



## 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 at 25° C: (uncatalyzed)	1.67
(catalyzed)	1.53
Viscosity cps at 22 ½° C: (uncatalyzed) 4-10-200	14,000
(catalyzed) 4-20-100	1,400
Thermal Conductivity: W/mK	1.26
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 <sup>-6</sup>	26
Heat Distortion: °C	65
Water Absorption: %, 7 days @ 25° C	0.29
Volume Resistivity @ 25° C, ohm-cm	10 <sup>16</sup>
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-18 Hardener: Resilient, excellent mechanical and thermal shock, low viscosity, good air release, fast cure.
- 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	5.6		2 hrs.	24 hrs.	2 hrs.	- - -
H-18 Hardener	11.5		3 hrs.	24 hrs.	2 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-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.

### MIXING INSTRUCTIONS:

Mix CC3-301AD-FR 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. 5.6 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.

\* The data herein is offered as a guide and does not constitute a specification. Cast Coat, Inc. makes no warranty express or implied as to the accuracy or completeness. Each user should evaluate the material to determine its suitability for his/her particular purpose. User assumes all risk and liability resulting from its use.