

# HexPly® M79/42%/200T2/CHS-3K

Epoxy Matrix

## Product Data Sheet

### Description

HexPly® M79/42%/200T2/CHS-3K is a Epoxy High Strength Carbon Woven prepreg, whereby M79 is the resin type; 42% is the resin content by weight; 200T2/CHS-3K is the reinforcement reference and CHS represents High Strength Carbon fibre. This data sheet is complementary to the M79 resin data sheet, which should be consulted for additional information.

### Reinforcement Data

Nominal Area Weight	g/m <sup>2</sup>	200	0°	90°
Composition			100	100
Fibre Type		Twill 2x2		
Nominal Fibre Density	g/cm <sup>3</sup>	1,76		
			High Strength Carbon 3K	

*PrimeTex™ : range of HexForce® carbon fabrics which has been processed for a smooth, closed weave and uniform cosmetic appearance. Fabrics data sheet available.*

### Matrix Properties

Glass transition temperature of laminate (Cure cycle: 45 min @ 120°C)	°C	90 (DSC mid 10°C/min),
Nominal Resin Density	g/cm <sup>3</sup>	1,15

### Prepreg Data

Nominal Area Weight	g/m <sup>2</sup>	345
Nominal Resin Content	weight %	42
Resin Flow	weight %	20
Volatiles	weight %	Hot Melt
Tack Level		Medium

### Processing

Cure Cycle	@ 70 °C	*480 min
	or @ 80 °C	*240 min
	or @ 120 °C	*130 min
Recommended heat up rate	°C/min	0.5 - 5°C/min
Pressure gauge	bar	0.5 - 5

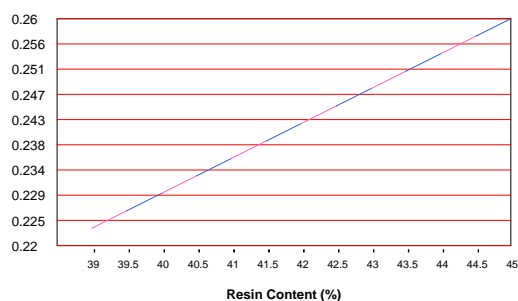
The optimum cure cycle, heat up rate and dwell period depend on part size, laminate construction, oven capacity and thermal mass of tool.

\*Time to 95% conversion

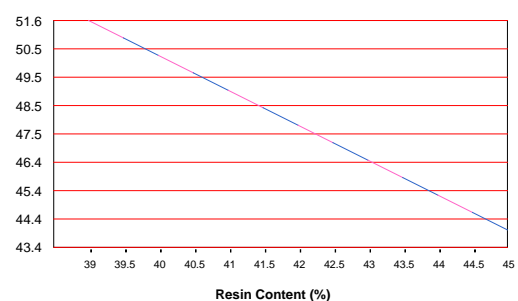
### Cured Laminate Properties

(nominal composite density 1,49 g/cm<sup>3</sup>)

RESIN CONTENT % vs CURED PLY THICKNESS



RESIN CONTENT % vs FIBRE VOLUME %



The above graphs enable the fibre volume content of a laminate to be estimated using the measured cured ply thickness. The calculation assumes no resin loss.



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## HexPly® M79/42%/200T2/CHS-3K

### Mechanical Properties

(Normalised to 50% fibre volume, except for ILSS)

Mechanical Properties are based on 80 °C cure for 360 min, at 0,9 bar vacuum.

Data is the result from several tests on Vacuum bag cured laminates. Some of the values achieved will have been higher, and some lower (15 %), than the figure quoted. These are nominal values.

0° (RT / Dry)	Tensile	Flexural	ILSS	Compression
Strength (MPa)	923	1039	60	
Modulus (GPa)	58	37	.	
Test Method	ISO 527-4	ISO 14125	ISO 14130	

### Prepreg Storage Life

Shelf Life<sup>1</sup>: 18 months at -18°C/0°F (from date of manufacture).

<sup>1</sup> Shelf Life: the maximum storage life for HexPly® prepreg, when stored continuously, in a sealed moisture-proof bag, at -18°C/0°F or 5°C/41°F. To accurately establish the exact expiry date, consult the box label.

Shelf Life<sup>1</sup>: 6 months at 5°C/41°F (from date of manufacture).

<sup>1</sup> Shelf Life: the maximum storage life for HexPly® prepreg, when stored continuously, in a sealed moisture-proof bag, at -18°C/0°F or 5°C/41°F. To accurately establish the exact expiry date, consult the box label.

Out Life<sup>2</sup>: 6 weeks at Room Temperature.

<sup>2</sup> Out Life: the maximum accumulated time allowed at room temperature between removal from the freezer and cure.

Prepreg should be stored as received in a cool dry place or in a refrigerator. After removal from refrigerator storage, prepreg should be allowed to reach room temperature before opening the polyethylene bag, thus preventing condensation. (A full reel in its packing can take up to 48 hours).

### Precautions for Use

The usual precautions when handling uncured synthetic resins and fine fibrous materials should be observed, and a Safety Data Sheet is available for this product. The use of clean disposable inert gloves provides protection for the operator and avoids contamination of material and components.

### Important

All information is believed to be accurate but is given without acceptance of liability. All users should make their own assessment of the suitability of any product for the purposes required. All sales are made subject to our standard terms of sale which include limitations on liability and other terms

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