EPO-TEK® EM127

Technical Data Sheet
For Reference Only
Electrically Conductive Epoxy

Date:	February 2022
Rev:	VIII
No. of Components:	Single
Mix Ratio by Weight:	N/A
Specific Gravity:	2.74
Pot Life:	28 Days
Shelf Life- Bulk:	One year at -40°C
Shelf Life- Syringe:	One year at -40°C

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
160°C / 30 Minutes

NOTES:

- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.

Product Description: EPO-TEK® EM127 is a single component, heat curable, electrically conductive epoxy adhesive for semiconductor IC and LED die attach applications.

Typical Properties: Cure condition: Varies as required Different batches, conditions & applications yield differing results. Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:			
* Color (before cure):	Silver		
* Consistency:	Smooth thixotropic paste		
* Viscosity (23°C) @ 100 rpm:	2,500 - 3,300	cPs	
Thixotropic Index:	5.5		
* Glass Transition Temp:	≥ 65	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
Below Tg:	28	x 10^{-6} in/in°C	
Above Tg:	117	x 10^{-6} in/in°C	
Shore D Hardness:	85		
Die Shear @ 23°C:	≥ 10	Kg	3,556 psi
Degradation Temp:	380	°C	
Weight Loss:			
@ 200°C:	0.22	%	
@ 300°C:	0.65	%	
Suggested Operating Temperature:	< 300	°C (Intermittent)	
Storage Modulus:	677,398	psi	
* Particle Size:	≤ 20	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	1.2	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0009	Ohm-cm
Dielectric Constant (1KHz):	N/A	
Dissipation Factor (1KHz):	N/A	

EPO-TEK® EM127 Advantages & Suggested Application Notes:

- Shiny silver appearance after cure is cosmetically desired in the LED industry.
- One component chemistry provides ease of use and long pot life.
- Low viscosity and high thixotropy ideal for high speed dotting and stamping processes.
- High strength after MSL 1 moisture test.
- Suggested Applications:
  - Semiconductor: die attach onto lead-frames.
    - Electrically conductive adhesive (“ECA”) for PCB and level 3 & 4 connections to SMDs, discrete components and connectors.
    - Automotive proven ECA and COB die-attach epoxy.
  - Optics: LED die attach, ECA for LED and fiber optic industry