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ISO 9001 / AS9100 Certified

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TECHNICAL DATA & INFORMATION

DIS-A-PASTE® 2311-PMF

Premixed-frozen, snap-cure, thermally conductive, adhesive

PRODUCT DESCRIPTION

DIS-A-PASTE 2311-PMF is a one component, premixed-frozen, mineral-filled, electrically insulating polymer paste adhesive. It is designed to bond many dissimilar substrates and dissipate device-generated heat.
DIS-A-PASTE 2311-PMF is a 100% solids, solvent free system that will not form voids during cure or outgas after being fully cured.
DIS-A-PASTE 2311-PMF has excellent reversion resistance and physical stability when subjected to high heat and humidity environments. This system displays higher ionic purity than epoxy systems minimizing the possibility of corrosion on components and circuitry.

KEY FEATURES AND BENEFITS

- Production-oriented, snap-cure technology for surface mount applications - allows cure during solder reflow operation.
- High thixotropy/"tack" strength - holds components with minimal "Z" axis movement during cure
- Stable viscosity for over 4 hours at RT - ideal for robotics
- Low Tg (<-50°C) for excellent low temperature cycling and performance with minimal stress
- Excellent substrate adhesion; superior to silicones: no primer required
- **DIS-A-PASTE 2311-PMF** also available with various thicknesses of internal bond-line spacers

HANDLING INFORMATION

Work life @25°C in 5cc syringe after thaw: >4 hours with less than 50% viscosity increase.

1. **DIS-A-PASTE 2311-PMF** syringes are shipped in dry ice. Upon receipt, transfer frozen syringes to a storage freezer @-40°C or below.
2. To thaw remove from freezer and allow to warm to room temperature. Do not place in oven or microwave-this will shorten use life.
3. Typical thaw time for 5cc syringe @25°C ambient is approximately 15-30 minutes.

CURE SCHEDULE

For adhesive applications (5-10 mils thickness):

Through solder reflow process: 30 secs @260°C in conjunction with typical ramp-up and ramp-down oven profiles

For air-circulating oven (ACO) cures

Temperature, °C	Cure time temperature	min.
	150	15
	125	30
	100	60
	85	120
	65	360

Notes:
- Cure schedules above are valid when parts/substrates to be bonded and oven/chamber are at the required cure temperature.

- The above cure schedules were determined by the achievement of lap shear strength for adhesive applications. These schedules are conservative and should be used as guidelines. Achievement of the application requirements/properties should be the determining factor in the selection of cure schedule.

TYPICAL PROPERTIES

(Values not to be used for specification purposes)

CHARACTERISTICS	DIS-A-PASTE 2311-PMF	TEST METHOD
Color	light gray	Visual
Specific gravity	2.0	ASTM D-1475
Viscosity @25°C, initial cps	thixotropic paste	ASTM D-1824
Flash point, °C	>200	ASTM D-92
Shelf life @-40°C, months factory sealed pre-mixed frozen-syringes	6	

CURED PHYSICAL PROPERTIES	DIS-A-PASTE 2311-PMF	TEST METHOD
NOTE: Tests performed on material cured for 2 hours @85°C.		
Hardness, Durometer D	55	ASTM D-2240
Lap shear, @25°C, Al to Al, psi	480	ASTM D-1002
Glass transition temp., °C	-50	ASTM E-831
Thermal coefficient of expansion, in/in/C alpha 1	46×10^{-6}	ASTM E-831
alpha 2	146×10^{-6}	ASTM E-831

Thermal conductivity, @25°C W/m°K	0.70	ASTM C-518-04 ASTM E-1530-06
Outgassing @10^{-6} Torr		
TML,%	0.29	ASTM E-595
CVCM%	0.01	ASTM E-595

CURED ELECTRICAL PROPERTIES	**DIS-A-PASTE 2311-PMF**	**TEST METHOD**
Volume resistivity @25°C, ohm-cm	1.0 x 10^{14}	ASTM D-257

SAFETY AND FIRST AID

DIS-A-PASTE 2311-PMF is a mineral-filled hybrid polymer blend which is safe to handle as it is packaged in sealed syringes. There should be no need to touch the adhesive. Avoid contact with skin and eyes and use in a well-ventilated area and avoid breathing vapors. In case of eye contact, flush with fresh clean water for at least 15 minutes; for skin contact, wash thoroughly with soap and water. If ingested, drink at least one pint of water and call a physician. Refer to Material Safety Data Sheet for more details.

Revised: 08/31/17 - mjv