# EPO-TEK® H37-MP

**Technical Data Sheet**
**For Reference Only**
*Electrically Conductive, Silver Epoxy*

| | |
|---|---|
| **Date:** | September 2017 |
| **Rev:** | VIII |
| **No. of Components:** | Single |
| **Mix Ratio by Weight:** | N/A |
| **Specific Gravity:** | 3.07 |
| **Pot Life:** | 28 Days |
| **Shelf Life- Bulk:** | One year at -40°C |

**Recommended Cure: 150°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.
- Complies with the requirements of MIL-STD 883/Method 5011.

**Product Description:** EPO-TEK® H37-MP is a single component, electrically conductive, thixotropic silver-filled adhesive for die-attach and SMD attach inside hybrid microelectronic packages. Also available in a frozen syringe.

**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): | Silver | | |
| * Consistency: | Smooth flowing paste | | |
| * Viscosity (23°C) @ 10 rpm: | 22,000-26,000 | cPs | |
| Thixotropic Index: | 3.6 | | |
| * Glass Transition Temp: | ≥ 90 | °C (Dynamic Cure: 20-300°C/ISO 25 Min; Ramp -10-200°C @20°C/Min) | |
| Coefficient of Thermal Expansion (CTE): | | | |
| Below Tg: | 52 | x $10^{-6}$ in/in°C | |
| Above Tg: | 148 | x $10^{-6}$ in/in°C | |
| Shore D Hardness: | 80 | | |
| Lap Shear @ 23°C: | 1,880 | psi | |
| * Die Shear @ 23°C: | ≥ 10 | Kg | 3,556 psi |
| Degradation Temp: | 358 | °C | |
| Weight Loss: | | | |
| * @ 200°C: | 0.13 | % | |
| @ 250°C: | 0.41 | % | |
| @ 300°C: | 0.80 | % | |
| Suggested Operating Temperature: | < 300 | °C (Intermittent) | |
| Storage Modulus: | 727,680 | psi | |
| * Ion Content: | $Cl^-$: < 200 ppm | $Na^+$: | < 50 ppm |
| | $NH_4^+$: 65 ppm | $K^+$: | < 50 ppm |
| * Particle Size: | ≤ 20 | microns | |

| ELECTRICAL AND THERMAL PROPERTIES: | | |
|---|---|---|
| Thermal Conductivity: | 1.6 | W/mK |
| * Volume Resistivity @ 23°C: | ≤ 0.0005 | Ohm-cm |
| Dielectric Constant (1KHz): | N/A | |
| Dissipation Factor (1KHz): | N/A | |




**EPOXY TECHNOLOGY, INC.**
**14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782**
**www.epotek.com**

# EPO-TEK® H37-MP

**Technical Data Sheet**
**For Reference Only**
*Electrically Conductive, Silver Epoxy*

## EPO-TEK® H37-MP Advantages & Suggested Application Notes:

- Complies with MIL-STD 883/Test Method 5011.
- Can be considered a lower stress, and lower cure temperature alternative to EPO-TEK® H35-175MP.
- Compliant material; eliminates cracking when bonding large components or substrates.
- Excellent adhesion to ceramic, Si, Au, kovar, Au/kovar and AgPd.
- May also be used on lead-frames and die-paddles compatible with JEDEC plastic IC packaging.
- Adaptable to conventional processing methods such as automatic dispensing or screen printing.
- Passes NASA low outgassing standard ASTM E595 with proper cure - http://outgassing.nasa.gov/.



**EPOXY TECHNOLOGY, INC.**
**14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782**
**www.epotek.com**