Product Data Sheet

MicroCoat Technologies
http:www.m-coat.com
Unparalleled in Polymer Coatings and Adhesives Technology

Product
36190 DA-1

Single Component, Non Frozen, Non-Conductive Die Attach Adhesive For Up to 280°C

MCT 36190 DA-1 represents a breakthrough in epoxy/polyimide Die Attach adhesive technology featuring a hitherto unattainable balance of performance properties including both high shear and high peel strengths. It also exhibits high thermal conductivity and excellent electrical insulation properties. This one component NON-FROZEN adhesive system is formulated to cure at elevated temperatures e.g. 1 hour at 200°C, and/or longer times at slightly lower temperatures for maximum bond strengths. Tensile shear strengths of >1500 psi are readily obtained. No mixing is necessary prior to use. MCT 36190 DA-1 produces truly exceptional bonds with both high shear and high peel strengths for service in the remarkably wide temperature range of below -75°C to over 280°C. Perfect for Down-The-Hole or Space applications, it offers very superior resistance to impact, thermal shock, vibration and stress fatigue cracking while maintaining the moisture, creep, corrosion and thermal resistance typical of epoxy resin adhesives. It is 100% reactive and does not contain any diluents or solvents.

MCT 36190 DA-1 produces durable high strength, thermally conductive, exceptionally tough bonds which are remarkably resistant to severe thermal cycling and many chemicals including water, oil, fuels and most organic solvents even upon prolonged exposures. Unlike many other epoxy adhesives, its performance is relatively insensitive to changes in cure schedules or substrate cleaning procedures. Adhesion to metals, glass, ceramics and several other substrate materials is excellent. The hardened adhesive is a superior thermal conductor. MCT 36190 DA-1 offers the convenience of a heat cure with no mixing prior to use and a uniquely favorable bonding performance for even the most difficult substrates.

The cured adhesive fully meets the requirements of MIL-A-47280(MI) Type I, Mil-Std-883 Method 2014, NASA/ASTM E595-93(2003)e1 and other specifications.

Product Properties

- Solids content, % 100
- Viscosity, 75°F, cps ..... Smooth Thixotropic paste colored tan
- T-peel, AL to AL, 75°F, psi ..... >1500
- Thermal conductivity, BTU * in/ft² * hr * °F 10
- Die Shear on Gold kg-f 22
- Lap Shear @25C psi 3700
- Volume resistivity, ohm-cm ..... $.10^{13}$
- Tensile strength, 75°F, psi 9200
- Tensile modulus, 75°F, psi 680,000
- Shore D hardness ..... >80
- Tg ^{o}C 185
- Tensile lap shear, Al to Al, 75°F, psi ..... >1800
- Cure schedule, ... 125°C/20-30 min – 150C 5-10 minutes
- Compressive strength 75°F psi ..... >15,000
- Service temperature range, °C..... -75C - >280C
- Shelf life at 23°C ..... 1 year
- Extractable Ionic Content, ppm:
  - Chloride (Cl-) 5.7
  - Sodium (Na+) 1.8
  - Potassium (K+) 9