

EPO-TEK® 320NC

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

A two component, black-colored and optically opaque epoxy designed for optical, medical, and opto-electronic packaging of semiconductor devices and components. It is a modification of EPO-TEK ® 320 for increased insulation and dielectric properties.

| General Information | | |
|---|------------------------------------|----------|
| Uses | Electrical/Electronic Applications | |
| | Medical/Healthcare Applications | |
| | Optical Applications | |
| Agency Ratings | EC 1907/2006 (REACH) | |
| | EU 2003/11/EC | |
| | EU 2006/122/EC | |
| RoHS Compliance | RoHS Compliant | |
| Forms | Paste | |
| Physical | Nominal Value | Unit |
| Particle Size | < 20.0 | µm |
| Degradation Temperature | 340 | °C |
| Die Shear Strength - > 15 kg (23°C) | 35.2 | MPa |
| Operating Temperature | | |
| Continuous | -55 to 175 | °C |
| Intermittent | -55 to 275 | °C |
| Storage Modulus (23°C) | 3.71 | GPa |
| Weight Loss on Heating | | |
| 200°C | 0.39 | % |
| 250°C | 0.63 | % |
| 300°C | 1.3 | % |
| Thermal | Nominal Value | Unit |
| Glass Transition Temperature ¹ | > 50.0 | °C |
| CLTE - Flow | | |
| -- ² | 2.8E-5 | cm/cm/°C |
| -- ³ | 9.4E-5 | cm/cm/°C |
| Optical | Nominal Value | Unit |
| Transmittance (300 to 2500 nm) | < 1.0 | % |
| Thermoset | Nominal Value | Unit |
| Thermoset Components | | |
| Part A | Mix Ratio by Weight: 10 | |

| | | |
|-------------------------------|--|-------------------|
| Part B | Mix Ratio by Weight: 1.0 | |
| Shelf Life (23°C) | 52 | wk |
| Uncured Properties | Nominal Value | Unit |
| Color | | |
| -- 4 | Black | |
| -- 5 | Clear/Transparent | |
| Density | | |
| Part B | 0.878 | g/cm ³ |
| Part A | 2.05 | g/cm ³ |
| Viscosity ⁶ (23°C) | 1.0 to 3.0 | Pa·s |
| Curing Time (70°C) | 1.0 | hr |
| Pot Life | 20 | min |
| Cured Properties | Nominal Value | Unit |
| Shore Hardness (Shore D) | 85 | |
| Lap Shear Strength (23°C) | > 13.8 | MPa |
| Relative Permittivity (1 kHz) | 9.92 | |
| Volume Resistivity (23°C) | > 2.0E+11 | ohms·cm |
| Dissipation Factor (1 kHz) | 0.067 | |
| 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 A | |
| 5. | Part B | |
| 6. | 100 rpm | |

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