

Product Data Sheet



RoHS/WEEE
and Halogen Free



Product

MCT 36190-2GT

Non-Conductive Die Attach Adhesive

A High Performance **Single Component, Non Frozen** Non-Conductive Epoxy
For SMD and Die Attach **With an Operating Temperature Range of -65°C to +240°C**

MicroCoat 36190-2GT features a unique balance of high performance properties including both high shear and peel strengths along with convenient handling and high/low temp properties. This is a single component system formulated to cure at elevated temperatures. This is a one part thermosetting non-conductive epoxy designed primarily for die attaching semiconductors and surface mount devices in military, "down-the-hole" hybrids, optoelectronics, automotive sensors, transducers, etc. The material is a thixotropic paste which may be applied by screen printing or syringe. It is 100% solids, and possesses good handling and storage properties. This Al₂O₃ filled non-conductive die attach adhesive is designed to bond ICs and components to advanced substrates such as ceramic, PBGAs, CSPs, plated lead frames, and array packages. Hydrophobic and stable at high temperatures, the adhesive produces a void-free bond line with excellent interfacial adhesion strength to a wide variety of organic and metal surfaces including solder mask, BT, FR, polyimide, gold, Kapton and Mylar. This material is formulated to provide high cohesive energy, adhesive strength, and elongation at break.

Composition Properties

Color:	Yellow (Turns slightly tan when cured)
Filler:	Al ₂ O ₃
Contents:	100% solids
Viscosity:	Dispensable Paste
Volume Resistivity	>10 ¹⁴
Thermal Conductivity	2.13 W/mK (Laser flash)
CTE Alpha 1 ppm/°C	28
CTE Alpha 2 ppm/°C	200
Dielectric Strength V/mil:	2000
Modulus of Elasticity MPa	
RT	14,950
250C	78
T _g °C	185
Die Shear (psi)	25 mil ² Si Die @RT >6000
	25 mil ² Si Die @250C >4000
Hardness, Shore D	70
Moisture Absorption	
1. Moisture Absorption, 85/85 168 hrs, 0.082% by weight	
2. Water vapor transmission, 40C, 95% humidity, grams/foot squared/.250" thick	0.015 grams

Outgassing per Mil-Std-883/5011 ASTM E595 Passes

Post Cure Ionics Mil-Std-883/5011.3.8.7 Cl=<6ppm, Na+<=3.3ppm, K+<=1.1ppm

Processing Procedures

Mixing: The material should be lightly stirred prior to use if used from a jar. Not required if in a syringe

Application

The material may be applied by stencil printing or syringe dispense

Curing: Cure @ 175C for 30 minutes. Optimum conditions will vary depending upon application and substrate material and will need to be determined experimentally. This material will fully cure using most Pb free cure schedules of 250C -260C.

Snap Cure: Can be accomplished at 175C for 3 minutes

Storage MCT 361902GT should be stored in sealed containers away from heat or flames. It has a shelf life (pot life) of 12 months at a storage temperature of 25°C; up to 18 months if refrigerated (Do not freeze). Material **may** be returned to refrigerator after using partial syringes or jars.

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