

1106



250-300°F (121-149°C) Cure Epoxy Film Adhesive

Typical applications

Aerospace
Wind Energy
Industrial Manufacturing

Out life

7 days at 70°F (21°C)

Shelf life

3 months at 40°F (4°C)
6 months at 0°F (-18°C)

Description

1106 is a 250°F (121°C) to 300°F (149°C) cure, toughened, flame retardant modified epoxy prepreg designed for one step assembly of sandwich panels for applications requiring high strength at temperatures from -67°F (-55°C) to 180°F (82°C).

Benefits/features

- Flame Retardant, Meets FAR 25.853 flammability requirements
- Low flow, Dry tack
- Self adhesive prepreg
- Excellent mechanical properties
- Conforms to FAR 25.853 Appendix F, Part I, (a)(1)(i) flammability requirements
- Meets: MMM-A-132B, Type I, Class 3, Group 3 (long time exposure to temps -67°F to 180°F, No T-peel and blistering detection, Cure temp 100°F to 200°F)
- AMS-A-25463B, Type I, Class 1, Group 3 (long time exposure to temps -67°F to 180°F, for bonding metal facing to metal cores only, Cure temp 200°F to 300°F)
- Meets NASA out gassing requirements

Variants

- 106/8: Higher tack, softer drape

Application

1106 is suitable for structural and secondary applications in aerospace, wind energy, and industrial manufacturing where flame retardant properties are required.

1106 can be supplied with most commercially available fibers in woven form (designated as NB) including: Carbon, Quartz, Aramid, E-glass, and other specialty fibers and fabrics.

Woven fabrics are available in standard commercial widths up to 60 inches (1.5 M). This product is available as NCT 106/8 S-Glass unitape in widths up to 39 inches (1M) and fiber weights ranging from 185 to 244 gsm.

Co-curable with most 250°F (121°C) curing prepregs

Recommended processing conditions

1106 can be cured at temperatures from 250°F (121°C) to 300°F (149°C), depending on part size and complexity. Low, medium and high pressure molding techniques may be used to cure 1106. Recommended cure cycle is 25 to 60 psi (172 kPa to 414 kPa), 3°F (1.7°C)/min. ramp to 275°F (135°C), hold for 60 minutes, cool to <140°F (60°C).



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CARBON FIBER AND COMPOSITES

Technical Data Sheet



Neat Resin (values are average and do not constitute a specification)

Property	Measured Value
Gel Time @ 275°F (135°C), minutes	3 - 5
Specific Gravity	1.30
T _g (DMA, E'), °C (°F)	105 (221)

Mechanical Data (values are average and do not constitute a specification)

7781 E-Glass Reinforcement, press cured, 30 psi, 275°F for 90 min., using 7°F/min. ramp rate, as tested.

Property	Test Method	RT
0° Tensile Strength, ksi (MPa)	ASTM D3039	64 (441)
0° Tensile Modulus, Msi (GPa)		3.3 (23)
0° Compression Strength, ksi (MPa)	SACMA 1R-94	58 (400)
0° Flexural Strength, ksi (MPa)	ASTM D790	86 (593)
0° Flexural Modulus, Msi (GPa)		3.5 (24)
0° SBS Strength, ksi (MPa)	SACMA 8R-94	7.3 (50)

TR30S 3K PW, autoclave cured, 25 psi, 190°F for 45 min., 250°F for 60 min., using 3°F/min. ramp rate, as tested.

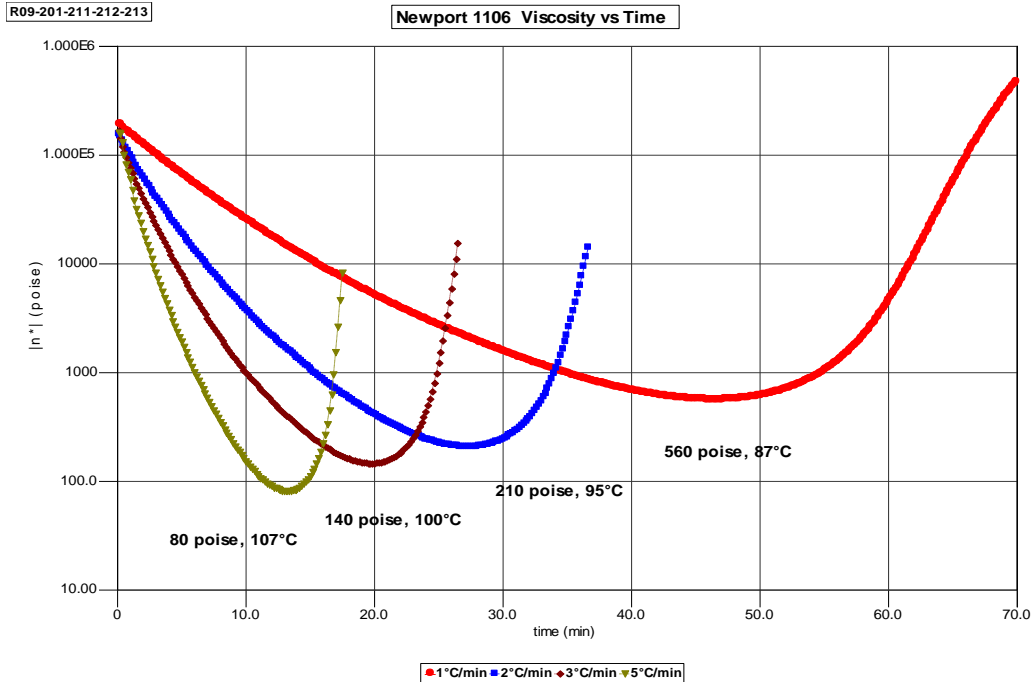
Property	Test Method	RT
0° Tensile Strength, ksi (MPa)	ASTM D3039	110 (758)
0° Tensile Modulus, Msi (GPa)		7.5 (52)
0° Compression Strength, ksi (MPa)	SACMA 1R-94	68 (469)
0° Compression modulus, Msi (GPa)		7.3 (50)
0° Flexural Strength, ksi (MPa)	ASTM D790	103 (710)
0° Flexural Modulus, Msi (GPa)		7.6 (52)
0° SBS Strength, ksi (MPa)	SACMA 8R-94	8.4 (58)

