
Newport 102

Description:

Newport 102 is a 250°F (121°C) to 300°F (149°C) cure, long out time, general purpose epoxy film adhesive designed for bonding applications requiring high strengths from -67°F (-55°C) to 180°F (82°C).

Application:

Newport 102 is suited for structural and secondary bonding applications in aerospace, sporting goods, marine, wind energy, and industrial manufacturing. High shear and peel strengths make Newport 102 ideal for metal-to-metal bonding and sandwich panel manufacturing.

Newport 102 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 (HC)
- Nylon mesh (N), and tricot (TR)
- Unsupported (U)
- Metal meshes for electrical management
- Available in prepreg form (NB1102)

Benefits/Features:

- High toughness
- High strength sandwich panel bonds
- Co-curable with most 250°F (121°C) curing prepregs
- 30 days out time at 70°F (21°C)

Recommended Processing Conditions:

Newport 102 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 Newport 102. Recommended cure cycle is 25 psi (172kPa), 3°F (1.7°C)/min ramp to 285°F (141°C), hold for 45 minutes, cool to <140°F (60°C).

Physical Properties:

Gel Time 275°F (135°C):	4 - 7 minutes
Specific Gravity:	1.20
Tg (DMA, E')	110°C (230°F)

Mechanical Properties:

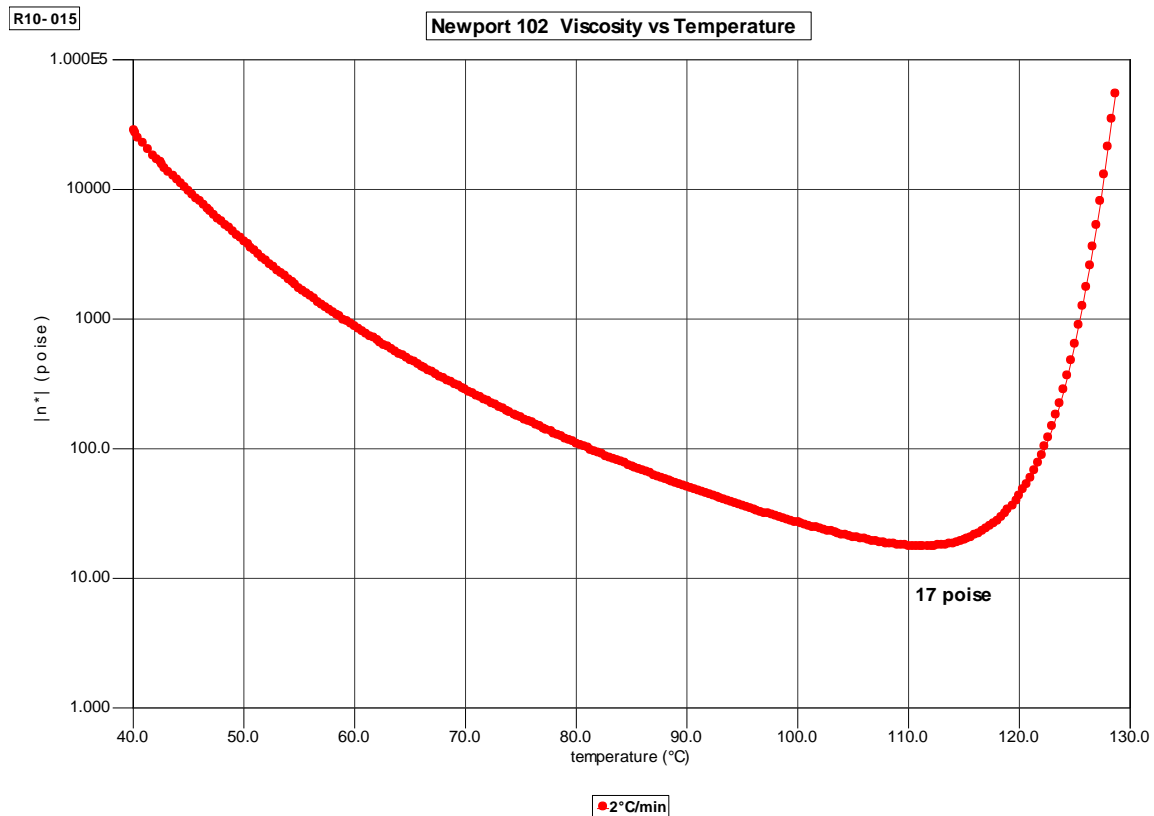
The mechanical properties listed in the following table are average values obtained with NB 102HC at 0.060 psf (293 gsm). All metal to metal tests were conducted in accordance with Federal Specification MMM-A-132. Sandwich tests were performed in accordance with Military Specification MIL-A-25463. The test panels were press cured at 285°F (141°C) for 45 minutes using 25 psi (172 kPa).

