



EPO-TEK® MED-H20S

Technical Data Sheet
For Reference Only

Biocompatible/Electrically Conductive (ECA), Silver Epoxy
ISO 10993-5 Tested/Compliant

Date: April 2020
Rev: III
No. of Components: Two
Mix Ratio by Weight: 1 : 1
Specific Gravity: Part A: 1.76 Part B: 3.05
Pot Life: 3 Days
Shelf Life- Bulk: One year at room temperature
Shelf Life- Syringe: One year at -40°C

Biocompatible Certified Cure: 100°C / 1 Hour

Alternative biocompatible cure schedules may be possible, but have not been certified. Contact med@epotek.com with any questions.

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® MED-H20S is a biocompatible, silver-filled epoxy with electrical and high thermal conductivity. It is a smooth low viscosity paste with fine Ag particles. It is a well characterized and highly reliability ECA, used most often for critical circuit connections and EMI coatings and has a curing time and temperature lower than EPO-TEK® MED-H20E.

Typical Properties: Cure condition: 100°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:	1,800-2,800	cPs
Thixotropic Index:	5.0	
* 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:	58	x 10 ⁻⁶ in/in°C
Above Tg:	200	x 10 ⁻⁶ in/in°C
Shore D Hardness:	58	
Lap Shear @ 23°C:	1,186	psi
Die Shear @ 23°C:	≥ 10	Kg 3,556 psi
Degradation Temp:	400	°C
Weight Loss:		
@ 200°C:	0.36	%
@ 250°C:	0.72	%
@ 300°C:	1.26	%
Suggested Operating Temperature:	< 300	°C (Intermittent)
Storage Modulus:	325,428	psi
* Particle Size:	≤ 20	microns

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity:	1.9	W/mK
* Volume Resistivity @ 23°C:	≤ 0.0009	Ohm-cm

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

Fiber and Electro-Optical

- Die-attaching LED chips in surgical lighting products, whether light guides or headlights
- An ECA for x-ray detection technologies using scintillator crystal and photo diode arrays, it can be dispensed, stamped or screen printed onto PCB/substrates, whether using direct chip or flip chip attachment processes
- Die attaching LEDs for fingertip worn pulsed oximeters

