

Date: Oct 2014 **Rev:** IV **Recommended Cure:** 150°C / 1 Hour
No. of Components: Two
Mix Ratio by Weight: 100 : 35
Specific Gravity: Part A: 2.06 Part B: 1.22
Pot Life: 8 Hours
Shelf Life- Bulk: One year at room temperature

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) may vary from those stated below when syringe packaging and/or post-processing is required.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.

Product Description: EPO-TEK® H77S is a two component, thermally conductive, electrically insulating epoxy designed for high temperature applications. It is a smaller particle version of EPO-TEK® H77.

Typical Properties: *Cure condition: 150°C/1 Hour *denotes test on lot acceptance basis Data below is not guaranteed To be used as a guide only, not as a specification. Different batches, conditions & applications yield differing results.*

PHYSICAL PROPERTIES:

* Color (before cure):	Part A: Grey	Part B: Amber
* Consistency	Smooth pourable liquid	
* Viscosity (23°C): @ 20 rpm	950-1,500 cPs	
Thixotropic Index:	1.2	
* Glass Transition Temp:	≥ 80 °C (Dynamic Cure:20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min)	
Coefficient of Thermal Expansion (CTE):		
Below Tg:	39 x 10 ⁻⁶ in/in°C	
Above Tg:	98 x 10 ⁻⁶ in/in°C	
Shore D Hardness:	85	
Lap Shear @ 23°C:	1,640 psi	
Die Shear @ 23°C:	≥ 15 Kg	5,100 psi
Degradation Temp:	432 °C	
Weight Loss:		
@ 200°C	< 0.05 %	
@ 250°C	0.06 %	
@ 300°C	0.26 %	
OperatingTemp:		
: Continuous:	- 55°C to 250 °C	
Intermittent:	- 55°C to 350 °C	
Storage Modulus:	567,228 psi	
Ion Content:		
Cl:	78 ppm	NA⁺: 12 ppm
NH₄⁺:	1 ppm	K⁺: 7 ppm
* Particle Size:	≤ 20 microns	

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity:	0.67
Volume Resistivity @ 23°C:	≥ 4 x 10 ¹¹ Ohm-cm
Dielectric Constant (1KHz):	4.82
Dissipation Factor (1KHz):	0.0152

The data above is INITIAL only - it may be changed at anytime, for any reason without notice to anyone. It is provided only as a guide for evaluation/consideration.

*These material characteristics are typical properties that are based on a limited number of samples/batches. All properties are based on the cure indicated above. Some properties may vary as manufactured quantities are scaled up to commercialized production levels.

EPO-TEK® H77S Advantages & Suggested Application Notes:

- Rheology provides a soft, smooth flowing paste with excellent handling characteristics. Low viscosity allows it to be poured or cast into shape for potting applications. Compatible with automated dispensing equipment, screen printing or stamping techniques.
- Excellent solvent and chemical resistance. Ideal for harsh environments found in aircraft, under-hood automotive, medical and petrochemical refineries such as down-hole applications.
- Can provide near-hermetic seals in the packaging of MEMs devices such as pressure sensors or accelerometers, packaged in TO-cans.
- Suggested for ultra-high vacuum applications
- Can be used for sealing of optical filter windows found in scientific OEM or sensor devices.

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