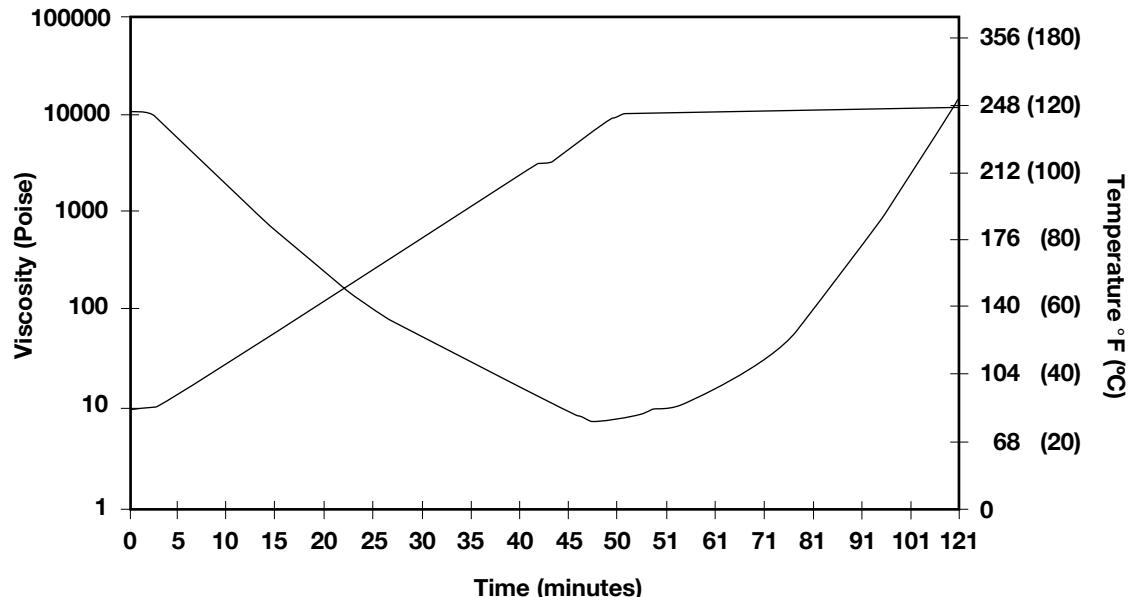
# HexPly® 954-6

250°F (121°C) curing cyanate matrix



## Product Data Sheet

### HexPly® 954-6 Viscosity Profile



### Thermal Cycling: HexPly® 954-6/M55J

Materials	0 Cycles # cracks/in.	10 Cycles # cracks/in.	50 Cycles # cracks/in.
HexPly® 954-6/M55J	0.25	0.50	0.50
HexPly® 954-3/M55J	0.25	0.25	0.63

Notes: (45, -45, 0, 90)4S laminates. Thermal cycle: -250°F to 250°F at 20°F/min., 5 min. hold

### HexPly® 954-6/M55J Outgassing

Property	Test Method	Average
TML%	ASTM E595	0.07
CVCM%	ASTM E595	0.00
WVR%	ASTM E595	0.06

The data tested has been obtained from carefully controlled samples considered to be representative of the product described. Because the properties of this product can be significantly affected by the fabrication and testing techniques employed and since Hexcel does not control the conditions under which its products are tested and used, Hexcel cannot guarantee that the properties listed will be obtained with other processes and equipment.