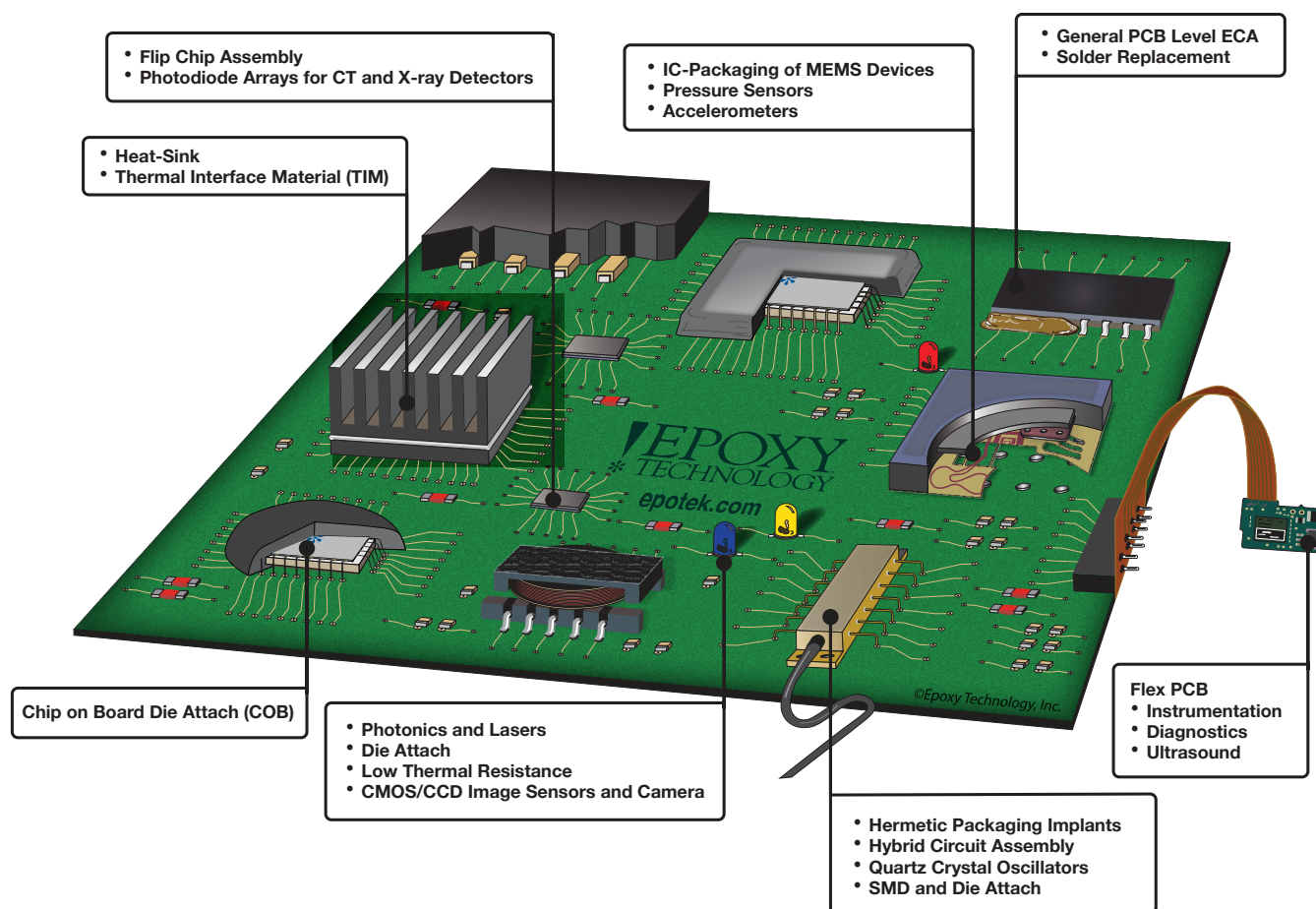
Device and Diagnostics

- PZT / Ferro-electronics: ECA for PZT/Au connections to matching PCB, for ultrasound imaging arrays
- In a reference electrode for circuitry in gene sequencers and other disease specific diagnostic equipment

Implantable Devices

- A world leader in hybrid circuit assembly of hermetic, microelectronic, active implantable packages for cardiac, cerebral, spinal, ophthalmic, neurostimulator and cochlear healthcare applications
- Electrically contacting chips, SMDs, PCBs, ground and lead-wires, suggested contacts include Au, Ag, AgPd, Pt, PtIr, SST and nitinol

Adhesive Applications for EPO-TEK® MED-H20S



Epoxy Technology Inc.
14 Fortune Drive • Billerica, MA 01821
phone 978-667-3805 fax 978-663-9782
med@epotek.com

Biocompatibility Approval

- EPO-TEK® MED-H20S cured at 100°C for one hour has been tested and is ISO 10993-5 certified (Cytotoxicity testing by MEM Elution methodology)

Sterilization Information

- MED-H20S contains silver which should never be exposed to moisture or bio-fluids since an oxide layer will form, compromising performance and reliability. Therefore it should always be protected, via semiconductor packaging methods, isolating it from its hostile sterilization environments such as: ETO, autoclave and Vaporized Hydrogen Peroxide (VHP) plasma.

Packaging Availability

- EPO-TEK® MED-H20S is available in specialty packaging such as Pre-Mixed Frozen Syringes (PMF), Bi-Paks, or bulk (A & B containers)..
- A Bi-Pak video tutorial can be found here:
<http://www.epotek.com/site/technical-material/application-video-tutorials/117-effective-handling-and-mixing-of-epo-tek®-bi-packs.html>
- A video tutorial on handling frozen syringes can be found here:
<http://www.epotek.com/site/technical-material/application-video-tutorials/231-proper-receiving-and-thawing.html>



Epoxy Technology Inc.
14 Fortune Drive • Billerica, MA 01821
phone 978-667-3805 fax 978-663-9782
med@epotek.com

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