

70-3810

High Temperature Resistant Aluminum Filled Epoxy Resin

DESCRIPTION:

70-3810 is a low viscosity, aluminum filled epoxy casting and tooling resin. This system is used for making heat resistant cast tools or parts that require high heat resistance and thermal conductivity. 70-3810 utilizes a polymer resin that offers better heat resistance than most commercially available systems. This material has excellent adhesion to most substrates and is therefore often used as an adhesive.

70-3810 is easily machined. Drilled, tapped, or polished and is ideal for vacuum form molds, dies, drill jigs, injection molds, fixtures, stampings, foundry patterns, etc...

TYPICAL PROPERTIES:

Viscosity, 25°C, cps	15,000
Mix Ratio, By Weight, (Resin:Catalyst)	
Cat.30	100:8.5
Cat.23	100:12
Color	Aluminum
Hardness, Shore D	87
Operating Temperature Range, °C	-75 to +300
Specific Gravity, 25 °C	1.66
Tensile Strength, psi	14,500
Compressive Strength, psi	31,600
Flexural Strength, psi	12,500
Shrinkage linear, in/in, 3/4 lb.	0.003
Water Absorption, 24 hours, %	0.005
Thermal Conductivity, W/m-K	1.8
Coefficient of Thermal Expansion, °C	4.5×10^{-6}

INSTRUCTIONS FOR USE:

Heat Curing with Catalyst 30:

1. By weight, thoroughly mix 8.5 parts catalyst 30 to 100 parts 70-3810 epoxy resin.
2. Pour a thin stream of material into the lowest part of the mold and continue until completely flooded, this greatly minimizes air entrapment.
3. Heat cure for 2 hours at 80°C and post cure for 3 hours at 149°C.

Room Temperature Curing with Catalyst 23:

1. By weight, thoroughly mix 12 parts catalyst 23 to 100 parts 70-3810 epoxy resin.
2. Pour a thin stream of material into the lowest part of the mold and continue until completely flooded, this greatly minimizes air entrapment.
3. Cure overnight at room temperature or with mild heat (32-43°C). Post cure for two hours at 93°C for best results.

STORAGE, HANDLING & SAFETY:

Store both components at 25 °C in original containers. Store away from excessive heat and humidity. The expected shelf life is 12 months in original containers.

Please read the Safety Data Sheet before using this or any other chemical.

AVAILABILITY:

70-3810 is available in pre-measured quart, gallon, and 5-gallon pail kits. When using pre-measured kits, no weighing or measuring is necessary. Just add the contents of the pre-weighted curing agent container to the resin container.

IMPORTANT:

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