# EPO-TEK® EJ2189

## Technical Data Sheet

### For Reference Only

*Electrically Conductive Epoxy*

| | | | |
|---|---|---|---|
| Number of Components: | Two | Minimum Bond Line Cure Schedule*: | |
| Mix Ratio By Weight: | 10:1 | 150°C | 15 Minutes |
| Specific Gravity: | | 100°C | 1 Hour |
| Part A: | 3.43 | 80°C | 3 Hours |
| Part B: | 0.94 | 23°C | 3 Days |
| Pot Life: | 4 Hours | | |
| Shelf Life: | One year at room temperature | | |

*Note: Container(s) should be kept closed when not in use. For filled systems, mix contents of each container (A & B) thoroughly before mixing the two together. *Please see Applications Note available on our website.*

**Product Description:**

EPO-TEK® EJ2189 is an electrically conductive, silver-filled epoxy paste. This two component system is designed for low temperature curing from ambient to 80°C, although other heat cures can be used.

**EPO-TEK® EJ2189 Advantages & Application Notes:**

- Ease of use: smooth flowing paste allows for automated dispensing, stamping, brushing, or hand applications.
- Suggested applications include: EMI and Rf shielding; ITO interconnects in LCDs; low temperature cryogenic cooling.
- Exhibits superior adhesion to a wide variety of substrates including most metals, ceramics, glass and plastics.
- Hybrid/micro-electronic adhesive including die-attach and substrate attach for Rf and Microwave devices.
- Provides a metallic-like layer after cure.

**Typical Properties:** ***(To be used as a guide only, not as a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results; Cure condition: varies as required ; * denotes test on lot acceptance basis)***

| Physical Properties: | |
|---|---|
| ***Color:** Part A: Silver Part B: Amber | **Weight Loss:** |
| ***Consistency:** Smooth thixotropic paste | **@ 200°C:** 0.31% |
| ***Viscosity (@ 1 RPM/23°C):** 55,000 – 90,000 cPs | **@ 250°C:** 0.65% |
| **Thixotropic Index:** 5.2 | **@ 300°C:** 1.93% |
| ***Glass Transition Temp.(Tg):** ≥ 30°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min) | **Operating Temp:** |
| | **Continuous:** - 55°C to 160°C |
| **Coefficient of Thermal Expansion (CTE):** | **Intermittent:** - 55°C to 260°C |
| **Below Tg:** 53 x $10^{-6}$ in/in/°C | **Storage Modulus @ 23°C:** 275,557 psi |
| **Above Tg:** 107 x $10^{-6}$ in/in/°C | **Ions:** $Cl^-$ 169 ppm |
| **Shore D Hardness:** 60 | $Na^+$ 15 ppm |
| **Lap Shear Strength @ 23°C:** 1,480 psi | $NH_4^+$ 40 ppm |
| **Die Shear Strength @ 23°C:** ≥ 9 Kg / 3,060 psi | $K^+$ 1 ppm |
| **Degradation Temp. (TGA):** 316°C | ***Particle Size:** ≤ 45 Microns |
| **Electrical Properties:** | |
| ***Volume Resistivity @ 23°C ( 23°C/72 Hours):** ≤0.009 Ohm-cm | |
| ***Volume Resistivity @ 23°C ( 80°C/ 3 Hours):** ≤0.005 Ohm-cm | |
| ***Volume Resistivity @ 23°C (150°C/ 1 Hour):** ≤0.0005 Ohm-cm | |
| **Thermal Properties:** | |
| **Thermal Conductivity:** 1.38 W/mK | |


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