



Adhesive Films and Preforms

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I2202F

ELECTRICALLY INSULATIVE FILM

Description:

TechFilm I2202F is a high performance B-staged film adhesive. It features relatively high flow with good wetting properties, fairly high glass transition temperature and good adhesion to gold and high strength. It also features good chemical, heat, and moisture resistance. TechFilm I2202F will cure at temperatures above 115°C.

Shelf Life:

Two weeks @ 20°C Two months @ 10°C Three months @ -10°C One year @ -40°C

Cure Schedules:

Cure Schedule	30 minutes at 150°C
Alternate Cure Schedules	90 minutes at 130°C
	20 minutes at 160°C
	120 minutes at 125°C
	210 minutes at 115°C

Cured Properties:

<u>Property</u>	<u>Method</u>	<u>Value Obtained</u>
Color	Visual	Amber
Specific Gravity	ASTM D790	1.2
Volume Resistivity at 25°C, Ohm-cm	ASTM D257	>2 x 10 ¹⁵
Lap Shear Strength to Aluminum at 25°C, psi	ASTM D1002	4500
Lap Shear Strength to Gold at 25°C, psi	ASTM D1002	4200
Lap Shear Strength to Nickel at 25°C, psi	ASTM D1002	3600
Lap Shear Strength to 260 Brass at 25°C, psi	ASTM D1002*	5950
Lap Shear Strength to 101 copper at 25°C, psi	ASTM D1002*	5400
Lap Shear Strength to ULTEM at 25°C, psi	ASTM D1002*	560
Glass Transition Temperature, °C	ASTM E1356	118
Linear Coefficient of Thermal Expansion, x 10 ⁻⁶ /°C		
Alpha 1 (below Tg)	ASTM E831	87
Alpha 2 (above Tg)	ASTM E831	450

* - performed using 0.25" thick substrate.

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.

Rev. 121007 – PLC

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Chemical Resistance Table

Solvent	Weight Gain (+) Loss (-) after 24 hours at 25°C (%)	Weight Gain (+) Loss (-) after 48 hours at 50°C (%)
Water/antifreeze, 50/50	1.5	2.4
Transmission Fluid	1.1	1.4
Antifreeze	0.7	1.4
Salt Water 1.4M	1.8	2.8
Tap Water	2.3	3.0
Deionized Water	1.9	3.1
Ferric Nitrate/Water , pH2	2.2	2.9
Sodium Hydroxide/Water, pH12	2.2	2.8
Solution of 1 M Methanol, 1M sulfuric Acid, in water	7.4	3.1
N-Methyl-2-pyrrolidone	Not Recommended	Not Recommended
Acetone	24.8	22.7
Isopropyl Alcohol	0.1	14.9
Alconox® Water, Saturated solution	2.1	2.6
10 to 15 psi Steam, 24 hours, at temperature (>100°C)	2.5	-----

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.

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