

301T



250-300°F (121-149°C) Cure Epoxy Resin System

Typical applications

Sporting goods
Marine
Medical
Industrial manufacturing

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

301T is a 250°F (121°C) to 300°F (149°C) cure, toughened, controlled flow epoxy resin system, with versatile processing, excellent mechanical properties, and long out time. The 301T is a version of 301 designed to improve surface finish for applications with stringent cosmetic requirements.

Benefits/features

- Optimized cosmetics for bladder molding
- Moderate tack
- Good toughness
- Excellent mechanical properties
- >30 days out time at 70°F (21°C)
- Available on a wide range of unidirectional fibers and fabrics

Application

301T is suited for structural applications in sporting goods, marine, medical, and industrial manufacturing.

301T can be supplied with most commercially available fibers in both woven form (designated as NB) as well as unidirectional tape (designated as NCT), including: carbon, quartz, aramid, S-glass, E-glass, and other specialty fibers and fabrics.

Woven fabrics are available in standard commercial widths up to 60 inches (1.5 M). Unitape widths up to 39 inches (1M) are available in standard fiber weights ranging from 90 to 300 gsm.

Recommended processing conditions

301T 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 301T resin. Recommended cure cycle is 50 psi (345 kPa), 3°F (1.7°C)/min. ramp to 275°F (135°C), hold for 60 minutes, cool to <140°F (60°C).





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

Property	Value
Gel time @ 275°F (135°C), minutes	5 – 7
Specific gravity	1.22
T _g (DMA, E'), °C (°F)	120 (248)
Tensile strength, ksi (MPa)	8.9 (61)
Tensile modulus, Msi (GPa)	0.45 (3.1)
Flexural strength, ksi (MPa)	16..5 (114)
Flexural modulus, Msi (GPa)	0.52 (3.6)

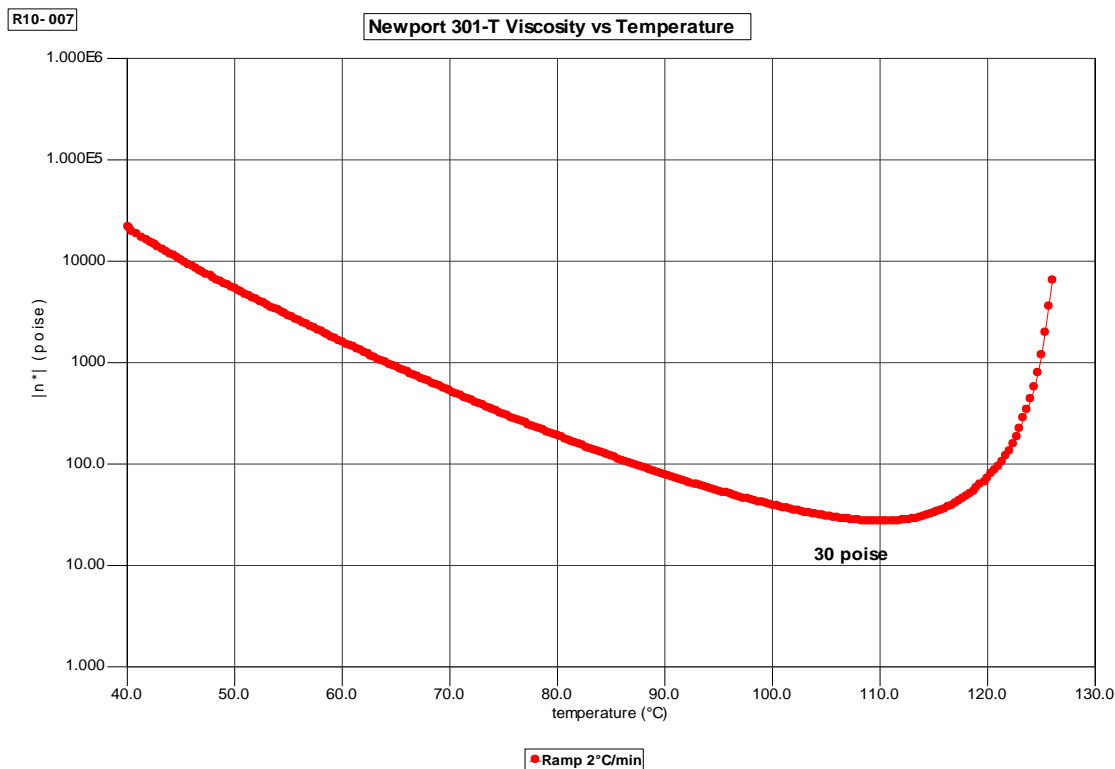
Mechanical data [values are average and do not constitute a specification]