# HexPly® 954-6

250°F (121°C) curing cyanate matrix



## Product Data Sheet

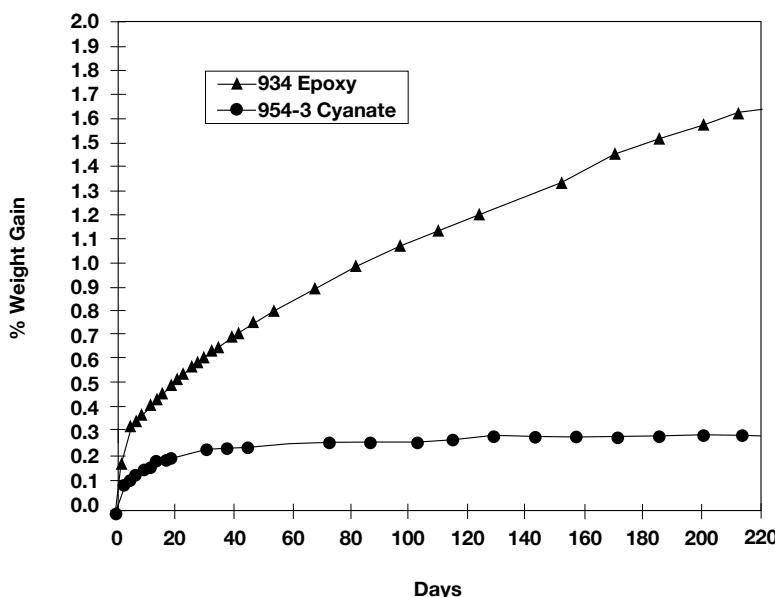
### Typical Mechanical Properties

Properties	Fibers (Average Values)			
	M40J	M55J	K13C2U	
<b>0 Tensile Strength</b>	<b>ksi</b>	343	314	261
	<b>MPa</b>	2365	2165	1799
<b>0 Tensile Modulus</b>	<b>Msi</b>	28.5	46.6	80.7
	<b>GPa</b>	196	321	556
<b>90 Tensile Strength</b>	<b>ksi</b>	10.4	5.8	2.8
	<b>MPa</b>	72	40	19
<b>90 Tensile Modulus</b>	<b>Msi</b>	1.10	0.90	0.70
	<b>GPa</b>	7.6	6.2	4.8
<b>0 Comp. Strength</b>	<b>ksi</b>	174	130	53.0
	<b>MPa</b>	2000	896	365
<b>0 Comp. Modulus</b>	<b>Msi</b>	32.2	43.5	80.9
	<b>GPa</b>	222	300	558
<b>0 IL Shear Strength</b>	<b>ksi</b>	14.3	10.2	6.4
	<b>MPa</b>	99	70	44
<b>In-plane Shear Strength</b>	<b>ksi</b>	18.4	11.3	-
	<b>MPa</b>	127	78	
<b>In-plane Shear Modulus</b>	<b>Msi</b>	0.66	0.68	-
	<b>GPa</b>	4.6	4.7	
<b>Flatwise Tensile Strength</b>	<b>psi</b>	5290	4195	-
	<b>MPa</b>	36.5	28.9	

Notes: 0 tensile, compression, and flex values are normalized to 60% fiber volume.

All testing performed at RT.

### Neat Resin Moisture Absorption at RT/50%RH (compared to HexPly® M74\* epoxy)



\* Licensed 934 technology from Cytec® Fiberite.



# HexPly® 954-6

250°F (121°C) curing cyanate matrix



## Product Data Sheet

### For more information

Hexcel is a leading worldwide supplier of composite materials to aerospace and industrial markets.

Our comprehensive range includes:

- HexTow® carbon fibers
- HexForce® reinforcements
- HiMax® multiaxial reinforcements
- HexPly® prepregs
- HexMC®-i molding compounds
- HexFlow® RTM resins
- HexBond™ adhesives
- HexTool® tooling materials
- HexWeb® honeycombs
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products
- Polyspeed® laminates & pultruded profiles
- HexAM® additive manufacturing

For US quotes, orders and product information call toll-free 1-800-688-7734. For other worldwide sales office telephone numbers and a full address list, please go to:

<https://www.hexcel.com/contact>

©2016 Hexcel Corporation – All rights reserved. Hexcel Corporation and its subsidiaries (“Hexcel”) believe that the technical data and other information provided herein was materially accurate as of the date this document was issued. Hexcel reserves the right to update, revise or modify such technical data and information at any time. Any performance values provided are considered representative but do not and should not constitute a substitute for your own testing of the suitability of our products for your particular purpose. Hexcel makes no warranty or representation, express or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, and disclaims any liability arising out of or related to, the use of or reliance upon any of the technical data or information contained in this document.