Elecolit® El 3655 silver filled electrically conductive chip bonding adhesive has been developed for the requirements in the semiconductor industry, for microelectronic applications and LED die attach. The usage of high density fillers and special particle size control allows to achieve highest silver loading without any solvents. The material is able to be dispensed through small needle diameters or by jet dispenser without clogging. Elecolit® El 3655 has low bleeding tendency, contains no outgassing substances and is a high purity adhesive (ionic content of Na⁺; K⁺ and Cl⁻ below 10ppm). The product cures rapidly at 180°C.
After extended storage periods, the product must be homogenized.

**Shelf life:** 6 months at 5 °C

**Technische Daten :**

- Color: silver
- Resin: epoxy
- Filler: approx. 87% silver

**UNCURED PROPERTIES**

- Viscosity (Bohlin CVO / 25 °C) [mPa·s]: PE-Norm P029 15000 to 45000
- Flash point [° C]: PE-Norm P050 > 100
- Density [g/cm³]: PE-Norm P003 approx. 5.6
- Thixotropy Index (Scherrate 30 1/s): PE-Norm P061 3.3

**Curing**

- 60 minutes at 180 °C
- 30 minutes at 150 °C
- Thixotropy Index (Scherrate 30 1/s): 3.3
- 0.00003 Ohm x cm

**CURED PROPERTIES**

- Temperature Resistance [°C]: PE-Norm P030 -40 to 180
- