Thermoset® MD-130 Adhesive

Technical Data Sheet

Thermoset® MD-130 adhesive is a one-component, micro-electronic 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°C to +130°C.

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

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.

***Handling instructions are available on Parker.com.*

Typical Properties*

Uncured	
Appearance	Black Paste
Viscosity, cP @ 25°C Spindle 14, 1 rpm	60,000
Specific Gravity	1.49
Gel Time, minutes @ 150°C 1.00 g mass in oven	2
Working Life, months @ 25°C	1
Cured	
Thermal Conductivity, W/m·K @ 120 °C	0.42
Coefficient of Linear Thermal Expansion, ppm/°C below Tg, by DSC	35
Glass Transition Temperature (Tg), °C by DSC	140
Hardness Shore D	88
Die Shear Strength, MPa (psi) 2x2x0.65 mm bare Si die on bare FR4 substrate	56.54 (8200)
Elongation at Break, %	1.7
Storage Modulus, MPa @ 25°C	1706
Volume Resistivity, ohm-cm @ 25°C	1×10^{15}
Dielectric Constant 1kHz, ASTM D 150	4.2
Dissipation Factor 1 kHz, ASTM D 150	0.008

*Data is typical and not to be used for specification purposes.

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 reaching the target temperature.

Shelf Life/Storage:

Shelf life is six months 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 Parker 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.

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