

Product Data Sheet



Product

MCT 2-062-32

“SINTERED SILVER” ELECTRICALLY CONDUCTIVE DIE ATTACH ADHESIVE

DESCRIPTION

MCT 2-062-32 is a single component, silver filled, syringe dispensable, 100% solid, electrically conductive, epoxy adhesive. MCT 2-062-32 provides for fine pitch resolution, when syringe dispensed, stencil printed, or screen-printed. This system features excellent thermal stability, outstanding chemical resistance and excellent high temperature properties. Applications include adhesives, die attachment, printed circuit board fabrication, advanced material composites, sealing and high-performance coatings. MCT 2-062-32 provides excellent adhesion to gold plated substrates, as well as tin/lead solder terminated components.

UNIQUE FEATURES

- * Fine Pitch Resolution
- * High Thermal Conductivity
- * Excellent High Temperature Stability
- * 100% Solids
- * Excellent Chemical Resistance

TYPICAL UNCURED PROPERTIES

Property	Value	Units
Consistency	Paste	-
Thixotropic Index	TBD	-
Specific Gravity (water = 1)	4.09	g/cc
Filler	Silver	-

TYPICAL CURED PROPERTIES

Property	Value	Units
Volume Resistivity	0.0002	Ω -cm
Thermal Conductivity	> 200 ¹	W/m-K
Thermal Stability	Good to +325	$^{\circ}$ C
Useful Temperature Range	-55 to +230	$^{\circ}$ C
Tensile Shear Strength, min	2,000	Psi
Die Shear Strength, min	27	Kg-f

¹ Recommended cure schedule to achieve these properties is at least 30 minutes at 175 $^{\circ}$ C to ensure sintering of the silver.

CURING GUIDELINES

Best properties to ensure highest thermal conductivity result when cured for at least 30 minutes at 175°C or 2 hours at 150°C. Excellent properties are also obtained on a variety of substrates by curing:

Temperature (°C)	Time (min.)
120	30
150	10

These temperatures and times are presented as a guide only. The end-user is encouraged to experiment to determine optimum curing schedule.

HANDLING AND STORAGE

Material is ready to use as received. Store frozen to maintain consistent flow properties. Allow material to warm up to room temperature before opening container.

SHELF LIFE

Storage Temperature	Containers
25°C	4 Days
-20°C	6 months

TEST FOR;		Test Unit	Typical Sintered Cu 1	Typical Sintered Cu -2	MCT 2-062-22
Conditions	Gas atmosphere for proper cure	-	N ₂ High Cost	H ₂ or formic acid Very High Cost	Air Free ☺
	Thermal compression to obtain proper adhesion and fillet of die	MPa	10	0	5-15
	Cure temperature	°C	300	350	175
	Materials that can be bonded to;	-	Cu, Ni, Ag, Au	Cu, Ni, Ag, Au	Cu, Ag, Au Kovar, Pd
	Thermal conductivity	W/(mK)	>200	>200	>200

Power cycle reliability	cycles	>75,000	4,840	64,150
Temperature cycle reliability	cycles	> 2000	1000	>2000
Fine Pitch Resolution	um	unk	unk	<200
Environmental compatibility	-	○ Questionable due to release of gas during cure cycle	○ Questionable due to release of gas during cure cycle	○ NO issues

HEALTH AND SAFETY

Use with 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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