

Product Bulletin

CASS POLYMERS

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EL-337
EPOXY LAMINATING SYSTEM
HIGH TEMP - FILLED

0302

DESCRIPTION

EL-337 is an improved, health-safe, two component, filled, non-staining, high temp epoxy laminating system specifically developed for room temp hardening (B Stage) with high temp properties for high temp tooling applications. EL-337 has excellent handling properties and fabric wet-out to produce a void free tool with high dimensional stability. EL-337 can be used in the construction of large or small tools, as well as production parts. EL-337 can also be used with ADTECH High Temp Surface Coat ES-219. Tools made with EL-337 can be used at continuous temperature of 160°C/320°F, and intermittent temperatures up to 191°C/375°F. While EL-337 will gel at room temp, it must be post-cured to achieve ultimate strength. The system contains no MDA or VCHD.

USES

Vacuum Form Molds	Prototype Injection Molds
High Temp Bonding Fixtures	Spray Metal Molds
Compression Molds	High Temp Laminated Molds
Parts to be used in High Temp Applications	

HANDLING CHARACTERISTICS @ 25°C/77°F

Mix Ratio (parts by weight)	100R/16H
(parts by volume)	4.86R/1H
Density (Mixed)	10.93 lbs/gal
	0.046 lbs/cu in
Specific Gravity	1.263 grams/cc
Mixed Viscosity	3000-5000 cps
Work Life (232 gram mass)	45-60 minutes
Demold Time	16-24 hours
Complete Cure	3-5 days
Color Resin - Gray Hardener - Amber	Mixed - Gray
Shelf Life (storage at ambient temperature)	1 Year

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PHYSICAL PROPERTIES

6 Layer, 10 Ounce Glass Fabric Laminate:

Ultimate Tensile Strength	27,285 psi
Ultimate Flexural Strength	39,035 psi
Flexural Modulus	1.3 x 10 ⁶ psi

CAST BAR:

Ultimate Compressive Strength	14,930 psi
Impact Strength (Notched Izod)	5.29 in lbs
Hardness	88 Shore D
Shrinkage	0.00132
Coefficient of Thermal Expansion	2.38 x 10 ⁻⁵ in/in/°F
Tensile Elongation	1.574%
Glass Transition Temperature (Tg)	114.5°C/238°F

PHYSICAL PROPERTIES @ 149°C/300°F

Ultimate Flexural Strength	8491 psi
Flexural Modulus	0.82 x 10 ⁶ psi

CURE SCHEDULE

PRELIMINARY CURE

- 24 Hours @ 25°C/77°F
- 2 Hours @ 66°C/150°F

You may attach support structure and demold tool after the preliminary schedule is completed.

POST CURE

- 2 Hours @ 93°C/200°F
- 2 Hours @ 121°C/250°F
- 3 Hours @ 149°C/300°F

Insure proper heat curing temperatures are met by installing a thermocouple directly in the center of the tool.

Always allow tools made with ADTECH high temp systems to gel at room temperature before subjecting them to post cure (24 hours is sufficient). This will prevent excessive exotherm and shrinkage from occurring.

When taking tools through a preliminary or post cure phase always place a tool in a room temperature oven and increase temperature at a rate of 5°F/minute.

When cooling tools always allow tool to remain in heat environment and decrease temperature at a rate of 10°F/minute. Do not remove tool from heat environment until tool has reached 100°F or less. Removing tool at temperatures above 100°F can result in thermal shock and warpage.