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Product MCT 34-NC01

HIGH-TEMPERATURE DIELECTRIC INK AND ADHESIVE

Down-hole geothermal instrumentation must operate over a large temperature range. The technology and capabilities of room temperature to 300°C hybrid and printed-circuit (PC) board electronics had to be developed. MicroCoats conductive and non-conductive Polyimide adhesives meet that challenge.

DESCRIPTION: MCT 34-NC01 is a single component adhesive suitable for application by screen printing or syringe dispensing. This product features a unique high continuous operation temperature and very high glass transition temperature making it especially well-suited for extreme conditions found in Down-Hole, and aerospace applications. MCT 34-NC01 is a version of MCT 34-NC01P with improved adhesion to a wide range of substrates and features improved flexibility over typical high-temperature materials.

TYPICAL PROPERTIES:

Viscosity (cps)	25,000 – 30,000
Color	Tan
Volume Resistivity (Ω -cm, min.)	1×10^{15}
Dielectric Constant	4
Dielectric Strength (V/mil)	> 4,000
Glass Transition Temp. (°C)	> 320
Hydrolytic Stability	Excellent
Useful Temperature Range (°C)	-55 to +330
Thermal Stability (°C)	Good to +410

SUGGESTED HANDLING: MCT 34-NC01 is ready to use as supplied but can be thinned down with MCT 102-03 for printing optimization.

CURING AND BONDING: To use as an adhesive, apply b-staged adhesive to one part, carefully align parts to be bonded, apply uniform pressure to maintain location. Cure 60 minutes at 150°C followed by either 60 minutes at 250°C or 2 hours at 200°C. For better adhesion of the b-staged film to the first part, it is suggested to warm the part to 80°C. Cure times given are mass related, timing should start after adhesive and substrates reach curing temperature. For maximum chemical resistance, a final cure temperature of 180°C is required.

End-user is advised to experimentally determine temperature and time best suited for individual applications.

STORAGE: Shelf Life – ~30 days at 25°C; or 6 months at 5°C; or 10 months at -10°C. We recommend 3 freeze/thaw cycles max. These materials store best if stored tip down.

SAFETY & HANDLING: Use adequate ventilation. Keep away from sparks and open flames. Avoid prolonged contact with skin and breathing of vapors. Wash with soap and water to remove from skin.

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