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| Number of Components: | Single | Minimum Bond Line Cure Schedule*: |
| Mix Ratio By Weight: | N/A | Pre-Bake 30 Min @ 80°C (max) |
| Specific Gravity: | 2.44 | Cure 1 Hour @ 150°C |
| Part A | | (with or without vacuum) |
| Part B | | Post-Cure 90 Min @ 285°C |
| Pot Life: N/A | Dry Time: 7 Days | |
| Shelf Life: | One year refrigerated | |

Note: Container(s) should be kept closed when not in use. For filled systems, mix contents of container thoroughly.

*Please see Applications Note available on our website.

Product Description:

EPO-TEK[®] P1011S is a single component, modified polyimide, high temperature grade, silver-filled electrically and thermally conductive adhesive designed for semiconductor die-attach and hybrid microelectronic packaging.

EPO-TEK[®] P-1011S Advantages & Applications Notes:

- It is a lower viscosity version of EPO-TEK[®] P1011 for improved die-stamping or pin transfer process methods
- Suggested applications in hybrid micro-electronics:
 - Resisting ceramic or metal SMD lid sealing processes >300°C.
 - Die attaching quartz crystal oscillators to the Au post of TO-cans or Au/ pads on ceramic PCBs.
 - Down-hole petrochemical circuits
 - Atomic clocks, microwave or millimeter wave circuits
 - Die-attaching LED and EEPROM chips inside alpha numeric displays, resisting glass lid-sealing processes >300°C.
- A two-step cure is suggested for optimal adhesive properties.
- Available in alternative viscosities. Contact techserv@epotek.com for your best recommendation.

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: Silver | Weight Loss: |
| *Consistency: Smooth slightly thixotropic paste | @ 200°C: 0.08% |
| *Viscosity (@ 20 RPM/23°C): 6,500 – 10,500 cPs | @ 250°C: 0.09% |
| Thixotropic Index: 1.8 | @ 300°C: 0.16% |
| *Glass Transition Temp.(Tg): ≥ 100°C (Ramp 40°C/Min to 300°C) | Operating Temp: |
| Coefficient of Thermal Expansion (CTE): | Continuous: - 55°C to +225°C |
| Below Tg: 28 x 10 ⁻⁶ in/in/°C | Intermittent: - 55°C to +325°C |
| Above Tg: 57 x 10 ⁻⁶ in/in/°C | Storage Modulus @ 23°C: 639,262 |
| Shore D Hardness: 71 | Ions: Cl ⁻ ppm |
| Lap Shear Strength @ 23°C: N/A | Na ⁺ ppm |
| Die Shear Strength @ 23°C: ≥ 4 Kg / 1,360 psi | NH ₄ ⁺ ppm |
| Degradation Temp. (TGA): 379°C | K ⁺ ppm |
| | *Particle Size: ≤ 20 Microns |
| Electrical Properties: | |
| *Volume Resistivity @ 23°C: ≤ 0.0005 Ohm-cm | |
| Thermal Properties: | |
| Thermal Conductivity: > 2.78 W/mK | |

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