

3310



160-180°F (71-82°C) Epoxy Resin System

Typical applications

Wind energy
Marine
Industrial
Sporting goods

Shelf life

45 days at 70°F (21°C)
3 months at 40°F (4°C)
6 months at 0°F (-18°C)

Description

3310 is a 158°F – 180°F (70°C – 82°C) low temperature cure film adhesive, general purpose, controlled flow epoxy resin system. Versatile processing, excellent mechanical properties, and long out time make this adhesive suitable for a variety of applications where strength and toughness are required.

Benefits/features

- High toughness
- High strength sandwich panel bonds
- Co-curable with 5300 low temperature curable prepregs
- Moderate tack
- 45 days out time at 70°F (21°C)

Application

3310 is suited for structural and secondary bonding applications in sporting goods, marine, wind energy, and industrial manufacturing. High shear and peel strengths make 3310 ideal for metal-to-metal bonding and sandwich panel manufacturing.

3310 is supplied in standard film weights from 0.030 to 0.090 psf (150-450 gsm), either unsupported or on a variety of commercially available reinforcements, including:

- Non-woven polyester mat – 0.0035 psf (17 gsm)
- Nylon tricot – 0.0019 and 0.005 psf (9 and 25 gsm, respectively)

Recommended processing conditions

3310 can be cured at temperatures from 160°F – 180°F (71°C – 82°C) depending on part size and complexity. Low, medium, and high pressure molding techniques may be used to cure this adhesive. Recommended cure cycle is vacuum bag, 0.5°F/min ramp to 180°F, hold for 2 hours, cool to <140°F.

Alternative cure cycle: vacuum bag, 0.5°F/min ramp to 160°F, hold for 6 hours, cool to <140°F.

Other cure cycle: in hot press, 35 psi at 180°F, hold 2 hours, cool to <140°F.



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Technical Data Sheet



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

Property	Value
Gel Time @ 200°F, minutes	6 – 10
Specific Gravity	1.22
T _g (DMA, E'), °C (°F)	91 (195)*
CTE (ppm/°C)	60 ± 10 (below T _g)

*Cured at 75°C for 8 hours

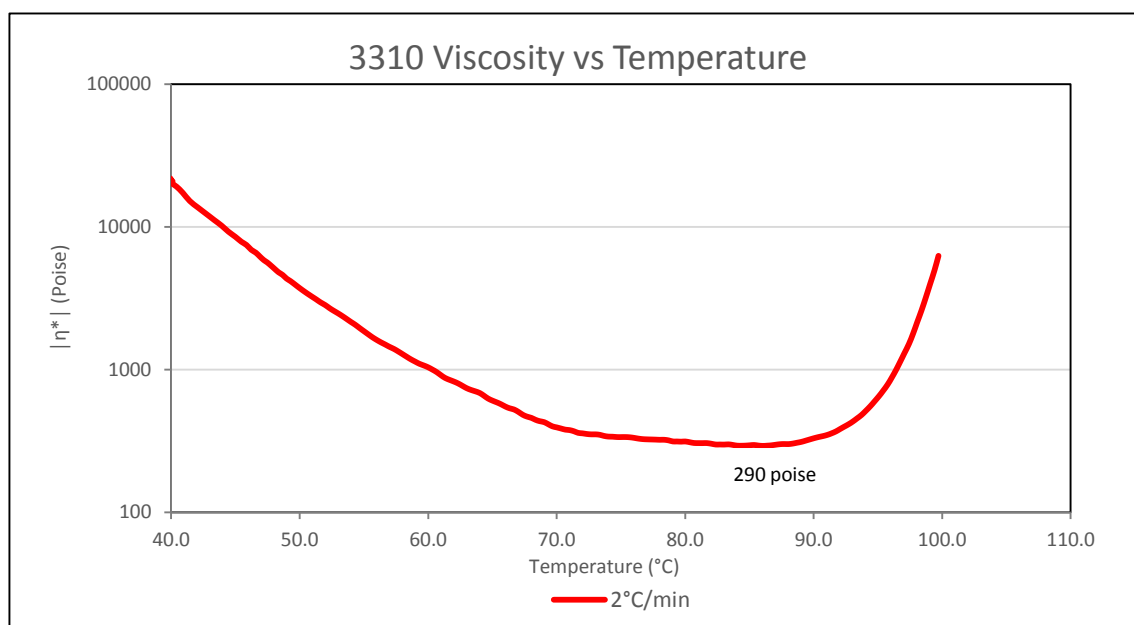
Mechanical Data [values are average and do not constitute a specification]

