



CC3-301AD-FR

UL-94V-0 Fire Retardant Thermally Conductive, Low Viscosity Potting Resin

CC3-301AD-FR is a fire retardant version of CC3-301AD. 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-FR have shown good resistance to cracking under severe temperature cycling. The filler used in CC3-301AD-FR may settle out during storage. It is very important to stir the material in it's shipping container prior to use.

CC3-301AD-FR meets MIL T-27, Grade 5, Class H; MIL STD. 202.111, FED TEST METHOD STD. 406-2021; MIL I-16923, Types C and D; and UL-94V-0.

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	1.6 to 1.7
Viscosity @ 25' C, cps, (catalyzed)	1,500 to 2,000
Thermal Conductivity: BTU/ft ² /hr/'F/in	9.0
Tensile Strength @ 25' C, psi	7,800
Compressive Strength @ 25' C, psi	24,000
Izod Impact: ft lbs/in of notch	0.9
Coefficient of Thermal Expansion: in/in/'C x 10 ⁻⁶	26
Heat Distortion: 'C	65
Water Absorption: %, 7 days @ 25' C	0.29
Volume Resistivity @ 25' C, ohm-cm	10 ¹⁶
Dielectric Constant @ 25' C, 100 KC	5.6
Dissipation Factor @ 25' C, 100 KC	0.02
Dielectric Strength, volts/mil	500
Linear Shrinkage: in/in	0.003
Service Temperature, 'C continuous	-65 to +155
Standard Color	Black

(Typical properties when cured with H-18 Hardener)



CC3-301AD-FR

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 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	5.6	2 hrs.	24 hrs.	2 hrs.	---
H-7 Hardener	11.5	3 hrs.	24 hrs.	2 hrs.	---
H-18 Hardener	11.5	3 hrs.	24 hrs.	2 hrs.	---
Ancamine Z	8.1	8 hrs.	---	16 hrs.	4 hrs.
H-10LV Hardener	rigid 15	3 hrs.	24 hrs.	3 hrs.	---
H-10LV Hardener	semi-flex 35	3 hrs.	24 hrs.	3 hrs.	---
H-10LV Hardener	flexible 50	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 CC3-301AD-FR 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. 5.6 grams of H-1 Hardener and 100 grams of CC3-301AD-FR for a total mix of 105.6 grams) Mix thoroughly. Use in a well ventilated area and avoid contact with eyes and skin.