Property	-67°F *	RT *	180°F*	220°F*
Tensile Shear strength, psi	4100	4500	3000	2300
Climbing Drum Peel strength, in-lbs/in.	11	16	12	-
Flatwise Tensile strength, psi	1000	1100	800	-
Flexural strength, lbs	2800	2900	2400	-

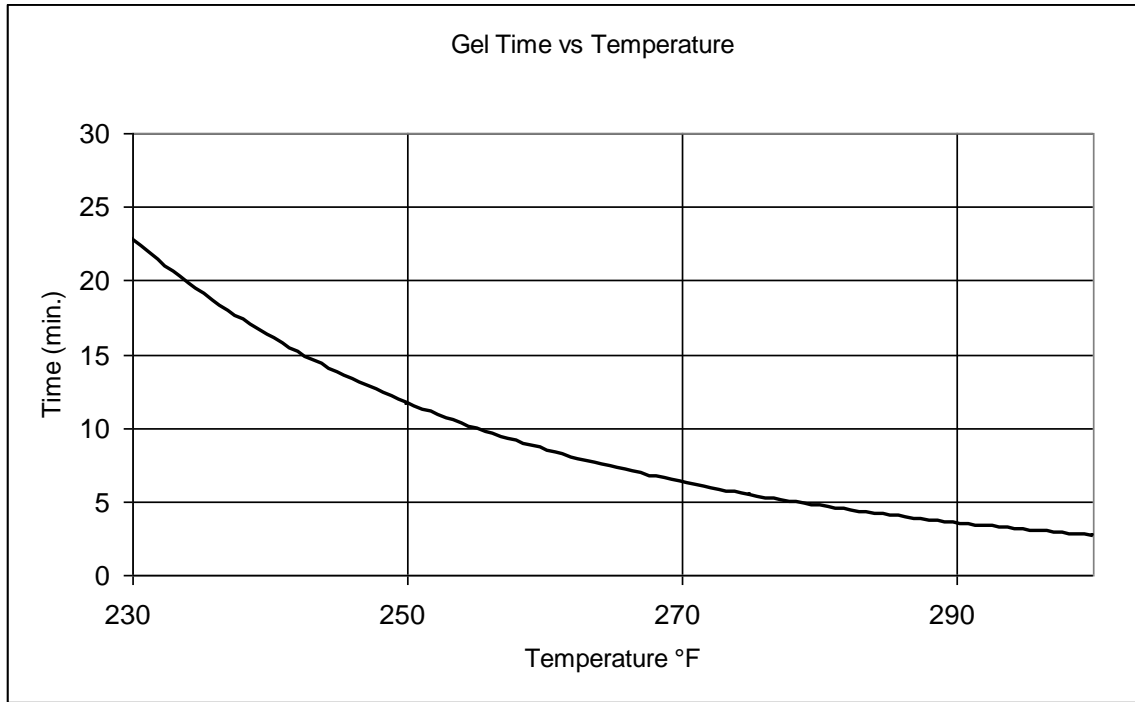
* Values are average and do not constitute a specification

Melt Viscosity Profile of Newport 102

A TA (model AR2000) parallel plate rheometer was used to determine the melt viscosity of the neat resin system.



Gel Curve Profile of Newport 102



Material Storage:

Material can be stored at 40°F (4°C) for 3 months, or 0°F (-18°C) for 6 months. Out time is 30 days maximum at room temperature 70°F (21°C).

Availability:

Newport 102 is available in film weights from 0.030 to 0.090 psf (150-450 gsm) either unsupported or supported with a carrier.

Standard widths are: 38, 50 inch (0.97, 1.3m).

Contact Newport about any special requirements.

For orders, pricing, availability, technical assistance or other inquiries please contact:

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