



HexPly[®] 920

125°C curing epoxy matrix

Product Data

Description

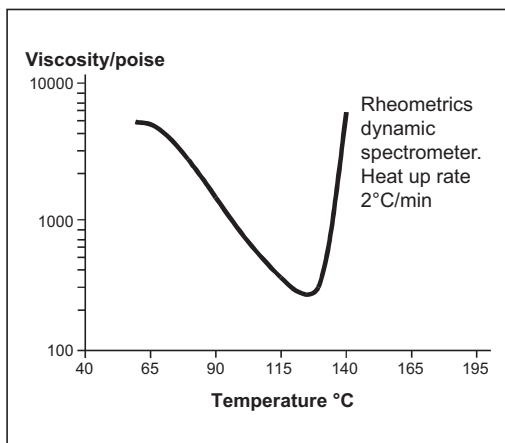
HexPly 920 is a very tough advanced resin matrix, ideally suited to the single-shot production of honeycomb sandwich structures and the manufacture of solid laminates. It is highly tolerant of a variety of production techniques and equipment, making it easy to process. The high toughness of HexPly 920 makes it ideal for industrial applications and performance cars. It is available preimpregnated into carbon, glass or aramid fibres.

Benefits and Features

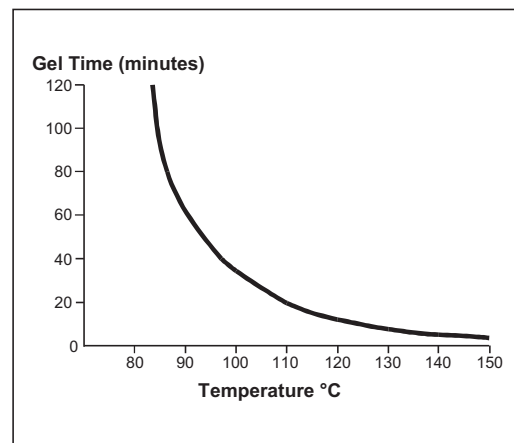
- Very tough matrix
- Excellent adhesive properties
- Tolerant to many production techniques
- High melt viscosity, giving easy processing characteristics
- Suitable for low to medium pressure laminating and moulding
- Variable cure cycles
- Long shelf life at -18°C and out life at 23°C
- Excellent surface finish

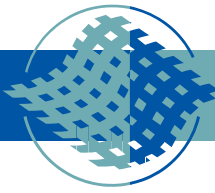
Resin Matrix Properties

Rheology



Gel Time





HexPly® 920

Cured Matrix Properties (cured at 125°C)

		Method
Tensile strength	34.9 MPa	ISO R527 type 1
Tensile modulus	3.76 GPa	ISO R527 type 1
Tensile strain	8.41%	ISO R527 type 1
Poisson's ratio	0.39	ISO R527 type 1
Flexural modulus	3.51 GPa	ISO 178
Compression strength	290 MPa	ISO 604
Compression strain	7.40%	ISO 604
Toughness K_{1C}	1.55 MPa \sqrt{m}	Tested in accordance with EGF Task Group on Polymers and Composites protocol.
Toughness G_{1C}	541 J/m ²	
Glass transition temperature (Tg)	107°C	DMTA
Cured density	1.22 g/cm ³	
Vol. shrinkage	1.59%	

Prepreg Curing Conditions

1 hour at 125°C and 300kN/m² (3 bar) pressure.

Heat up rate 2°C to 10°C

HexPly 920 is very versatile and can cure much quicker at high temperatures

Temperature °C	Time (Mins)
140	30
150	15
160	10
170	5

Performance testing should accompany the alternative cure cycles to ensure they are suitable for the particular application. Thick components require a dwell in the cure cycle of 2-3 hours at 90°C to avoid the risk of an exotherm in the matrix.

Cured Prepreg Properties (cured at 125°C)

Test	Method	920CX-FM40J-6-42%	920CX-EP2015-47.5%	920KX-285-52%	920CX-950-42%
		High modulus carbon, unidirectional, 165 g/m ²	Intermediate modulus 6K carbon, 2 x 2 twill, 193 g/m ²	Kevlar, 4H satin, 171 g/m ²	Intermediate modulus 6K carbon, 5H satin, 285 g/m ²
Tensile strength * MPa Tensile modulus * GPa	pr EN 2561 Type B	1760 215	1337 87	442 33	1434 87
Compression strength * MPa Compression modulus * GPa	EFA TP-003	894 199	901 79	278 30	912 78
ILSS MPA	pr EN 2563	76	71	44	70
CAI @ 6.6 J/mm * MPa	pr EN 6038	240	369	140	361

*Results normalised to 60% fibre volume for Carbon, 50% fibre volume for Kevlar.

Prepreg Storage Life

- Tack Life @ 23°C 30 days
- Guaranteed Shelf Life @ -18°C 12 months (minimum)

■ Storage conditions.

HexPly 920 prepregs 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 polythene bag, thus preventing condensation. (A full reel in its packaging 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. 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 important terms.

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For More Information

Hexcel is a leading worldwide supplier of composite materials to aerospace and other demanding industries. Our comprehensive product range includes:

- Carbon Fibre
- RTM Materials
- Honeycomb Cores
- Continuous Fibre Reinforced Thermoplastics
- Carbon, glass, aramid and hybrid prepregs
- Reinforcement Fabrics
- Structural Film Adhesives
- Honeycomb Sandwich Panels
- Special Process Honeycombs

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:

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