HMT301

250-300°F (121-149°C) Cure Hot-melt Towpreg

Typical applications
Aerospace
Automotive
Marine
Industrial
Sporting goods

Out life
30 days at 70°F (21°C)

Shelf life
6 months at 40°F (4°C)
12 months at 0°F (-18°C)

Description
HMT301 is a 250-300°F (121-149°C) cure, hot melt towpreg, utilizing a toughened, controlled flow epoxy resin matrix. Versatile processing, excellent mechanical properties, and long out time make it suitable for a variety of applications including large scale structures where layup requirements can take days or weeks.

Benefits/features
- Stable bandwidth
- Easy de-spooling
- Moderate tack (adjustable)
- Excellent mechanical properties
- Compatible with many of MCCFC 250-300°F (121-149°C) cure epoxy systems

Variants
- HMT301-D: Softer handling, particularly popular for filament winding

Application
With good toughness and impact resistance HMT301 is well suited for filament winding process and/or fiber placement process in variety of structural applications such as aerospace, marine, automotive, industrial and sporting goods markets.

HMT301 can be supplied on a wide range of standard, intermediate, and high modulus carbon, aramid, E-glass, and S-glass fibers.

Recommended processing conditions
HMT301 can be cured at temperatures from 250-300°F (121-149°C) depending on part size and complexity. Low, medium, and high pressure molding techniques may be used to cure HMT301 resin. Recommended cure cycle is 40 – 100 psi (345 – 690 kPa), 3°F/min (1.7°C/min) ramp to 275°F (135°C), hold for 60-90 minutes, cool to <140°F (60°C).

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Technical Data Sheet

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Neat resin [values are average and do not constitute a specification]

Property	Value
Gel time @ 275°F (135°C), minutes	4 – 7 minutes
Specific gravity	1.22
T_g (DMA, E'), °C (°F)	120 (248)

Mechanical data [values are average and do not constitute a specification]

34-700 12K 32%RC, autoclave cured, 40psi, 90 minutes at 275°F, normalized to 60%FV

Property	Test Method	RT
0° Tensile strength, ksi (MPa)	ASTM D3039	373 (2570)
0° Tensile modulus, Msi (GPa)		20.4 (140)
90° Tensile strength, ksi (MPa)		9.19 (63.4)
90° Tensile modulus, Msi (GPa)		1.26 (8.69)
0° Compressive strength, ksi (MPa)	ASTM D695mod	228 (1570)
0° Compressive modulus, Msi (GPa)		20.7 (142)
90° Compressive strength, ksi (MPa)		38.6 (266)
90° Compressive modulus, Msi (GPa)		1.45 (10.0)
0° Flexural strength, ksi (MPa)	ASTM D790	244 (1680)
0° Flexural modulus, Msi (GPa)		18.1 (124)
90° Flexural strength, ksi (MPa)		22.7 (156)
0° Short beam shear strength, ksi (MPa)	ASTM D2344	13.9 (95.8)

TR50S 12K 30%RC, autoclave cured, 80psi, 90 minutes at 275°F, normalized to 60%FV

Property	Test Method	RT
0° Tensile strength, ksi (MPa)	ASTM D3039	345 (2370)
0° Tensile modulus, Msi (GPa)		18.8 (129)
0° Compressive strength, ksi (MPa)	ASTM D695mod	213 (1460)
0° Compressive modulus, Msi (GPa)		17.8 (122)
0° Flexural strength, ksi (MPa)	ASTM D790	254 (1750)
0° Flexural modulus, Msi (GPa)		18.1 (124)
0° Short beam shear strength, ksi (MPa)	ASTM D2344	14.2 (97.0)

37-800 30K 27%RC, autoclave cured, 80psi, 90 minutes at 275°F, normalized to 60%FV

Property	Test Method	RT
0° Tensile strength, ksi (MPa)	ASTM D3039	355 (2440)
0° Tensile modulus, Msi (GPa)		23.0 (158)
0° Compressive strength, ksi (MPa)	ASTM D695mod	230 (1580)
0° Compressive modulus, Msi (GPa)		19.0 (131)
0° Flexural strength, ksi (MPa)	ASTM D790	250 (1720)
0° Flexural modulus, Msi (GPa)		20.0 (137)
0° Short beam shear strength, ksi (MPa)	ASTM D2344	14.8 (102)

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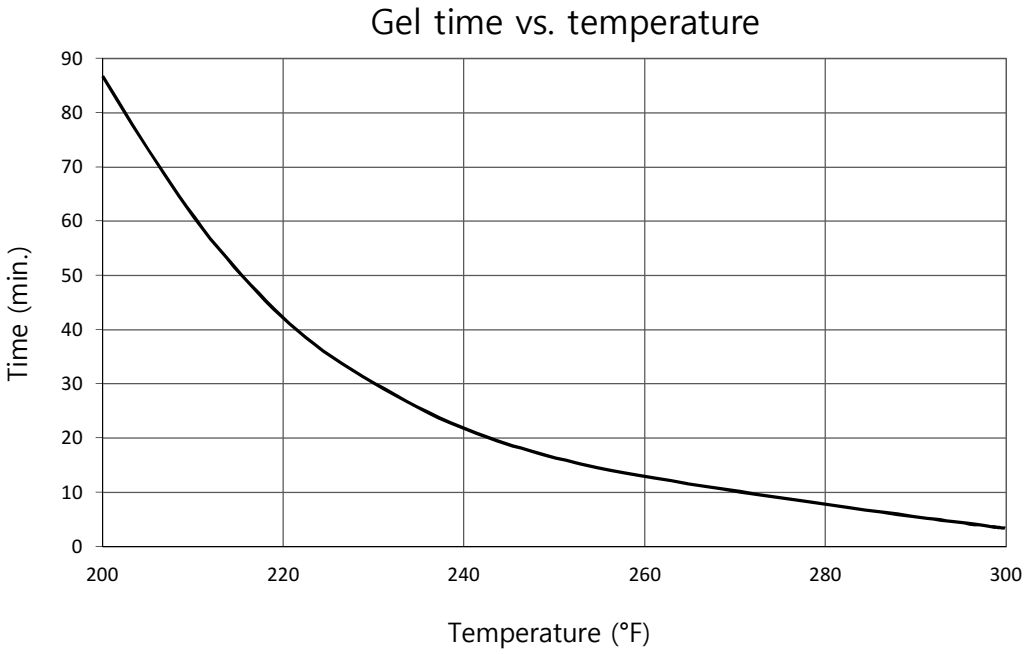
Gel curve



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