EPO-TEK® H77S

Technical Data Sheet
For Reference Only
Thermally Conductive Epoxy

Date:	November 2019	**Recommended Cure: 150°C / 1 Hour**
Rev:	VII	
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) 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.
- 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 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):	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	5,334 psi
Degradation Temp:	432	°C	
Weight Loss:			
@ 200°C:	< 0.05	%	
@ 250°C:	0.06	%	
@ 300°C:	0.26	%	
Suggested Operating Temperature:	< 350	°C (Intermittent)	
Storage Modulus:	567,228	psi	
Ion Content:	Cl^-: 78 ppm	Na^+:	12 ppm
	NH_4^+: 1 ppm	K^+:	7 ppm
* Particle Size:	≤ 20	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	0.7	W/mK
Volume Resistivity @ 23°C:	≥ 4 x 10^{11}	Ohm-cm
Dielectric Constant (1KHz):	4.82	
Dissipation Factor (1KHz):	0.015	

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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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