3310, preheated press cured, tested at RT

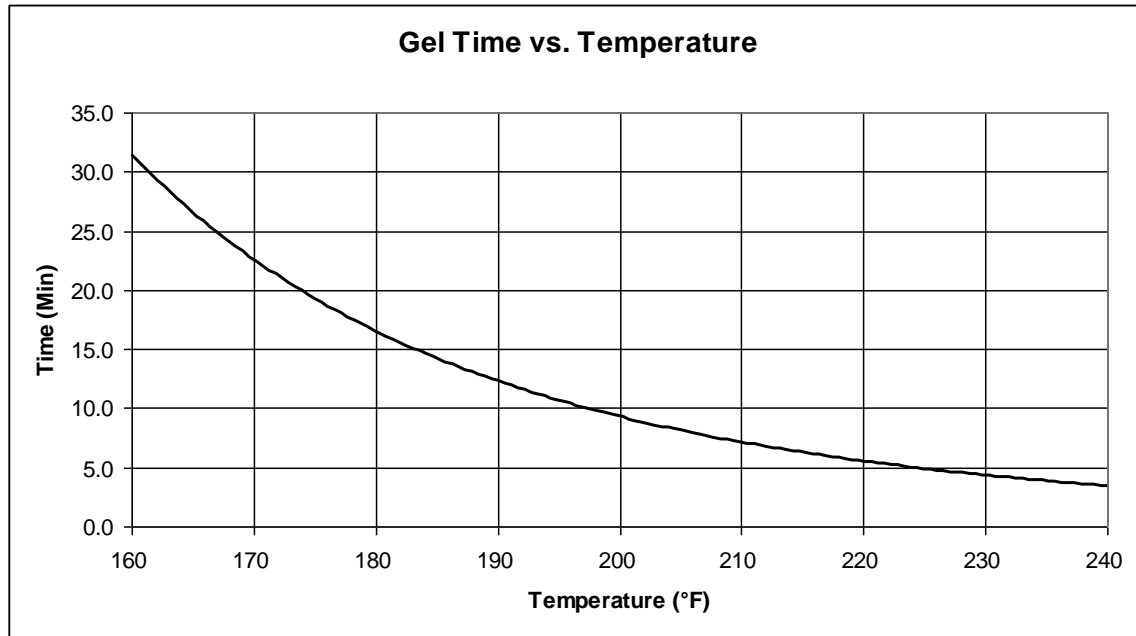
Property	Cure Conditions	Test Method	0.03 psf	0.06 psf
Tensile shear strength, psi (MPa)	160°F/6 hours @ 60psi	ASTM D1002	2640 (18.2)	2910 (20.0)
Tensile shear strength, psi (MPa)	180°F/2 hours @ 60psi		3280 (22.5)	3110 (21.4)

Viscosity Profile

TA - AR2000 parallel plate rheometer



Gel Curve



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The information contained herein has been obtained under controlled laboratory conditions and are typical or average values and do not constitute a specification, guarantee, or warranty. Results may vary under different processing conditions or in combination with other materials. The data is believed to be reliable but all suggestions or recommendations for use are made without guarantee. You should thoroughly and independently evaluate materials for your planned application and determine suitability under your own processing conditions before commercialization. Furthermore, no suggestion for use or material supplied shall be considered a recommendation or inducement to violate any law or infringe any patent.

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