106/8, 185gsm, 31% RC, Uni S-Glass and 106/8, 244gsm, 41% RC, Uni S-Glass, autoclave cured, 50 psi, 275°F for 60 min., using 3°F/min. ramp rate, as tested.

Property	Test Method	185 gsm 31% RC		244 gsm 41% RC	
		RT	160 °F	RT	160°F
0° Tensile Strength, ksi (MPa)	ASTM D3039	242 (441)	-	186 (1280)	-
0° Tensile Modulus, Msi (GPa)		7.4 (23)	-	6.1 (42)	-
0° Compression Strength, ksi (MPa)	SACMA 1R-94	136 (400)	100 (689)	106 (731)	75 (517)
0° Flexural Strength, ksi (MPa)	ASTM D790	200 (593)	110 (758)	165 (1140)	97 (669)
0° Flexural Modulus, Msi (GPa)		7.8 (24)	6.7 (46)	6.1 (42)	5.6 (38.6)
0° SBS Strength, ksi (MPa)	SACMA 8R-94	10.9 (50)	7.3 (50)	10.9 (75)	7.3 (50.3)

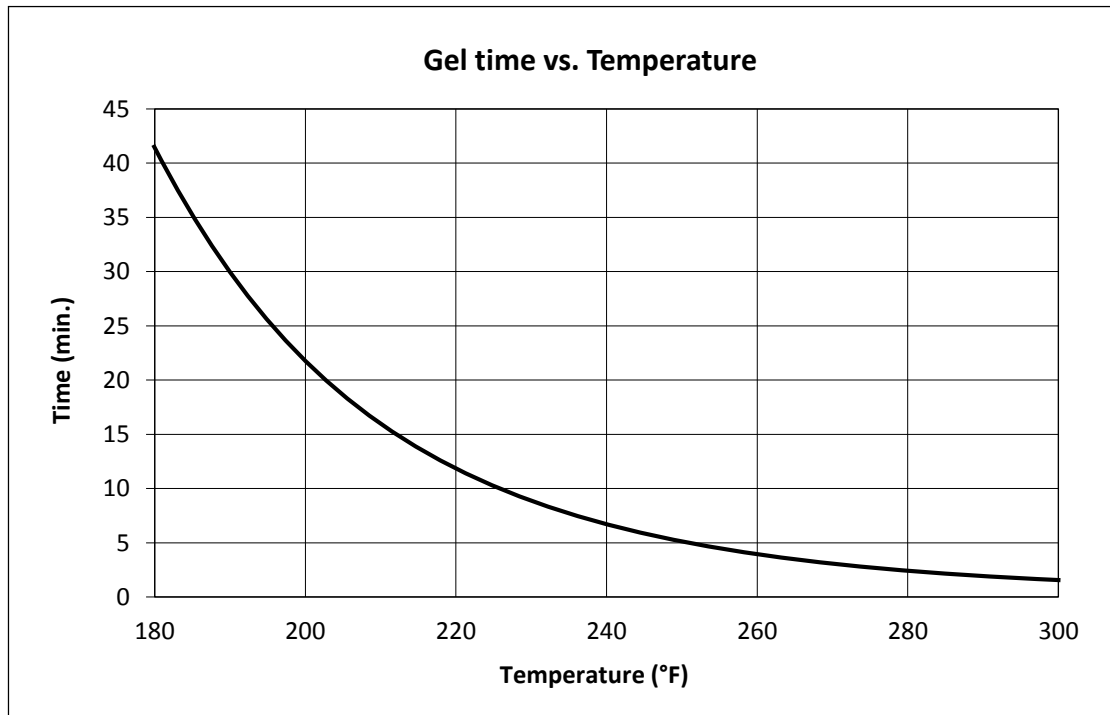
Viscosity Profile

TA - AR2000 parallel plate rheometer



Gel Curve

1106, not valid for 106/8



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