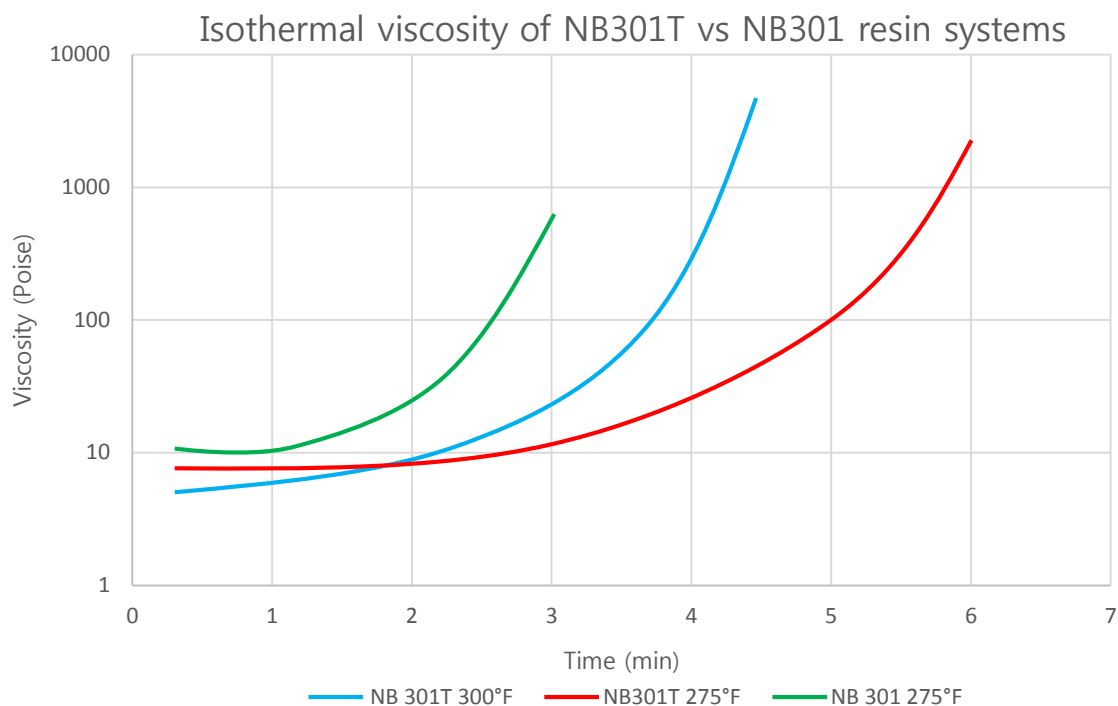
3K 2x2 Twill weave, fabric cured, 40 psi, 60 minutes at 250°F, normalized to 55%FV

Property	Test Method	RT
0° Tensile strength, ksi (MPa)	ASTM D3039	103 (710)
0° Tensile modulus, Msi (GPa)		9.2 (63)
0° Compressive strength, ksi (MPa)	SACMA 1R-94	85 (586)
0° Flexural strength, ksi (MPa)	ASTM D790	120 (827)
0° Flexural modulus, Msi (GPa)		8.4 (58)
0° Short beam shear strength, ksi (MPa)	SACMA 8R-94	9.1 (63)

Viscosity profile

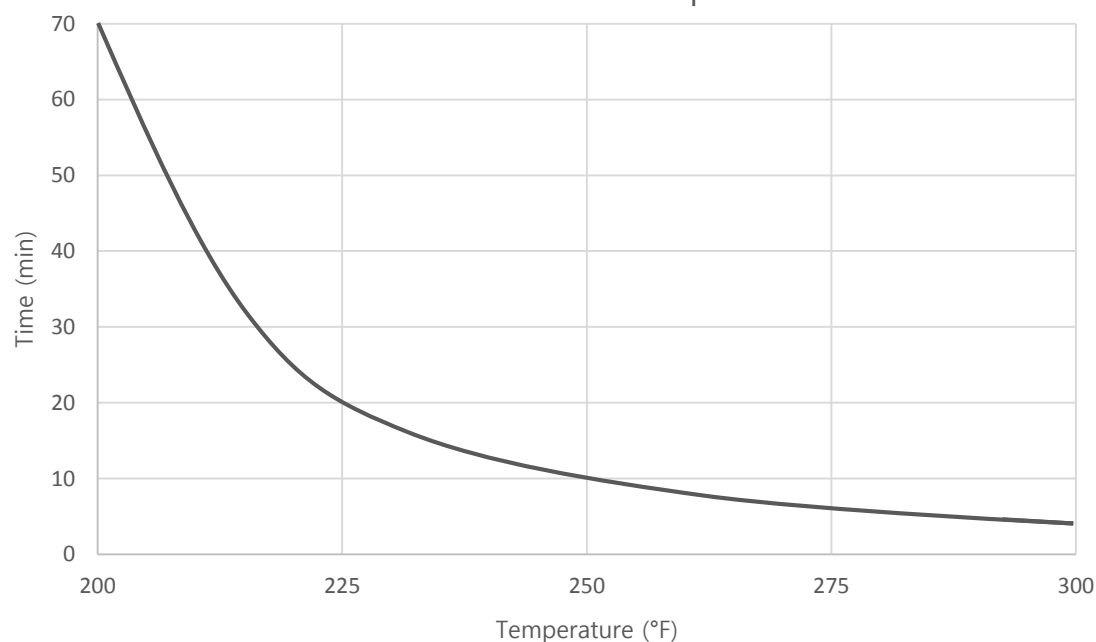
TA - AR2000 parallel plate rheometer





Gel curve

301T Gel time vs temperature



Innegra™S is a trademark of Innegra Technologies, LLC

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.

CORPORATE OFFICE
Composite Materials Div.
1822 Reynolds Ave.
Irvine, CA 92614

Tel: (949) 253-5680
Fax: (949) 253-5692
<http://www.mrcfac.com>
compositesales@mrcfac.com

THE KAITEKI COMPANY
Mitsubishi Chemical Holdings Group