TG-LH-EE-90-2-5
Electronics Epoxy

Version 1.050220

Electronics Epoxy

TG-LH-EE-90-2-5 is a one-part, off-white adhesive based on epoxy resins, designed especially for bonding electronic components. It cures quickly at elevated temperatures and has excellent adhesion to most PC boards and electronic components. It may be cured at 100°C or faster at 175°C and has no sagging. It has a stable pot life and long shelf life even at a room temperature of 25°C. Due to relatively low viscosity, it dispenses faster from syringes than other products on the market. It is highly thixotropic which can assist in controlling the flow of the adhesive.

Features

Fast curing especially at higher temperatures
Designed specifically for bonding electronic components
Stable pot life with a long shelf life

Applications

Epoxy adhesive for bonding ceramic, metals, and most plastics in electronics.

Properties

- ✓ REACH Compliant
- ✓ ROHS Compliant

Property	TG-LH-EE-90-2-5	Unit	Test Method
Chemical type	Epoxy	-	-
Appearance	Off-white paste	-	Visual
Mix ratio, by weight	One component	-	-
Shelf life, -20°C	12	Months	ASTM F2914
Pot life, 25°C	1	Week	ASTM F2914
Specific gravity	1.3	-	ASTM D792
Viscosity, CAP 2000+ viscometer, 25°C Cap-06@100rpm	45,000	cP	ASTM D1084
Thixotropic Index	1.9	-	-
Hardness, cured 100°C for 2 hr	90	Shore D	ASTM D2240
Shear Strength	545	$kgcm^{-2}$	ASTM D412
Water boil, wt gain, 100°C/1hr	<1.0	%	-
Tg, DSC, cured 100°C for 2 hr	119	°C	-
Tg, DSC, cured 120°C for 2 hr	123	°C	-
Tg, DSC, cured 150°C for 0.5 hr	119	°C	-
Storage Modulus, -40°C	2232	MPa	ASTM D5279
Storage Modulus, 30°C	1912	MPa	ASTM D5279
Storage Modulus, 100°C	1236	MPa	ASTM D5279
CTE, alpha-1	57	$mm^{-1}\,°C^{-1}$	-
CTE, alpha-2	150	$mm^{-1}\,°C^{-1}$	-
Ionic Content, Cl	<50	ppm	-
Ionic Content, K	<50	ppm	-
Ionic Content, Na	<20	ppm	-
Dielectric Contant, 30MHz-1GHz	3.1-3.3	-	GB/1693-20017

Standard Packaging

	Packaging	Volume (ml)
Size	EFD Syringe	5 ml
	EFD Syringe	10 ml
	EFD Syringe	30 ml

* All measurements in volume are in ml

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Storage
Store in fridge at -20°C. Tightly close original container of unused product. Storing at lower temperatures down to -20°C may prolong shelf life beyond 6 months. However it may take longer time to thaw the product

Recommended Cure

Temperature	Gel Time	Cure Time
100 °C	12 mins	2 hours
120 °C	3 mins	2 hours
150 °C	2 mins	30 mins

Guidelines for Use
1. Thaw the epoxy to room temperature (25°C) before use.
2. Dispense the epoxy by using a syringe.
3. Wipe off any excess uncured adhesive with a piece of dry cloth or tissue. Further cleaning may be achieved with tissue dabbed with iso-propanol-alcohol (IPA).
4. Cure the epoxy by heating at 100°C for 120 minutes in a convection oven. Curing at a lower temperature will require a longer time.
5. For epoxy dispense onto the cirucuit lines, try to stage <2 hours after dispensing and minimize temperature ramping duration to avoid capillary flow of epoxy.

* Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

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