

ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

**ADHESIVE, EPOXY, THERMAL CURE, SURFACE
MOUNTED COMPONENTS**

WSS-M2G339-A5

1. SCOPE

The materials defined by this specification are one component, room temperature stable, fast curing, electrically non-conductive, thixotropic, thermosetting epoxy adhesives.

2. APPLICATION

This specification was originally released for a chip-on-board die attach adhesive.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.4 COLOR

Silver/gray

3.5 APPEARANCE

Smooth thixotropic
paste

3.6 VISCOSITY, poise

(Brookfield Sp 7 at 1 rpm)
(Brookfield Sp 7 at 10 rpm)

9,000+/-250
1500+/-40

3.7 THIXOTROPIC INDEX, min

(Viscosity measured per para 3.6)

4.5-7.5

Thixotropic Index:
ratio of viscosity at 1 rpm:
viscosity at 10 rpm

3.8 LAP SHEAR STRENGTH, psi, (ASTM D 1002)

700

3.9 GLASS TRANSITION TEMPERATURE, °C (ASTM D 3418)

50 to 75

3.10 VOLUME RESISTIVITY, Ω -cm, min (ASTM D 257)

8 x 10⁻⁴

Date	Action	Revisions
2003 01 21	Revised	Para 3.0 inserted ; Para 3.1, 3.2, 3.3, 3.19, 3.20, 4 deleted
1999 08 11	Activated	M. Liu J. Skelly



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3.11	COEFFICIENT OF THERMAL EXPANSION, ppm (ASTM 3386)	alpha 1, 69 alpha 2, 250
3.12	IONIC CONTENT, ppm (Dionex DX100)	Chloride < 16 Sodium <5 Potassium <5
3.13	THERMAL STABILITY NASA MSFC Spec-592 Rev. B. Para 4.5.5.1 Mettler TGA	weight loss 1.5 % at on cure 0.3 % at 300 °C
3.14	MODULUS, Pa (ASTM D638)	3.6 x 106
3.15	STORAGE LIFE	at 5 °C 3 months at -100 °C 6 months at -400 °C 12 months
3.16	WORKING LIFE	2 weeks at 250 °C
3.17	CURE SCHEDULE	30 minutes at 130 °C or 10-14 minutes at 150 °C
3.18	PNEUMATIC FLOW TEST, g, range	0.5 - 1.1
	Test Method:	Using a timed pneumatic dispense, with a 10 cc luer lock syringe pressurized to 310 kPa and fitted with an 18 gauge needle, measure the amount of adhesive dispensed in 3 minutes.