



Adhesive Films and Preforms

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I3001

Electrically Insulating Adhesive

Description:

TechFilm I3001 is a one component liquid adhesive that has excellent working stability at ambient temperatures (see page 2). It is specially formulated for bonding to gold or gold plated, nickel, and copper substrates. TechFilm I3001 will cure at temperatures above 120°C.

Applications:

TechFilm I3001 is a liquid adhesive that is designed for giving high strength bonds to difficult to bond metal surfaces.

Shelf Life:

1 year at -40°C, For Fitness for use see page 2

Cure Schedules:

Cure Schedule: 60 min. @ 150°C

Alternate Cure Schedules: 30 min. @ 165°C or 120 min. @ 120°C

Uncured Properties:

<u>Property</u>	<u>Method</u>	<u>Value Obtained</u>
Viscosity at 25°C, RV-TD, 1RPM, cP	TFTEST001B	1540,000
Viscosity at 25°C, RV-TD, 10RPM, cP	TFTEST001B	57,200
Gel time at 160°C, seconds	TFTEST006	75

Cured Properties:

<u>Property</u>	<u>Method</u>	<u>Value Obtained</u>
Color	Visual	Light amber
Specific Gravity	ASTMD 792	
Volume Resistivity at 25°C, Ohm-cm	TFTEST004A	$>1.0 \times 10^{14}$
Lap Shear Strength to Aluminum at 25°C, psi	ASTMD 1002	2900
Lap Shear Strength to Gold at 25°C, psi	ASTMD 1002	2400
Lap Shear Strength to 101 Copper at 25°C, psi	ASTMD 1002*	3500
Lap Shear Strength to Nickel at 25°C, psi	ASTMD 1002	2900
Lap Shear Strength to 260 Brass at 25°C, psi	ASTMD 1002*	5150
Lap Shear Strength to PEEK at 25°C, psi	ASTMD 1002*	350
Lap Shear Strength to ULTEM at 25°C, psi	ASTMD 1002*	530
Dielectric Constant at 1 kHz	ASTMD 150	4.0
Dielectric Constant at 1 MHz	ASTMD 150	3.7
Glass Transition Temperature, °C, 10°C per minute	ASTME 1356	79
Weight Loss at 150°C, TGA, 20°C/min, N ₂ , %	ASTMD 3850	0.014
at 200°C	and MIL-STD-883	0.076
at 250°C	Section 3.8.5.1	0.203

* Performed on 0.25" thick substrates.

All values reported above are typical values from the recommended cure, and are reported as a means of reference. Individual testing should be done to determine actual results, tested at specific conditions.

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I3001 has excellent stability at room temperature. Below is a plot of viscosity versus time at 25°C.

