



# United Resin Corporation

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El-Cast 1-F-5 TAB-H Resin

## Technical Bulletin

**Description** El-Cast 1-F-5 TAB-H is a filled, low cost, one-component epoxy with improved thermal conductivity and heat resistance. This material cures to a rigid form and has good thermal shock, good chemical resistance and the ability to operate at high temperatures while maintaining superior adhesion.

**Uses** Noise filters, transformers, coils, marine sonar devices, and all applications where heat cure is possible.

### Physical Properties @ 22°C

<b>Color:</b>	Black	
<b>Shore "D" Hardness ASTM D2240:</b>	95	
<b>Viscosity Resin:</b>	270,000 cps	
<b>Density Resin:</b>	14.7 wpg	
<b>Specific Gravity, Resin:</b>	1.77	
<b>Tensile Strength:</b>	6,000 psi	
<b>Linear Shrinkage:</b>	$2.4 \times 10^{-4}$ in/in/	
<b>% Elongation:</b>	6.8%	
<b>Compressive Strength:</b>	37,428 psi	
<b>*Glass Transition: (120°C/30°Cure)</b>	126°C	
<b>Maximum Use Temperature:</b>	500°F	<b>Temperature Range: -40°F to 500°F</b>
<b>% Moisture Absorption (1 hour Boil)</b>	0.325%	
<b>Coefficient of Thermal Expansion:</b>	$16.2 \times 10^{-6}$ in/in/°F	
<b>Shelf Life:</b>	<b>1 YEAR WHEN STORED</b>	<b>STORE REFRIGERATED</b>
	<b>BELOW 40°F</b>	

### Mixing & Cure Instructions

+ NOTE: Due to its high purity, the El-Cast 1-F-5 Resin may thicken in viscosity. To thin, heat to 80°F - 120°F in an OPEN container, then material should be used within 24 hours.

\*Pot Life 100 gram Mass, Room Temp. (72°F) N/A

Cure Schedule, 2" Dia. X 3/4" Thick

\*Cure Time @ 22°C N/A

\*Cure Time 200°F for 1 hour (smaller parts 220°F for 20 Minutes)

**For best results, post cure at 325°F overnight.**

\*These times will change depending on volume and temperature.

### Electrical Properties

Volume Resistivity, Applied voltage: 500 VDC @ 1 min. Ele. per ASTM D257	$13 \times 10^{16}$
Dielectric Constant, Test frequency: 1 MHz per ASTM D150	4.88
Dielectric Strength, Oil rate of rise(short time): 500 V/S per ASTM D149	550
Dissipation Factor, Test frequency: 1 MHz per ASTM D150	0.025
Thermal Conductivity, BTU-in./hr.-ft <sup>2</sup> -°F per ASTM C177	10.00

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