

# EPO-TEK® H35-175MPLV

Epoxy; Epoxide

Epoxy Technology Inc.

## Message:

EPO-TEK® H35-175MPLV is a single component, silver-filled epoxy for military hybrid die and component attach. It is a lower viscosity version of EPO-TEK® H35-175MP.

| General Information                 |                                    |      |
|-------------------------------------|------------------------------------|------|
| Filler / Reinforcement              | Silver                             |      |
| Features                            | Electrically Conductive            |      |
|                                     | Low to No Outgassing               |      |
|                                     | Thermally Conductive               |      |
| Uses                                | Adhesives                          |      |
|                                     | Electrical/Electronic Applications |      |
|                                     | Military Applications              |      |
| Agency Ratings                      | EC 1907/2006 (REACH)               |      |
|                                     | EU 2003/11/EC                      |      |
|                                     | EU 2006/122/EC                     |      |
|                                     | MIL Std. 883                       |      |
| RoHS Compliance                     | RoHS Compliant                     |      |
| Forms                               | Paste                              |      |
| Physical                            | Nominal Value                      | Unit |
| Ion Type                            |                                    |      |
| Cl-                                 | < 200                              | ppm  |
| K+                                  | < 50                               | ppm  |
| Na+                                 | < 50                               | ppm  |
| NH4+                                | 65                                 | ppm  |
| Particle Size                       | < 20.0                             | µm   |
| Degradation Temperature             | 330                                | °C   |
|                                     |                                    | TGA  |
| Die Shear Strength - > 10 kg (23°C) | 23.4                               | MPa  |
| Operating Temperature               |                                    |      |
| Continuous                          | -55 to 180                         | °C   |
| Intermittent                        | -55 to 280                         | °C   |
| Storage Modulus (23°C)              | 3.41                               | GPa  |
| Thixotropic Index                   | 2.66                               |      |
| Weight Loss on Heating              |                                    |      |
| 200°C                               | 0.040                              | %    |

|                                           |                                                                |                   |                    |
|-------------------------------------------|----------------------------------------------------------------|-------------------|--------------------|
| 250°C                                     | 0.060                                                          | %                 |                    |
| 300°C                                     | 0.19                                                           | %                 |                    |
| <b>Thermal</b>                            | <b>Nominal Value</b>                                           | <b>Unit</b>       |                    |
| Glass Transition Temperature <sup>1</sup> | > 100                                                          | °C                |                    |
| CLTE - Flow                               |                                                                |                   |                    |
| -- <sup>2</sup>                           | 4.7E-5                                                         | cm/cm/°C          |                    |
| -- <sup>3</sup>                           | 1.9E-4                                                         | cm/cm/°C          |                    |
| Thermal Conductivity                      | 1.5                                                            | W/m/K             |                    |
| <b>Thermoset</b>                          | <b>Nominal Value</b>                                           | <b>Unit</b>       | <b>Test Method</b> |
| Shelf Life (-40°C)                        | 52                                                             | wk                |                    |
| <b>Uncured Properties</b>                 | <b>Nominal Value</b>                                           | <b>Unit</b>       | <b>Test Method</b> |
| Color                                     | Silver                                                         |                   |                    |
| Density                                   | 2.64                                                           | g/cm <sup>3</sup> |                    |
| Viscosity <sup>4</sup> (23°C)             | 11 to 17                                                       | Pa·s              |                    |
| Curing Time (180°C)                       | 1.0                                                            | hr                |                    |
| Pot Life                                  | 40000                                                          | min               |                    |
| <b>Cured Properties</b>                   | <b>Nominal Value</b>                                           | <b>Unit</b>       | <b>Test Method</b> |
| Shore Hardness (Shore D)                  | 75                                                             |                   |                    |
| Lap Shear Strength (23°C)                 | 12.9                                                           | MPa               |                    |
| Volume Resistivity (23°C)                 | < 5.0E-4                                                       | ohms·cm           |                    |
| <b>NOTE</b>                               |                                                                |                   |                    |
| 1.                                        | Dynamic Cure 20-300°C/ISO 25<br>Min; Ramp -10-200°C @ 20°C/Min |                   |                    |
| 2.                                        | Below Tg                                                       |                   |                    |
| 3.                                        | Above Tg                                                       |                   |                    |
| 4.                                        | 10 rpm                                                         |                   |                    |

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