EPO-TEK® H20F

Technical Data Sheet
For Reference Only
Electrically Conductive, Flexible Epoxy

Date:	February 2022	
Rev:	XIII	
No. of Components:	Two	
Mix Ratio by Weight:	1 : 1	
Specific Gravity:	Part A: 2.51	Part B: 3.56
Pot Life:	36 Hours	
Shelf Life- Bulk:	One year at room temperature	
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
150°C / 10 Minutes
120°C / 20 Minutes
100°C / 1 Hour

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® H20F is a two component, flexible silver epoxy. It was designed for flexible type circuitry, such as switching circuits in a flexible panel system, as well as large die-attach or substrate attach.

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: Silver	Part B: Silver
* Consistency:	Smooth thixotropic paste	
* Viscosity (23°C) @ 100 rpm:	1,500 - 3,000	cPs
Thixotropic Index:	4.0	
* Glass Transition Temp:	≥ 20	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)
Coefficient of Thermal Expansion (CTE):		
Below Tg:	107	x 10^{-6} in/in°C
Above Tg:	133	x 10^{-6} in/in°C
Shore A Hardness:	46	
Lap Shear @ 23°C:	N/A	
Die Shear @ 23°C:	≥ 2	Kg 711 psi
Degradation Temp:	384	°C
Weight Loss:		
@ 200°C:	0.51	%
@ 250°C:	0.78	%
@ 300°C:	1.79	%
Suggested Operating Temperature:	< 275	°C (Intermittent)
Storage Modulus:	21,153	psi
* Particle Size:	≤ 45	microns

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	4.1	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0001	Ohm-cm

EPOXY TECHNOLOGY, INC.
14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782
www.epotek.com
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EPO-TEK® H20F Advantages & Suggested Application Notes:

- Flexible alternative to EPO-TEK® H20E, designed to offer lower stress, less cracking, and more flexibility.
- Rheology provides a very soft, smooth, thixotropic paste. No solvents are present.
- A film suitable for Kapton or Mylar can be flexed 180 degrees and creased without de-lamination or loss of conductivity; can be used instead of conductive silicone RTVs.
- Can be applied by screen printing, stamping, roller coating techniques; or hand applied.
- Recommended for fiber-optic packaging. Also suggested for bonding SAW devices, as a low stress adhesive. Applications or end-use could be speaker or microphone circuit related.
- Hybrid level die attach epoxy capable of resisting wire bonding operations. Also, lid sealing operations will not affect bonded chips in the package.
- Suggested as a low stress conductive adhesive for large die sizes, as well as oversized components or substrates.

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