

# E-Shield 6740

## Electrically Conductive Adhesive and Coating

| Typical Properties         |           |                 |                  |
|----------------------------|-----------|-----------------|------------------|
| Property                   | Unit      | Value           | Test Method      |
| Color                      |           | Silver / Copper | Visual           |
| Viscosity at 25°C          | cP.s      | 15,000          | ASTM D2196       |
| Thixotropic Index          |           | 3.5             | ASTM D2196       |
| Density                    | Gram /cc  | 2.0             | ASTM D792        |
| Weight loss in cure        | Weight %  | < 2%            | TGA              |
| Property as Cured          |           |                 |                  |
| Color                      |           | Silver / Copper | Visual           |
| Volume Resistivity         | Ohm-cm    | < 0.003         | ASTM D257        |
| Thermal Conductivity       | W/m-K     | > 5             | ASTM D5470       |
| Hardness                   | Shore D   | 40              | ASTM D2240       |
| Temperature Usage          | Degree °C | -80 to 180      | TGA              |
| Shelf Life (< -40°C)       | Month     | 6               | Viscosity double |
| Cure Profile               |           |                 |                  |
| At 25°C (Dry to tack-free) | Day       | 3 to 4          | UAITM *          |
| Cure at 125°C              | Minute    | 60              | DSC              |
| Cure at 150°C              | Minute    | 20              | DSC              |
| Pot Life at 25°C           | Hour      | 24              | Viscosity double |

These figures are only intended as a guide and should not be used in preparing specifications.  
 UAITM – United Adhesives' Internal Test Method

### Characteristics

E-Shield 6740 is a high electrically conductive adhesive and surface coating material. It is a one-component epoxy paste filled with silver-coated copper. It cures at elevated temperature to form a thin solid coating layer on various plastic substrates with superior adhesion. The cured material has excellent electrical conductivity to provide EMI / RF shielding. E-Shield 6740 is printable over screen / stencil.

### Special Features and Benefits

- High electrical conductivity
- Strong bonding to various plastics
- Flexible cure profiles & room temp curable
- High thermal conductivity
- High temperature stability
- Strong oil and chemical resistance

### Typical Applications

- Aerospace
- Automotive electronics
- Semiconductor and Telecommunications
- Coated on backside of plastic housing
- EMI / RF Shielding
- Conductive coating

E-Shield 6740 has a shelf life of at least 6 months when stored below – 40 °C freezer in the originally sealed containers.

### Processing Instruction

At room temperature, E-Shield 6740 can dry to tack-free in ~24 hour and reaches a full cure after 4 days. The best properties, however, are typically achieved by curing at elevated temperatures.

For the package in a container, to ensure homogeneity of the material, the components must be stirred thoroughly before they are removed or processed in order to uniformly disperse any filler that might have settled during storage.

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

E-Shield 6740 has a shelf life of at least 6 months when stored below – 40°C 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.

The figures listed in this datasheet are in good faith with the present state of our knowledge, but should not be used in substitution for user's tests. We reserve the right to alter product constants within the scope of technical progress or new developments. The suggestions for use in this sheet should be checked by preliminary trials because the user's processing conditions are out of our control. The suggestions for use should not be in substitution of user from the obligation of investigating the possibility of infringement of third parties' patents or rights. This datasheet does not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose. For technical, quality, or product safety questions, please contact directly to United Adhesives Inc.