

Thermoset MD-130 Adhesive

Description

LORD Thermoset MD-130 adhesive is a one-component, micro-electronic grade adhesive designed for a variety of semiconductor IC packaging applications where electrical conductivity is not required.

Features and Benefits

Fast Cure – quickly cures at temperatures down to 100°C, leaving no pits or voids for a smooth surface.

Broad Temperature Range – can be used on parts and devices that experience operating temperatures from -55 to +130°C.

Excellent Stability – provides long room temperature stability and high shear strength.

Typical Properties*

Uncured

Appearance	Black Paste
Viscosity, cps @ 25°C Spindle 14, 1 rpm	60,000
Specific Gravity	1.49
Gel Time, min @ 150°C 1.00 g mass in oven	2
Working Life, month @ 25°C	6

Cured

Volume Resistivity, ohm-cm @ 25°C ASTM D257	1×10^{15}
Thermal Conductivity, W/mK @ 120°C	0.42
Coefficient of Linear Thermal Expansion, ppm/°C below T _g , by DSC	35
Glass Transition Temperature (T _g), °C by DSC	140
Hardness Shore D	88
Die Shear Strength, psi 2x2x0.65 mm bare Si die on bare FR4 substrate	8200
Elongation at Break, %	1.7
Storage Modulus, MPa @ 25°C	1706
Dielectric Constant 1 kHz, ASTM D150	4.2
Dissipation Factor 1 kHz, ASTM D150	0.008

LORD TECHNICAL DATA

Application

Applying – Before use on dispensing equipment, allow adhesive to be warmed to room temperature (ideally 20-25°C). Allow adhesive to warm by placing the container in a vertical (upright) position with dispense tip facing downward in an ambient environment. Consult handling instructions** for specific guidelines.

Mount the syringe onto the dispensing equipment that has been thoroughly cleaned and purge adhesive through the system until an unbroken flow of adhesive is extruded. The system is now ready to begin dispensing.

Curing – Allow adhesive to cure at 150°C in an elevated temperature circulated air oven for 8-24 minutes, depending on mass. Cure at 100°C for 160 minutes if low temperature cure is preferred.

This time-at-temperature profile refers to the time the material should be allowed to cure once it reaches the target temperature. Allowance should be made for oven ramp rates, parts with large thermal mass and other circumstances that may delay material actually reaching the target temperature.

Shelf Life/Storage

Shelf life is six months from date of manufacture when stored between 0°C and 5°C in original, unopened container. Syringe must be maintained in a vertical (upright) position with the dispense tip facing down. Do not store syringe on its side (horizontally).

Cautionary Information

Before using this or any LORD product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.