

Date: September 2017
Rev: V
No. of Components: Two
Mix Ratio by Weight: 100 : 15
Specific Gravity: Part A: 2.70 Part B: 1.22
Pot Life: 6 Hours
Shelf Life- Bulk: One year at room temperature

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
 2-Step Cure: 100°C / 1 Hour then 120°C / 2 Hours

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® H77 is a two component, thermally conductive, electrically insulating epoxy system designed for lid-sealing of hybrids found in hermetic packaging of micro-electronics. Lids can be ceramic, glass, aluminum or kovar. Package types can be plastic, metal cases, or ceramic.

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 paste		
* Viscosity (23°C) @ 20 rpm:	6,000 - 12,000	cPs	
Thixotropic Index:	1.4		
* 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:	33	x 10 ⁻⁶ in/in°C
	Above Tg:	130	x 10 ⁻⁶ in/in°C
Shore D Hardness:	90		
Lap Shear @ 23°C:	1,523	psi	
Die Shear @ 23°C:	≥ 5	Kg	1,778 psi
Degradation Temp:	405	°C	
Weight Loss:			
	@ 200°C:	0.15	%
	@ 250°C:	0.38	%
	@ 300°C:	1.47	%
Suggested Operating Temperature:	< 350 °C (Intermittent)		
Storage Modulus:	950,693	psi	
* Particle Size:	≤ 50	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	0.7	W/mK
Volume Resistivity @ 23°C:	≥ 1 x 10 ¹³	Ohm-cm
Dielectric Constant (1KHz):	5.64	
Dissipation Factor (1KHz):	0.006	

Epoxyes and Adhesives for Demanding Applications™

This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.

EPOXY TECHNOLOGY, INC.

14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782

www.epotek.com

EPO-TEK® H77 Advantages & Suggested Application Notes:

- High temperature epoxy. Coatings on metals have been subjected to temperatures as high as 260°C without bond failure; can also resist >300°C processes found in ceramic or hermetic packaging
- 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 dispense equipment, screen printing, or stamping techniques.
- Available in smaller particle size, if needed. Also available in higher viscosity for better non-flow properties. Contact techserv@epotek.com for your best match.
- 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, like pressure sensors or accelerometers, packaged in TO-cans.
- Passes NASA low outgassing standard ASTM E595 with proper cure - <http://outgassing.nasa.gov/>.
- Suggested for ultra-high vacuum applications.
- It can also be used for sealing of optical filter windows found in scientific OEM or sensor devices.

Epoxy Technology, Inc. Epoxies and Adhesives for Demanding Applications™

This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.

EPOXY TECHNOLOGY, INC.

14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782

www.epotek.com