

**Product  
Bulletin**

# E70-100

## High Performance, Metal Repair Epoxy, Steel Filled, Tooling Resin

### GENERAL DESCRIPTION

E70-100 steel epoxy, tooling resin features a highly filled, low viscosity composition for low shrinkage and exact detail duplication.

E70-100 is easily poured and provides good air release and superior wettability on all surfaces. This tooling resin is engineered for high performance in a wide variety of large and small casting applications.

E70-100 exhibits superior impact strength and high thermal conductivity, making it ideal for a broad range of casting applications.

E70-100 can be easily drilled, tapped, polished, milled, sawed, or turned on a lathe, with conventional metal-working tools. This unique resin system is recommended for the fabrication of metal and vacuum form molds, hammer forms, drop hammer dies, foundry patterns, master molds, core filling, draw and stretch dies, lay-up molds, etc.

### APPLICATION

1. Storing Unmixed Materials – Since settling may occur in storage, remix each container prior to use. Store in a cool, dry area. Be sure containers are tightly sealed when not in use.
2. When ready to use, mix by adding the catalyst to the resin. Blend thoroughly, preferably by mechanical agitation.
3. When mixing is complete, pour a thin, steady stream of epoxy into the mold or cavity from a height of 8-12". This will help eliminate air trapped in the epoxy. For best results, vacuum degas before pouring.

Catalyst E70-100A – This catalyst cannot be cured at room temp. unless large masses in excess of 2 ft<sup>3</sup> are cast at one time. Offers high temperature capability. Castings will operate at 400°F continuously and up to 450°F, intermittently. Pot life is 4-8 hrs, depending on mass mixed. By weight, mix 5 parts catalyst per 100 parts resin. Best heat resistance results from curing 1 hr @ 80°C then 4 hrs. post-cure at 150°C.

### SPECIFICATIONS

#### HANDLING CHARACTERISTICS

Shelf Life: 1 year

#### PHYSICAL CHARACTERISTICS

Shrinkage Linear, in / in: 0.0005

Tensile Strength, psi: 10,500

Compressive Strength, psi: 28,000

Flexural Strength, psi: 13,500

Izod Impact, ft / lbs / in of Notch: 1.0

Thermal Conductivity,  
btu / hr / ft<sup>2</sup> / °F / in: 11.5

Catalyst E70-100B – Do not attempt castings in excess of 3 ½" unless additional fillers are added to absorb the heat from exothermic reaction. Mix 7-10 parts by weight, to 100 parts resin. 7:100 yields longer pot life, less shrinkage. 10:100 has a lower viscosity and faster cures. Pot life varies between 1-3 hours. Cure time varies between 24-48 hours, depending upon the mass cast ambient and temperature conditions.

Catalyst E70-100C – A faster curing version of Cat. E70-100B. Pot life is 25-60 min., depending on mass mixed. Do not exceed cast thickness of 2" in one pouring. By weight, mix 7 parts catalyst to 100 parts resin. Cure 10-16 hrs. at room temperature; can be accelerated with moderate heat (120 – 150°F). NOTE: Higher curing temperatures can increase the shrinkage rate.

Catalyst E70-100D – A fast room temp. curing agent that is mixed at 4-5 parts catalyst per 100 parts resin. Use only in thin sections. Do not exceed 1". Pot life is 20-30 mins. Room temp. curing occurs in 5-8 hrs.