

Newport 51/301

Description:

Newport 51/301 is a 250°F cure, expanding syntactic epoxy film adhesive. 51/301 is specifically designed as a core splice material, for bonding of low density honeycomb structures, and installing inserts and edge member attachments.

Application:

Newport 51/301 is suited for structural and secondary bonding applications in aerospace, sporting goods, marine, wind energy, and industrial manufacturing. High shear strengths make Newport 51/301 ideal for core splicing applications. Newport 51/301 is supplied in standard film weights from 0.25 to 0.5 psf (0.05" to 0.10" thick). 51/301 is supplied as an unsupported adhesive, and comes in 16"x24" sheets

Benefits/Features:

- Expansion ratio between 2:1 and 3:1
- Uniform expansion and cell size for superior strength
- Humidity and chemically resistant
- Low exotherm
- Co-curable with most 250°F systems
- 30 day out-time at 70°F

Recommended Processing Conditions:

Newport 51/301 can be cured at temperatures from 225°F to 300°F, depending on service temperature requirements. Low, medium, and high pressure molding techniques may be used to cure Newport 51/301 depending on the desired level of expansion. Recommended cure cycle is 25psi, 4-8°F/min ramp to 250°F, hold for 60-90 minutes, cool to <140°F.

Physical Properties:

Gel Time (250°F):	4-8 min.
Specific Gravity:	1.00 ± 0.02 (uncured)
Exotherm:	<300°F

Mechanical Properties:

The mechanical property data supplied in the following table are average values obtained from Newport 51/301 cured at 250°F for 60 minutes.

	Specification	RT *	180°F*	250°F*
Tube shear strength, psi	ASTM E-990	930	840	490
After 3 day water boil. psi		980	-	-
@ 150°F after 7 day Skydrol soak. psi		1700	-	-
Beam shear strength, psi	RMS 025	730	-	-
Water migration		<2ml	-	-

* Values are average and do not constitute a specification

Prepreg Storage:

Material can be stored at 40°F for 3 months, or 0°F for 6 months.

Availability:

Newport 51/301 is available in film weights from 0.25 to 0.5 psf (0.05" to 0.10" thick) either unsupported or supported with a carrier. Contact Newport about any special requirements.

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

CORPORATE OFFICES
Newport Adhesives and Composites
1822 Reynolds Ave,
Irvine, CA 92614
Tel: (949) 253-5680
Fax: (949) 253-5692
Sales@newportad.com
http://www.newportad.com

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