



Adhesive Films and Preforms

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## T3583 LIQUID ADHESIVE

**Description:**

TechFilm T3583 is a thermally conductive liquid adhesive that is specially formulated for bonding to inorganic substrates. It features good chemical, heat, and moisture resistance and a high dielectric constant.

**Applications:**

TechFilm T3583 is a liquid adhesive that is designed for high thermal K applications.

**Shelf Life:**

1 week @ 25°C    Two weeks @ 10°C    Two months @ -10°C    One year @ -40°C

**Cure Schedules:**

Cure Schedule	60 minutes at 150° C
Alternate Cure Schedules	120 minutes at 140°C
	15 minutes at 170°C

**Cured Properties:**

<u>Property</u>	<u>Method</u>	<u>Value Obtained</u>
Color	Visual	Grey
Lap Shear Strength to Gold at 25°C, ps	ASTM D1002	1400
Lap Shear Strength to Aluminum at 25°C, psi	ASTM D1002	3500
Lap Shear Strength to Nickel at 25°C, psi	ASTM D1002	2020
Lap Shear Strength to 260 Brass at 25°C, psi	ASTM D1002*	4310
Lap Shear Strength to 101 Copper at 25°C, psi	ASTM D1002*	3630
Lap Shear Strength to 316 SS at 25°C, psi	ASTM D1002*	2500
Glass Transition , DSC, °C	ASTM E1356	128
Specific Heat Capacity, J/g-°K	ASTM E1461	0.86
Thermal diffusivity, cm <sup>2</sup> /s-°K	ASTM E1461	0.013
Thermal Conductivity, W/M-°K	ASTM E1461	2.5
Volume Resistivity, Ohm-cm at 25°C	ASTM D257	1.4 x 10 <sup>7</sup>
Dielectric Constant at 25°C, 1 kHz	ASTM D1531/D150	12
Dissipation Factor at 25°C, 1 kHz	ASTM D1531/D150	0.072
Weight Loss at 150°C, TGA, 20°C/min, N <sub>2</sub> , %	ASTM D3850	0.00
at 200°C	and MIL-STD-883	0.03
at 250°C	Section 3.8.5.1	0.08
at 300°C		0.25

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.

Rev. 070307-PLC

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**Liquid Properties:**

T3583 in its uncured state has the following properties:

Stroke Cure at 160°C, seconds	Visual	150
Viscosity at 25°C, RV-TD at 1 RPM, cP	TFTEST001A	200,000
Viscosity at 25°C, RV-TD at 10 RPM, cP	TFTEST001A	148,000

**Warnings:**

Use with adequate ventilation. Wear protective clothing and safety goggles.

Medical Conditions Aggravated by Exposure: Exposure may aggravate preexisting skin conditions and/or eye disorders.

Eye Contact: Contains materials that may cause moderate eye irritation. Use good hygiene, wear protective gloves and do not touch eyes. Molten material may cause thermal burns.

Skin Contact: Contains materials that cause moderate skin irritation. Prolonged or repeated exposure to the film may cause dermatitis in susceptible individuals. This product may cause skin sensitization/allergic skin reactions that may be severe, symptoms may include rash, swelling, itching and hives.

Inhalation: At ambient conditions vapors are unlikely to cause harm. Heating can generate vapors that could cause respiratory irritation if inhaled. If abraded dust may cause irritation of the respiratory passages.

Ingestion: Harmful if swallowed.

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