Date: November 2019
Recommended Cure: 150°C / 1 Hour

Rev: XIII

No. of Components: Two
Mix Ratio by Weight: 1 : 1

Specific Gravity: Part A: 1.74 Part B: 3.07

Pot Life: 3 Days
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.

Product Description: EPO-TEK® H20S is a modified version of EPO-TEK® H20E, designed primarily for die stamping and dispensing techniques for chip bonding. EPO-TEK® H20S is a highly reliable, two component, silver-filled epoxy with a smooth, thixotropic consistency. In addition to the high electrical conductivity, the short curing cycles, the proven reliability, and the convenient mix ratio, EPO-TEK® H20S is extremely simple to use.

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: 1,800 - 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: 31 x 10^-6 in/in°C Above Tg: 120 x 10^-6 in/in°C
Shore D Hardness: 64
Lap Shear @ 23°C: 1,240 psi
Die Shear @ 23°C: ≥ 5 Kg 1,778 psi
Degradation Temp: 414 °C
Weight Loss:
@ 200°C: 0.40 %
@ 250°C: 0.60 %
@ 300°C: 1.37 %
Suggested Operating Temperature: < 300 °C (Intermittent)
Storage Modulus: 339,720 psi
Ion Content:
Cl⁻: 162 ppm Na⁺: 0 ppm
NH₄⁺: 282 ppm K⁺: 4 ppm
* Particle Size: ≤ 20 microns

ELECTRICAL AND THERMAL PROPERTIES:

Thermal Conductivity: 3.3 W/mK
* Volume Resistivity @ 23°C: ≤ 0.0005 Ohm-cm
EPO-TEK® H20S Advantages & Suggested Application Notes:

- Especially recommended for use in high speed epoxy chip bonding systems where fast cures are highly desirable.
- Suggested for JEDEC Level III and II plastic IC packaging.
- The low temperature cure makes it ideal for flex circuitry and other low stress applications.
- It is used extensively for bonding quartz crystal oscillators and other stress sensitive chips.
- Used for die and SMD bonding inside hybrid/hermetic packages such as DIP and TO-Cans; also EMI/Rf shielding of micro-electronics.
- Ideal for making ITO electrical contacts in LCD packaging; and suggested for LED die-attach.