



HexPly® M26/M26T

120 °C (250 °F) curing epoxy matrix



Product Data Sheet

Description

HexPly® M26 is an advance modified epoxy resin developed for aerospace and industrial markets. Its controlled flow, high peel strength on honeycomb cores and excellent fire behaviour give it a cost saving potential for interior and secondary sandwich structures. Combined with HexPly® M25 glass phenolic prepgs, it is qualified to Airbus specifications.

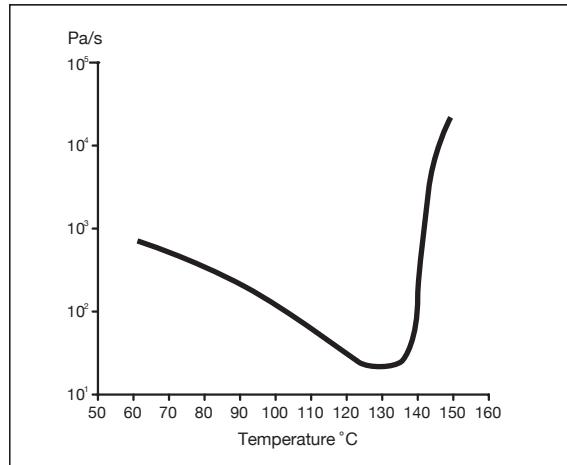
Benefits and Features

- 120 °C (250 °F) cure
- Self-extinguishing to ABD0031 requirements
- Self-adhesive on honeycomb and foam
- Environmentally friendly
- Controlled flow matrix
- Low pressure moulding capability 0.8-3 bar (12-43 Psi)
- Cure cycle versatility 100-150 °C (212-302 °F)
- Good impact resistance
- Compatible with HexPly® M25 phenolic resin system
- Two grades available:
 - M26, reduced tack grade, for flat panels applications,
 - M26T, improved tack grade, for other sandwich structures.

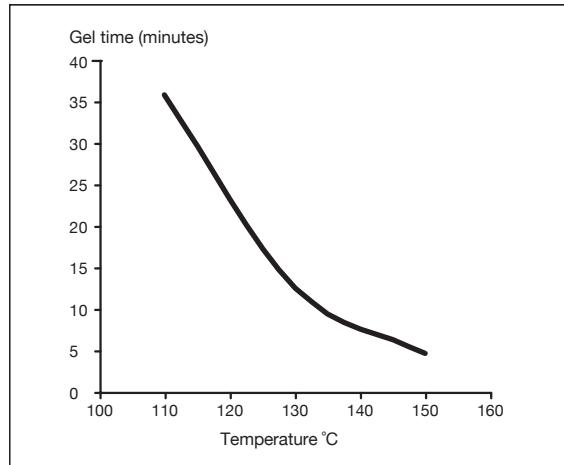


Resin Matrix Properties

Rheology



Gel Time



Cured Matrix Properties cured at 180 °C (350 °F)

Method

Glass transition temperature

- Dry 105 °C (221 °F)
- Wet (saturation @ 70 °C/85%/RH) 90 °C (194 °F)

DMA

Cured density

1.29 g/cm³

Enthalpy ΔH

270 J/g DSC

Prepreg Curing Conditions

The ideal cure cycle is 90 min at 125 °C (257 °F), at a pressure between 0.5 and 3 bar (7-43 Psi). Alternative cure cycles can be used.

Heat up rate 0.5-10 °C (0.9-18 °F)/min

Low temperature cure: 5 hours at 100 °C (212 °F) - $T_g = 95$ °C (203 °F)
+ post cure 1 hour at 150 °C (302 °F) to achieve a T_g of 120 °C (250 °F)



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Fire Properties

Tests performed on 1 ply specimen of M26/45%/G1070 according to ABD0031.

Test Method	Property	Unit	Result
AITM 2002 60 sec vertical Vertical burning test	Flame time	sec	0
	Glow time	sec	1.3
	Drip flame time	sec	0
	Burn length	cm	5.3
AITM 2007 method B	Flaming mode	Ds	75
AITM 3005 NBS toxicity Flaming mode	CO	ppm	103
	HCl	ppm	0
	H ₂ S - SO ₂	ppm	0
	HCN	ppm	2.3
	HF	ppm	0
	NO + NO ₂	ppm	11.7

Typical Mechanical Properties on HexPly® M26 prepgs

Property	Temp. °C	M26/45%/G1070	M26T/50%/7581
		Carbon fabric 6K T300J 370 gsm	Glass fabric 300 gsm
Warp tensile strength MPa	RT	790	410
Warp tensile modulus GPa	RT	65	23
Warp tensile strength MPa	80	780	400
Warp tensile modulus GPa	80	64	22
Warp flexural strength MPa	RT	900	520
Warp flexural modulus GPa	RT	58	18
Warp flexural strength MPa	80	580	450
Warp flexural modulus GPa	80	51	16.5
Warp compression strength MPa	RT	700	500
Warp compression modulus GPa	RT	62	22
Warp ILSS MPa	-55	92	/
Warp ILSS MPa	RT	71	60
Warp ILSS MPa	80	45	44
Drum peel mN/m	RT	55 (on HRH10-3/16-6.0)	65 (on HRH10-1/8-3.0)
Fibre volume content %	/	55	50



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Prepreg Storage Life

- Tack Life @ 23 °C (73 °F) 30 days
- Guaranteed Shelf Life @ -18 °C (0 °F) 12 months (*maximum, from date of manufacture*)

Storage conditions

HexPly® M26-M26T prepgs 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).

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® prepgs
- HexMC®-i molding compounds
- HexFlow® RTM resins
- HexBond® adhesives
- HexTool® tooling materials
- HexWeb® honeycomb
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products
- Polyspeed® laminates & pultruded profiles
- HexAM® additive manufacturing

For U.S. 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>

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