



Adhesive Films and Preforms

31 Dunham Road
Billerica, MA 01821Toll Free: (888) 832-4345
Fax: (978) 670-4956Email: info@techfilm.com
www.techfilm.com

T2581F THERMALLY CONDUCTIVE FILM

Description:

TechFilm T2581F is a high performance, highly thermally conductive\electrically insulating, B-staged film adhesive. It features a high thermal conductivity, excellent room temperature stability and good adhesion to various substrates. It also features very good chemical, heat, and moisture resistance. TechFilm T2581F will cure at temperatures above 130°C.

Uncured Properties

<u>Property</u>	<u>Method</u>	<u>Value Obtained</u>
Weight Loss at 150°C, TGA, 20°C/min, N ₂ , % at 200°C	ASTM D3850 and MIL-STD-883	0.05 0.15

Shelf Life: (Stored in dry conditions)

One month @ 20°C Three months @ 10°C Six months @ -10°C One year @ -40°C

Cure Schedules:

Cure Schedule: 30 minutes at 150°C

Alternate Cure Schedules: 90 minutes at 140°C, 120 minutes at 130°C, or 20 minutes at 165°C

Cured Properties:

<u>Property</u>	<u>Method</u>	<u>Value Obtained</u>
Color	Visual	Grey
Tensile Shear Strength to Gold at 25°C, psi	ASTM D1002	1200
Tensile Shear Strength to 101 Copper at 25°C, psi	ASTM D1002 ¹	2680
Tensile Shear Strength to Aluminum at 25°C, psi	ASTM D1002	1750
Tensile Shear Strength to 260 Brass at 25°C, psi	ASTM D1002 ¹	1940
Tensile Shear Strength to 316 SS at 25°C, psi	ASTM D1002 ¹	1880
Tensile Shear Strength to Nickel at 25°C, psi	ASTM D1002	1632
Glass Transition, DSC, °C	ASTM E1356	140
Specific Heat Capacity, J/g-°K	ASTM E1461	1.1
Thermal diffusivity, cm ² /s-°K	ASTM E1461	0.0084
Thermal Conductivity, W/M-°K	ASTM E1461	1.7
Volume Resistivity, Ohm-cm at 25°C	ASTM D257	2.3 x 10 ⁷
Thermal Impedance, cm ² -°K/W *	estimate	
Weight Loss at 150°C, TGA, 20°C/min, N ₂ , % at 200°C	ASTM D3850 and MIL-STD-883	0.07 0.08
at 250°C	Section 3.8.5.1	0.15
at 300°C		0.32

* - based on a 0.001 inch bond line.

1 – Tested using 0.188" 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. Data should not be used for material specification purposes.

TechFilm LLC
Telephone: (888) 832-4345

31 Dunham Road, Billerica, MA 01821
FAX (978) 670-4956

Rev 121007-PLC

Chemical Resistance Chart

Solvent	Weight Gain (+) Loss (-) after 24 hours at 25°C (%)	Weight Gain (+) Loss (-) after 48 hours at 50°C (%)
Water/antifreeze, 50/50	0.6	1.0
Transmission Fluid	0.6	0.8
Antifreeze	0.4	-0.2
Salt Water 1.4M	0.7	0.8
Tap Water	0.7	0.8
Deionized Water	0.7	0.9
Ferric Nitrate/Water , pH2	0.6	0.1
Sodium Hydroxide/Water, pH12	0.6	0.8
Solution of 1 M Methanol, 1M sulfuric Acid, in water	0.5	-1.0
N-Methyl-2-pyrrolidone	0.1	1.6
Acetone	0.0	6.0
Isopropyl Alcohol	0.0	0.1
Alconox® Water, Saturated solution	0.7	0.6

All samples were 0.005 to 0.007 inches thick, 1 inch wide and 3 inches long. A modified ASTM D570 testing procedure was used. Due to the thin samples used adsorption numbers may be artificially inflated when compared to industrial standards for measuring chemical resistance.

Rev 121007-PLC