

Product
Bulletin**E80-105**

Aluminum Filled, High Temperature, Epoxy Gel Coat

GENERAL DESCRIPTION

E80-105 is an aluminum filled, epoxy, gel coat system that offers high heat resistance, low shrinkage, and non-warping properties for superior performance in the most demanding applications. This fast-gelling, non-sagging formula cures at room temperature to form a durable face coat that exactly reproduces surface details.

E80-105 is thixotropic and will not sag when applied to a vertical or slumping surface. In addition, this versatile gel coat is easily machined and can be drilled, tapped, sanded, or milled with conventional tools.

E80-105 is well suited for molds filled with aluminum chips or sand. It can also be backed with fiberglass cloth. Quick drying time eliminates print-through.

E80-105 can be used in many applications, such as, molds for low melting alloys, autoclave molds, molds for thermostats, hot press dies, foam molds, blow molds, molds for wax, high temp. vacuum and pressure forming molds, etc.

SPECIFICATIONSHANDLING CHARACTERISTICS

Workable Pot Life, 100 g @ 25°C: 20-30 min.

Mixed Viscosity @ 25°C cps: thixotropic

Shelf Life: 1 year

PHYSICAL CHARACTERISTICS

Specific Gravity, 25°C / 25°C: 1.45

Shrinkage Linear, in / in: 0.0007

Tensile Strength, psi: 9,000

Tensile Elongation, %: 1.0

Ultimate Flexural Strength, psi: 10,000

Compressive Yield, psi: 19,000

Izod Impact, ft / lbs / in of Notch: 0.75

Water Absorption, 24 hr. Immersion, %: 0.10

Thermal Conductivity,

btu / hr / ft² / °F / in: 11.5



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. Use a release agent so that molds and patterns won't adhere. Apply several thin coats and wipe lightly. Also check for undercuts in your mold or pattern. Even small undercuts will prevent a mold and pattern from separating.
3. When ready to use, mix by adding the catalyst to the resin. Blend thoroughly, preferably by mechanical agitation. Use mixed material immediately. These reactive materials may exotherm excessively if allowed to stand in a concentrated mass.
4. Apply the mixed surface coat to the model or mold with a stiff brush and a wiping action to prevent mechanical air entrapment. A uniform coating of 30-60 mils is recommended. For many casting applications, the back up resin may be cast immediately onto the wet surface coat. However, to prevent bleeding through where coarse aluminum or sand aggregates are used, it is recommended that the surface coat be allowed to reach its gel-state.

CATALYST INFORMATION

Catalyst E80-105A – This catalyst is a fast, general purpose, curative designed for small mass castings and thin cross sections up to 1" thick. Operating temp. is 350°F. By weight, mix 5-10 parts catalyst per 100 parts resin. Cure for 8 hours @ room temp. then 1-3 hrs. post-cure at 150-200°F.

Catalyst E80-105B – This catalyst is a very fast, room temperature, curative designed for good impact resistance in thin film and thin cross sections up to 1.5" thick. Operating temp. is 250°F. By weight, mix 7 parts catalyst per 100 parts resin. Cure for 4-8 hours @ room temp.

Catalyst E80-105C – This catalyst is a slower, room temperature curative designed for small castings up to 2" thick. Good adhesion makes this hardener perfect for patching and repairs. Operating temp. is 250°F. By weight, mix 12 parts catalyst per 100 parts resin. Cure for 6-8 hours @ room temp.