

# OE1582

## Transparent Epoxy Encapsulant

| Typical Properties                  |                       |   |                         |
|-------------------------------------|-----------------------|---|-------------------------|
| Property                            | Unit                  | Value   | Test Method             |
| Color / Component A                 | APHA                  | Pt-Co: 50<br>Clear / Transparent                      | ASTD D 1209<br>& Visual |
| Color / Component B                 | APHA                  | Pt-Co: 10<br>Clear / Transparent                      | ASTD D 1209<br>& Visual |
| Mixing Ratio (A:B)                  | By vol. / wt.         | 2 : 1   |                         |
| Density (as mixed)                  | Gram /cc              | 1.05  | ASTM D792               |
| Viscosity as Mixed at 25°C          | cPs                   | 7,500   | ASTM D2196              |
| Property as Cured                   |                       |   |                         |
| Color                               | APHA                  | Pt-Co: 35<br>Clear / Transparent                      | ASTD D 1209<br>& Visual |
| Hardness                            | Shore D               | 85  | DMA                     |
| Refractive Index                    | n <sub>D</sub> (25°C) | 1.564   | ASTM D542               |
| % Transmittance<br>(1 mm thick)     | 360 nm to<br>1000 nm  | 95% to 99%  | ASTD D1003              |
| Flexible Strength                   | Mpa                   | 120   | ASTM D790               |
| Compress Strength                   | Mpa                   | 150   | ASTM D695               |
| Dielectric Strength                 | Volt/mil AC           | > 500   | ASTM D149               |
| Volume Resistivity                  | Ohm-cm                | > 10E+12  | ASTM D257               |
| Coefficient of Thermal<br>Expansion | ppm/C                 | 123 (@ > T <sub>g</sub> )<br>58 (@ < T <sub>g</sub> ) | IPC-TM-650              |
| Adhesion (Al/Al lap shear)          | Psi                   | > 1200  | ASTM D1002              |
| T <sub>g</sub>                      | °C                    | 80  | DMA                     |
| Temperature Usage                   | °C                    | -80 to 180  | TGA                     |
| Cure Profile                        |                       |   |                         |
| Cure at 25°C                        | hr                    | 24  | Hardness                |
| Cure at 80°C                        | Min                   | 60  | DSC                     |
| Cure at 125°C                       | Min                   | 15  | DSC                     |
| Pot / Work Life at 25°C             | hr                    | 4   | Viscosity double        |

These figures are only intended as a guide and should not be used in preparing specifications.

### Processing Instruction

For the package in a container (not in a cartridge), to ensure homogeneity of the mixing, the two components must be stirred thoroughly. Any possible air bubbles due to the mixing processing can be removed by applying vacuum.

We recommend running preliminary tests to optimize conditions for the particular application. Comprehensive processing instructions can be obtained by contacting directly to United Adhesives, Inc.

### Storage

OE1582 has a shelf life of at least 12 months when stored at ambient in the originally sealed container. The 'Best use before end' date of each batch appears on the product label. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

### Safety information

General hygiene regulations should be observed. Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from United Adhesives, Inc.

### Characteristics

OE1582 is a water clear optically transparent epoxy adhesive / potting compound for L.E.D. encapsulating, fiber optics, clear potting, or any optical and electronic applications. After the two components are mixed, it can be cured at elevated temperature to form a transparent, colorless solid with strong bonding to various substrates such as metals, silicon, flip chip, BGA, ceramics, LTCC, Al, Cu, stainless steel, etc. It is formulated with anti-ultraviolet protecting to minimize yellowing over time. It also provides bubble free and glass smooth finish.

### Special Features and Benefits

- Water clear and optical transparency
- High bonding strength
- Low bleeding, low volatile
- Low ionic content

### Typical Applications

- Opto-Electronic Applications
- LED Glob-Top Encapsulating
- Semiconductor and Telecommunications
- Optical Lens and IR Lens
- Fiber Optical Potting or Sealing
- Lens and Prism Bonding
- Bonding or Potting of Medical Devices
- Adhesive for Endoscopes or Light Guides
- Structural Bonding or Potting

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