VITRALIT 1500 L.I.

Elosol
AG

(UV CURABLE ONE COMPONENT EPOXY ENCAPSULANT/COATING)

PRODUCT DESCRIPTION

VITRALIT 1500 L.I. is an ultra violet curable epoxy suitable for electronic encapsulation, sealing and fixturing. It cures rapidly when exposed to U.V. light in the 320-380 nM range to a tough resistant material with excellent adhesion. It is highly purified with low ionics-maximum 25 P.P.M. total Na + K + Cl. It contains a silica filler to reduce C.T.E. and further reduce the negligible shrinkage.

VITRALIT 1500 L.I. is used in chip coating, both as prime protection and as a protective layer prior to over molding. It has good adhesion to gold in sealant applications and is used as an encapsulant to embed micro electronic devices.

PROPERTIES

Description	Gray, easily dispensed liquid
Viscosity	15,000 cps
Hardness	90 Shore D
Ultimate Tg	160 °C
C.T.E.	P.P.M./°C-33 34
Vol Resisitivity	1.5 x 10^{15} ohms.cm
Diel Const.	R.T. @ 60 hz – 3.4
	100°C @ 60 hz – 3.4
	R.T. 10^{6} – 3.50
Diel Str.	450 volts/mil (A.S.T.M. D – 149-1/8“)
Ionic Impurities	Max 25 P.P.M. total Na,K, Cl – typical – 20 P.P.M.

Filler particle size distribution

Med particle size	8.8 Microns
55%finer than	10 Microns
22%finer than	5 Microns
10%finer than	1 Microns

USE INSTRUCTIONS

1. Stir VITRALIT 1500 L.I. to assure unform filler distribution. Do this gently to avoid air entrainment. Heating to 50°C will facilitate this. Stirring of course is unnecessary in syringes.
2. Apply by extrusion, pin transfer, or dipping.
3. Expose to 320 – 380 nM U.V. light intensity, of 75 – 100mW/cm^2 for 1-2 mins. Through cure is dependent on VITRALIT 1500 L.I. thickness, light intensity and material and substrate temperature. Greater light intensities, higher temperatures and thinner sections promote faster through cures. For fast through cures in thicker section >150 mils – it is recommended the materials and substrate temperatures be 38 – 50 °C and light intensity be 100 – 150 mW/cm for 1-2 mins.

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4. Since the cure continues even after the U.V. radiation is extinguished, electrical testing should not be carried out for several hours. This “dark cure” can be accelerated by maintaining an above ambient temperature say 75 – 150 °C after U.V. radiation. This post cure phenomenon permits shorter than normal radiation times, or can act as a safety measure in case of under exposure from U.V. A one minute U.V. exposure followed by 15 mins 100 °C post cure will result in a fully cured material.
5. Freezer storage is recommended to arrest filler settling. Syringes should be stored flat. Great effort is made to suspend fillers, but vibration during shipment can aggravate this.
6. H.W. denotes a high wetting version, available on special order.

CAUTION

Good housekeeping rules are always important. Provide ample ventilation in all areas of handling, mixing and use. Avoid prolonged breathing of possible fumes. Minimize skin contact. Use goggles, rubber gloves and protective creams is recommended. Always wash exposed areas immediately, using warm water and soap, followed by rinsing with clear water. If material comes in contact with eyes, flush with clear water for fifteen minutes and consult a physician immediately.

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