EPO-TEK® H72

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

EPO-TEK® H72 is a two component, high Tg, thermally conductive and electrically insulating epoxy designed for semiconductor packaging including heat sinking, hermetic sealing, and opto-electronic assemblies.

| General Information | | | | | |
|------------------------------------|------------------------------------|------|-----|--|--|
| Features | Electrically Insulating | | | | |
| | Good Chemical Resistance | | | | |
| | High Heat Resistance | | | | |
| | Low to No Outgassing | | | | |
| | Solvent Resistant | | | | |
| | Thermally Conductive | | | | |
| | | | | | |
| Uses | Adhesives | | | | |
| | Electrical/Electronic Applications | | | | |
| | Seals | | | | |
| Agency Ratings | ASTM E 595 | | | | |
| | EC 1907/2006 (REACH) | | | | |
| | EU 2003/11/EC | | | | |
| | EU 2006/122/EC | | | | |
| | | | | | |
| RoHS Compliance | RoHS Compliant | | | | |
| Forms | Paste | | | | |
| Physical | Nominal Value | Unit | | | |
| Particle Size | < 50.0 | μm | | | |
| Degradation Temperature | 476 | °C | TGA | | |
| Die Shear Strength - >20 kg (23°C) | 46.9 | MPa | | | |
| Operating Temperature | | | | | |
| Continuous | -55 to 250 | °C | | | |
| Intermittent | -55 to 350 | °C | | | |
| Storage Modulus (23°C) | 5.24 | GPa | | | |
| Thixotropic Index | 1.20 | | | | |
| Weight Loss on Heating | | | | | |
| 200°C | 0.18 | % | | | |
| 250°C | 0.28 | % | | | |
| 300°C | 0.43 | % | | | |
| Thermal | Nominal Value | Unit | | | |

| Glass Transition Temperature ¹ | > 100 | °C | | |
|---|--|--------------------------|-------------|--|
| CLTE - Flow | | | | |
| 2 | 2.9E-5 | cm/cm/°C | | |
| 3 | 1.4E-4 | cm/cm/°C | | |
| Thermal Conductivity | 0.60 | W/m/K | | |
| Thermoset | Nominal Value | Unit | Test Method | |
| Thermoset Components | | | | |
| Part A | Mix Ratio by Weight: 100 | | | |
| Part B | Mix Ratio by Weight: 4.0 | Mix Ratio by Weight: 4.0 | | |
| Shelf Life (23°C) | 52 | wk | | |
| Uncured Properties | Nominal Value | Unit | Test Method | |
| Color | | | | |
| ⁴ | Amber | | | |
| 5 | Grey | | | |
| Density | | | | |
| Part B | 1.02 | g/cm ³ | | |
| Part A | 2.00 | g/cm ³ | | |
| Viscosity ⁶ (23°C) | 20 to 27 | Pa·s | | |
| Curing Time (150°C) | 1.0 | hr | | |
| Pot Life | 120 | min | | |
| Cured Properties | Nominal Value | Unit | Test Method | |
| Shore Hardness (Shore D) | 88 | | | |
| Lap Shear Strength (23°C) | > 13.8 | MPa | | |
| Relative Permittivity (1 kHz) | 5.40 | | | |
| Volume Resistivity (23°C) | > 1.0E+13 | ohms•cm | | |
| Dissipation Factor (1 kHz) | 9.0E-3 | | | |
| NOTE | | | | |
| 1. | Dynamic Cure 20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min | | | |
| 2. | Below Tg | | | |
| 3. | Above Tg | | | |
| 4. | Part B | | | |
| 5. | Part A | | | |
| 6. | 10 rpm | | | |
| | | | | |

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519 Phone: +86 13424755533 Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

