

# EPO-TEK® T7109-20

Epoxy; Epoxide

Epoxy Technology Inc.

## Message:

Flexible thermally conductive epoxy. A more flexible version of EPO-TEK® T7109-19.

| General Information                       |                          |          |
|-------------------------------------------|--------------------------|----------|
| Features                                  | Good Flexibility         |          |
|                                           | Thermally Conductive     |          |
| 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                   | 307                      | °C       |
| Die Shear Strength - <5 kg (23°C)         | 11.7                     | MPa      |
| Operating Temperature                     |                          |          |
| Continuous                                | -55 to 150               | °C       |
| Intermittent                              | -55 to 250               | °C       |
| Storage Modulus                           | 17.2                     | MPa      |
| Thixotropic Index                         | 2.80                     |          |
| Weight Loss on Heating                    |                          |          |
| 200°C                                     | 0.21                     | %        |
| 250°C                                     | 0.51                     | %        |
| 300°C                                     | 1.8                      | %        |
| Thermal                                   | Nominal Value            | Unit     |
| Glass Transition Temperature <sup>1</sup> | < 20.0                   | °C       |
| CLTE - Flow                               |                          |          |
| -- <sup>2</sup>                           | 5.2E-5                   | cm/cm/°C |
| -- <sup>3</sup>                           | 2.3E-4                   | cm/cm/°C |
| Thermal Conductivity                      | 0.92                     | W/m/K    |
| Thermoset                                 | Nominal Value            | Unit     |
| Thermoset Components                      |                          |          |
| Part A                                    | Mix Ratio by Weight: 10  |          |
| Part B                                    | Mix Ratio by Weight: 1.5 |          |
| Shelf Life (23°C)                         | 52                       | wk       |

| Uncured Properties            | Nominal Value                                                  | Unit              |
|-------------------------------|----------------------------------------------------------------|-------------------|
| Color                         |                                                                |                   |
| -- 4                          | Clear/Transparent                                              |                   |
| -- 5                          | Grey                                                           |                   |
| Density                       |                                                                |                   |
| Part B                        | 1.02                                                           | g/cm <sup>3</sup> |
| Part A                        | 1.35                                                           | g/cm <sup>3</sup> |
| Viscosity <sup>6</sup> (23°C) | 30 to 60                                                       | Pa·s              |
| Curing Time (80°C)            | > 2.0                                                          | hr                |
| Pot Life                      | 90                                                             | min               |
| Cured Properties              | Nominal Value                                                  | Unit              |
| Shore Hardness (Shore A)      | 78                                                             |                   |
| Lap Shear Strength (23°C)     | 5.36                                                           | MPa               |
| Relative Permittivity (1 kHz) | 4.10                                                           |                   |
| Volume Resistivity (23°C)     | > 2.0E+11                                                      | ohms·cm           |
| Dissipation Factor (1 kHz)    | 0.074                                                          |                   |
| NOTE                          |                                                                |                   |
| 1.                            | Dynamic Cure 20-200°C/ISO 25<br>Min; Ramp -10-200°C @ 20°C/Min |                   |
| 2.                            | Below Tg                                                       |                   |
| 3.                            | Above Tg                                                       |                   |
| 4.                            | Part B                                                         |                   |
| 5.                            | Part A                                                         |                   |
| 6.                            | 5 rpm                                                          |                   |

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