

## Epoxy Technology EPO-TEK® E2101 Electrically Conductive, Silver Epoxy

Category : Polymer , Thermoset , Epoxy , Epoxy, Electrically Conductive

### Material Notes:

**Product Description:** EPO-TEK® E2101 is a two component, thixotropic, electrically conductive adhesive. It may be used for circuit assembly and semiconductor applications. **Advantages & Application Notes:**Thixotropic paste allows for application by stencil or screen printing. SMD caps and resistors as small as the 0402 format have been mounted to PCB without silver bridging between the 2 electrodes.Capable of adhering to PCB metals like Au, Cu, OSP / Cu, Ag, Ag-Pd.Used for making electrical connections to PZT electrodes in ink-jetting or medical / ultrasound applicationsSuitable for low temperature flip chip packaging. "Bumps" of E2101 may be used instead of Sn/Pb solder balls.Suited for high speed automated syringe dispensing techniques.Low flow, low resin bleedout on gold surfaces.Passes NASA low outgassing standard ASTM E595 with proper cureJEDEC Level III and II semiconductor packaging materialInformation Provided by Epoxy Technology

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Epoxy-Technology-EPO-TEK-E2101-Electrically-Conductive-Silver-Epoxy.php](http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-E2101-Electrically-Conductive-Silver-Epoxy.php)

| Physical Properties | Metric               | English              | Comments |
|---------------------|----------------------|----------------------|----------|
| Specific Gravity    | 2.35 g/cc            | 2.35 g/cc            | Part A   |
|                     | 4.58 g/cc            | 4.58 g/cc            | Part B   |
| Particle Size       | <= 20 µm             | <= 20 µm             |          |
| Viscosity           | 15000 - 18000 cP     | 15000 - 18000 cP     | 20 rpm   |
|                     | @Temperature 23.0 °C | @Temperature 73.4 °F |          |

| Mechanical Properties | Metric      | English     | Comments |
|-----------------------|-------------|-------------|----------|
| Hardness, Shore D     | 68          | 68          |          |
| Tensile Modulus       | 7.26 GPa    | 1050 ksi    | Storage  |
| Shear Strength        | 6.56 MPa    | 952 psi     | Lap      |
|                       | >= 11.7 MPa | >= 1700 psi | Die      |

| Thermal Properties               | Metric       | English                            | Comments     |
|----------------------------------|--------------|------------------------------------|--------------|
| CTE, linear                      | 48.0 µm/m-°C | 26.7 µin/in-°F                     | Below Tg     |
|                                  | 192 µm/m-°C  | 107 µin/in-°F                      | Above Tg     |
| Thermal Conductivity             | 2.50 W/m-K   | 17.4 BTU-in/hr-ft <sup>2</sup> -°F |              |
| Maximum Service Temperature, Air | 200 °C       | 392 °F                             | Continuous   |
|                                  | 300 °C       | 572 °F                             | Intermittent |

| Minimum Service Temperature, Air Thermal Properties | -55.0 °C<br>Metric | -67.0 °F<br>English | Continuous<br>Comments  |
|---|--------------------|---------------------|---|
|   | -55.0 °C           | -67.0 °F            | Intermittent  |
| Glass Transition Temp, Tg                           | >= 90.0 °C         | >= 194 °F           | Dynamic Cure 20–200°C /ISO 25 Min;<br>Ramp -10–200°C @ 20°C/Min |
| Decomposition Temperature                           | 401 °C             | 754 °F              | Degradation Temperature; TGA                                    |

| Electrical Properties | Metric            | English           | Comments |
|-----------------------|-------------------|-------------------|----------|
| Volume Resistivity    | <= 0.00050 ohm-cm | <= 0.00050 ohm-cm |          |

| Chemical Properties              | Metric  | English | Comments |
|----------------------------------|---------|---------|----------|
| Ionic Impurities - Na (Sodium)   | 10 ppm  | 10 ppm  |          |
| Ionic Impurities - K (Potassium) | 1.0 ppm | 1.0 ppm |          |
| Ionic Impurities - Cl (Chloride) | 27 ppm  | 27 ppm  |          |

| Processing Properties | Metric                             | English                            | Comments          |
|-----------------------|------------------------------------|------------------------------------|-------------------|
| Cure Time             | 15.0 min<br>@Temperature 150 °C    | 0.250 hour<br>@Temperature 302 °F  | Minimum Bond Line |
| Pot Life              | 89 min                             | 89 min                             |                   |
| Shelf Life            | 12.0 Month<br>@Temperature 25.0 °C | 12.0 Month<br>@Temperature 77.0 °F |                   |

| Descriptive Properties | Value                    | Comments |
|------------------------|--------------------------|----------|
| Color                  | Silver                   | Part A   |
|                        | Silver                   | Part B   |
| Consistency            | Smooth thixotropic paste |          |
| Ionic Impurities NH4   | 80 ppm                   |          |
| Mix Ratio By Weight    | 3:1                      |          |
| Number of Components   | Two                      |          |
| Thixotropic Index      | 3.9                      |          |
| Weight Loss            | 0.37%                    | 200°C    |
|                        | 0.61%                    | 250°C    |
|                        | 0.9%                     | 300°C    |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
|------------------------|-------|----------|

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China