



CC3-300

Tabular Alumina Filled Casting Resin

CC3-300 is a high viscosity, alumina filled casting resin offering high thermal conductivity, high heat distortion, excellent electrical insulation, low coefficient of thermal expansion and extremely low shrinkage during cure. It will withstand the most rugged tests of temperature, chemical attack and voltage shock, and is easier to fabricate than metals or ceramics at a lower cost. Supplied as a pourable resin, it cures to a rigid, opaque plastic at room temperature or with heat. The thermal coefficient of expansion is closely matched to aluminum. CC3-300 has excellent adhesion to a wide variety of materials, ie., metal, plastic, glass, ceramic. To reduce viscosity, warm the resin between 100' F to 150' F prior to adding the hardener.

SUGGESTED APPLICATIONS:

- Large Castings: CC3-300 is ideal for pouring large castings such as capacitor bushings, transformers or any unit where heat dissipation is important. Low shrinkage and low exotherm are two of the reasons why a two hundred pound casting can be made in a single pour.
- Small Castings: Even the intricate circuitry of a power supply can be encapsulated, void free with CC3-300, if both the amplifier and resin are preheated to 150' F prior to filling. We recommend evacuating the catalyzed resin before and after filling the unit.

ELECTRICAL AND PHYSICAL PROPERTIES:

Specific Gravity @ 25' C	2.3 to 2.4
Viscosity @ 45' C, cps	35,000
Thermal Conductivity: BTU/ft ² /hr/'F/in	12.2
Tensile Strength @ 25' C, psi	10,500
Compressive Strength @ 25' C, psi	29,050
Izod Impact: ft lbs/in of notch	0.25
Coefficient of Thermal Expansion: in/in/'C x 10 ⁻⁶	22
Heat Distortion: 'C	155
Water Absorption: %, 7 days @ 25' C	0.18
Volume Resistivity @ 25' C, ohm-cm	10 ¹⁶
Dielectric Constant @ 25' C, 100 KC	6.0
Dissipation Factor @ 25' C, 100 KC	0.02
Dielectric Strength, volts/mil	600
Linear Shrinkage: in/in	0.0015
Service Temperature, 'C continuous	-65 to +185

(Typical properties when cured with H-18 Hardener)



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CHOICE OF HARDENERS:

- H-1 Hardener: Rigid, good dimensional stability, fast cure.
- H-7 Hardener: Resilient, excellent mechanical and thermal shock, low viscosity, good air release, fast cure.
- H-18 Hardener: Resilient, excellent mechanical and thermal shock, low viscosity, good air release, fast cure.
- Ancamine Z: Resilient, excellent mechanical and thermal shock, plus high heat distortion, long pot life.
- H-10LV Hardener: Variable hardness, excellent impact properties, long pot life

HARDENER	PARTS BY WEIGHT PER 100 PARTS OF RESIN		POT LIFE	CURE TIME	CURE TIME	CURE TIME
			100 GRAM 25°C (77°F)	25° C (77°F)	65° C (149° F)	125° C (257° F)
H-1 Hardener	3.9		2 hrs.	24 hrs.	2 hrs.	---
H-7 Hardener	8.1		3 hrs.	24 hrs.	2 hrs.	---
H-18 Hardener	8.1		3 hrs.	24 hrs.	2 hrs.	---
Ancamine Z	5.7		8 hrs.	---	16 hrs.	4 hrs.
H-10LV Hardener	rigid	9	3 hrs.	24 hrs.	3 hrs.	---
H-10LV Hardener	semi-flex	24	3 hrs.	24 hrs.	3 hrs.	---
H-10LV Hardener	flexible	38	3 hrs.	24 hrs.	3 hrs.	---

ROOM TEMPERATURE CURE:

- H-1 Hardener: Cures overnight at room temperature or 2 hrs at 65° C.
Do not heat cure if the mass exceeds 200 grams.
- H-7 Hardener: Cures overnight at room temperature or 2 hrs at 65° C.
Do not heat cure if the mass exceeds 200 grams.
- H-18 Hardener: Cures overnight at room temperature or 2 hrs at 65° C.
Do not heat cure if the mass exceeds 200 grams.
- H-10LV Hardener: Cures overnight at room temperature or 3 hrs at 65° C.

HEAT CURE:

- Ancamine Z: Cures overnight at 65° C or 4 hrs at 125° C. For best physical and electrical properties, a slow cure for 16 hours at 65° C followed by a post cure for 4 hours at 125° C is recommended.

MIXING INSTRUCTIONS:

Mix CC3-300 thoroughly in its shipping container to insure a uniform consistency. Weigh out the desired amount of resin in a clean container. Add the hardener accurately by weight in the proper proportion as specified above. (ie. 3.9 grams of H-1 Hardener and 100 grams of CC3-300 for a total mix of 103.9 grams) Mix thoroughly. To reduce surface tension and the required amount of headroom needed to evacuate the compound, add ½ gram of CC3-1000 Mold Release per 100 grams of resin. Use in a well ventilated area and avoid contact with eyes and skin.