



CC3-341

Thermally Conductive, Thin Glue Line Adhesive

CC3-341 was developed as a thin glue line adhesive to be used in bonding high wattage semiconductor mounting blocks to heatsinks. Being thermally conductive and electrically insulating, CC3-341 exhibits the unique capability of providing an excellent heat path between a power device and heatsink while insuring maximum electrical isolation. Glue lines as thin as .001" can be easily achieved while still maintaining a strong bond over a wide temperature range of -65° C to 155° C. When cured, CC3-341 is not adversely affected by moisture, humidity or salty spray, and will withstand repeated cycling through a wave solder machine.

ELECTRICAL AND PHYSICAL PROPERTIES:

Specific Gravity @ 25° C	1.6 to 1.7
Viscosity @ 25° C, cps, (uncatalyzed)	18,000 to 22,000
Standard Color	Black
Shelf Life	12 months
Tensile Strength @ 25° C, psi	8,298
Tensile Elongation: % @ yield	1.7 to 1.9
Compressive Strength @ 25° C, psi	23,400
Izod Impact: ft lbs/in of notch	0.25
Heat Distortion: °C	145
Water Absorption: %, 10 days @ 25° C	0.2
Linear Shrinkage: in/in	0.0025
Service Temperature, °C continuous	-65 to +125
Service Temperature, °C intermittent	-100 to +160
Hardness: Shore D	88 to 94
Bond Shear Strength: al to al 1" overlap @ 25° C, psi	3,840
Thermal Conductivity: BTU/ft ² /hr/°F/in	7.7
Thermal Resistance: °C in/watt	35.6
Coefficient of Thermal Expansion: in/in/°C x 10 ⁻⁶	26
Volume Resistivity @ 25° C, ohm-cm	10 ¹⁶
Dielectric Constant @ 25° C, 100 KC	5.7
Dissipation Factor @ 25° C, 100 KC	0.02
Dielectric Strength: .003" sample, volts/mil	300 - 350

(Typical properties when cured with H-1 Hardener)



CC3-341

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.
- H-10LV Hardener: Variable hardness, excellent impact properties, long pot life
- 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	CURE TIME	CURE TIME
				25° C (77°F)	65° C (149° F)	125° C (257° F)
H-1 Hardener	6.4		2 hrs.	24 hrs.	2 hrs.	---
H-7 Hardener	13.3		3 hrs.	24 hrs.	2 hrs.	---
H-18 Hardener	13.3		3 hrs.	24 hrs.	2 hrs.	---
Ancamine Z	9.4		8 hrs.	---	16 hrs.	4 hrs.
H-10LV Hardener	rigid	15	3 hrs.	24 hrs.	3 hrs.	---
H-10LV Hardener	semi-flex	40	3 hrs.	24 hrs.	3 hrs.	---
H-10LV Hardener	flexible	62	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.
- H-18 Hardener: Cures overnight at room temperature or 2 hrs at 65° C.
- 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 CC3-341 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. 6.4 grams of H-1 Hardener and 100 grams of CC3-341 for a total mix of 106.4 grams) Mix thoroughly. Evacuate the mix for 5 to 15 minutes in order to insure a void free glue line. Apply to both mating surfaces. Work the surfaces together, squeezing out the excess adhesive in order to obtain a thin bond line. The parts should be held securely in place with moderate pressure to prevent movement during cure. Use in a well ventilated area and avoid contact with eyes and skin.