



CC3-301AD

Thermally Conductive, Low Viscosity Potting Resin

CC3-301AD is a low viscosity version of CC3-301. It offers the same excellent heat transfer, high voltage insulation and dimensional stability over a wide temperature range. As an encapsulant for power devices, it distributes heat evenly throughout the casting, providing greater efficiency and a longer working life. This compound has good wetting properties and low surface tension. It's high fluidity and good air release recommend it for potting intricate circuitry. Glass diodes potted in CC3-301AD have shown good resistance to cracking under severe temperature cycling. Unlike CC3-301, the filler used in CC3-301AD may settle out during storage. It is very important to stir the material in it's shipping container prior to use.

CC3-301AD meets MIL T-27, Grade 5, Class S; MIL STD. 202.111, FED TEST METHOD STD. 406-2021; and MIL I-16923, Types C and D.

TYPICAL APPLICATIONS:

Densely packed power supplies, integrated circuits, thick film hybrid devices, D/A converters, delay lines, oscillators, minidac, operational amplifiers, binary devices, relays, transformers and semiconductors.

ELECTRICAL AND PHYSICAL PROPERTIES:

Specific Gravity @ 25' C	1.9 to 2.1
Viscosity @ 25' C, cps, (catalyzed)	1,500 to 2,000
Thermal Conductivity: BTU/ft ² /hr/°F/in	8.9
Tensile Strength @ 25' C, psi	7,800
Compressive Strength @ 25' C, psi	19,000
Izod Impact: ft lbs/in of notch	0.49
Coefficient of Thermal Expansion: in/in/°C x 10 ⁻⁶	28
Heat Distortion: °C	65
Water Absorption: %, 7 days @ 25' C	0.3
Volume Resistivity @ 25' C, ohm-cm	10 ¹⁵
Dielectric Constant @ 25' C, 100 KC	5.6
Dissipation Factor @ 25' C, 100 KC	0.02
Dielectric Strength, volts/mil	600
Linear Shrinkage: in/in	0.003
Service Temperature, °C continuous	-65 to +150
Standard Color	Black

(Typical properties when cured with H-18 Hardener)



CC3-301AD

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.

HARDENER	PARTS BY WEIGHT PER 100 PARTS OF RESIN	POT LIFE 100 GRAM 25°C (77°F)	CURE TIME 25' C (77°F)	CURE TIME 65' C (149' F)	CURE TIME 125 ' C (257 ' F)
H-1 Hardener	5.4	2 hrs.	24 hrs.	2 hrs.	- - -
H-7 Hardener	11.0	3 hrs.	24 hrs.	2 hrs.	- - -
H-18 Hardener	11.0	3 hrs.	24 hrs.	2 hrs.	- - -
Ancamine Z	7.8	8 hrs.	- - -	16 hrs.	4 hrs.

ROOM TEMPERATURE CURE:

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

HEAT CURE:

- Ancamine Z: Cures overnight at 65° C or 4 hours 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 CC3-301AD thoroughly in it's 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. 5.4 grams of H-1 Hardener and 100 grams of CC3-301AD for a total mix of 105.4 grams) Mix thoroughly. Use in a well ventilated area and avoid contact with eyes and skin.