



HexPly® M77

80°C - 160°C curing epoxy matrix

Product Data

Description

HexPly® M77 is a formulated epoxy resin matrix, specifically designed for prepreg applications and short cure cycles. It is a very versatile matrix, allowing a range of processing temperatures from 80°C up to 160°C.

HexPly® M77 is based on a modified epoxy resin. It can be pre-impregnated into carbon, glass or aramide fibres and exhibits a significant long out-life at room temperature.

Benefits and Features

- High toughened epoxy
- Excellent tack life
- Suitable for a range of pressures (1 to 10 bar)
- Short cure cycle at 120 – 160°C
- Good surface finish
- Medium tack and excellent drapability
- Controlled flow for ease of processing
- Long out-life at room temperature

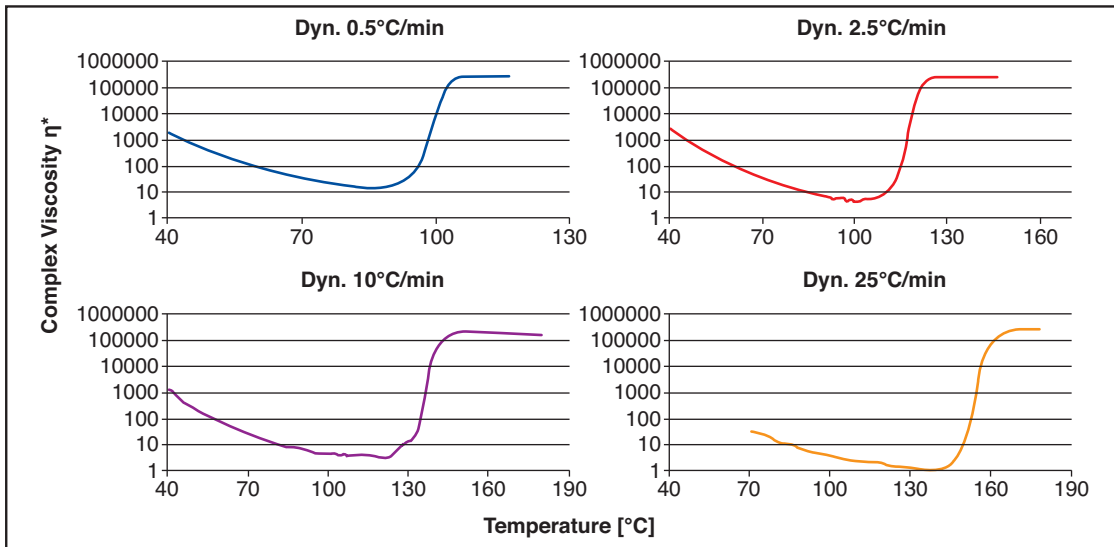
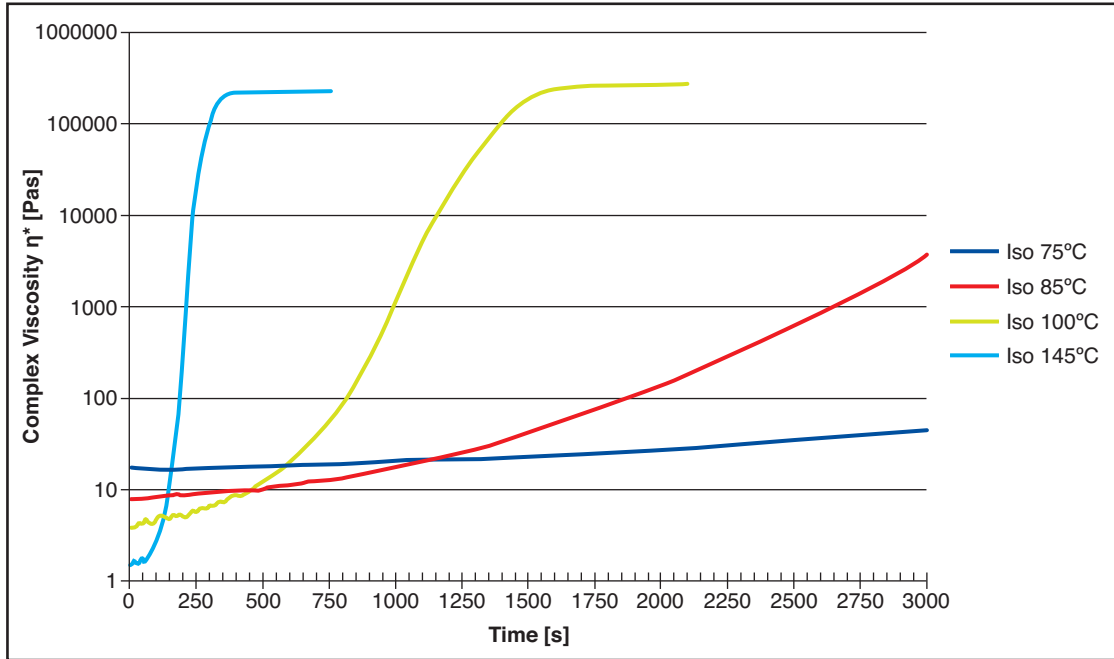
Resin Matrix Properties

- Tg after 130° @15min: 135°C (DSC 25-250°C, 10°C/min)
- Density: 1.1 – 1.2g/cm³
- Colour: milky



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■ Viscosity:



Heating Rate [°C/min]	Min. Viscosity η^* [Pas]	Temperature @ η^* [°C]	Time @ η^* [min]
0.5	15	85	90
2.5	4	100	25
10	3	120	8
25	1.5	135	3



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Curing Conditions

The ideal cure cycle is 7 min at 120°C and at a pressure >5bar . Alternative cure cycles can be used:

Temperature	Time
80 °C	480 min
90 °C	90 min
100 °C	40 min
110 °C	18 min
120 °C	7 min
130 °C	5 min
140 °C	3 min
150 °C	2 min
160 °C	1.5 min

Prepreg Types and Cured Prepreg Mechanical Properties

Mechanical Properties are based on 130 °C cure for 10 min, at 5 bar pressure.

	Reinforcement			Prepreg data			Mechanical data		
	Fibre	Fabric Weave Style	Fabric Weight [g/m ²]	Fabric Direction 0°/90° [g/m ²]	Weight [g/m ²] (± 5%)	Resin Content [%] (± 3)	Tensile Strength [MPa]	Tensile Modulus [GPa]	ILSS [MPa]
M77/55%/48P/G	Glass	plain	47	26/21	104	55	540	28	55
M77/52%/106P/G	Glass	plain	106	54/52	221	52	480	27	67
M77/45%/160P/G	Glass	plain	155	81/74	282	45			
M77/38%/395P/G	Glass	plain	386	204/182	623	38			
M77/40%/LT570/G+F	Glass	non woven + fleece	560	432/75 fleece 35	848	35			
M77/42%/200T2/CHS-3K	Carbon	twill	200	100/100	345	42			
M77/42%/600T2/CHS	Carbon	twill	600	300/300	1034	42			
M77/38%/UD150/CHS	Carbon	UD	150	90/0	242	38			
M77/39%/UD600/CHS	Carbon	UD	600	600/0	984	39	2400	140	78



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Storage and Handling

- **Shelf Life**¹: 18 months
- **Out Life**²: 6 weeks (42 days)

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

² 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).

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 Fiber
- Reinforcement Fabrics
- Carbon, glass, aramid and hybrid prepregs
- RTM Materials
- HexTOOL® composite tooling material
- Structural Film Adhesives
- Honeycomb Cores
- Engineered Core

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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