

## T2581F

### THERMALLY CONDUCTIVE FILM

#### TECHNICAL DATA

##### Product Description

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

APPLICATIONS	FEATURES	RECOMMENDED SUBSTRATES
<ul style="list-style-type: none"> <li>Thermal Transfer</li> </ul>	<ul style="list-style-type: none"> <li>Electrically insulative</li> <li>B-staged film</li> <li>Chemical, heat, moisture resistant</li> <li>Room temperature stability</li> <li>High thermal conductivity</li> </ul>	<ul style="list-style-type: none"> <li>Various</li> </ul>

UNCURED PROPERTIES*		
Property	Value	Test Method
Weight Loss, TGA, 20C/min, N <sub>2</sub> , %	@ 150C: 0.05	ASTM D3850 and MIL-STD-883
	@ 200C: 0.15	

CURED PROPERTIES*		
Property	Value	Test Method
Color	Grey	Visual
Specific Heat Capacity, J/g-K	1.1	ASTM E1461
Glass Transition Temperature, C	140	ASTM E1356
Thermal Diffusivity, (cm <sup>2</sup> )/s-K	0.0084	ASTM E1461
Thermal Conductivity, W/M-K	1.7	ASTM E1461
Volume Resistivity @25C, Ohm-cm	2.3 x 10 <sup>7</sup>	ASTM D257
Weight Loss, TGA, 20C/min, N <sub>2</sub> , %	@ 150C: 0.07	ASTM D3850 and MIL-STD-883 Section 3.8.5.1
	@ 200C: 0.08	
	@ 250C: 0.15	
	@ 300C: 0.32	

TENSILE SHEAR STRENGTH*		
Property	Value	Test Method
to Aluminum @ 25C, psi	1750	ASTM D1002
to Nickel @ 25C, psi	1632	ASTM D1002
to Gold @ 25C, psi	1200	ASTM D1002
to 316 SS @ 25C, psi	1880	ASTM D1002*
to 101 Copper @ 25C, psi	2680	ASTM D1002*
to 260 Brass @ 25C, psi	1940	ASTM D1002*

\* Tested using 0.188" thick substrates

CURE SCHEDULE*		
Property	Value	Test Method
Cure Time @ 150C, min	30	Typical Cure Schedule
Cure Time @ 130C, min	120	Alternate Cure Schedule
Cure Time @ 165C, min	20	Alternate Cure Schedule
Cure Time @ 140C, min	90	Alternate Cure Schedule

**Storage:** Store in dry conditions, out of sunlight and in tightly sealed containers.

**Shelf Life:** One month @ 20°C Three months @ 10°C Six months @ -10°C One year @ -40°C

Revision Number: 2 Date: 11 October, 2011

Resin Designs, LLC 11 State Street Woburn, MA 01801 www.resindesigns.com P 781-935-3133 F 781-935-3144

Resin Designs, LLC makes no express or implied warranties or merchantability, fitness or otherwise with respect to this product. In addition, while the information contained herein is believed to be reliable, no warranty is express or implied regarding the accuracy of the results to be obtained from the use thereof. The properties given are typical values and are not intended for use in preparing specifications. User should make their own test to determine the suitability of this product for their own purposes.

**T2581F**

**TECHNICAL DATA**

October, 2011

<b>CHEMICAL RESISTANCE TABLE*</b>		
<b>Solvent</b>	<b>Weight Gain (+) Loss (-) after 24hrs @ 25C, (%)</b>	<b>Weight Gain (+) Loss (-) after 48hrs @ 50C, (%)</b>
Water/antifreeze, 50/50	0.6	1
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 Sulfuic Acid in Water	0.5	-1
N-Methyl-2-pyrrolidone	0.1	1.6
Acetone	0	6
Isopropyl Alcohol	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.

Revision Number: 2    Date: 11 October, 2011

Resin Designs, LLC 11 State Street Woburn, MA 01801    www.resindesigns.com    P 781-935-3133    F 781-935-3144

*Resin Designs, LLC makes no express or implied warranties or merchantability, fitness or otherwise with respect to this product. In addition, while the information contained herein is believed to be reliable, no warranty is express or implied regarding the accuracy of the results to be obtained from the use thereof. The properties given are typical values and are not intended for use in preparing specifications. User should make their own test to determine the suitability of this product for their own purposes.*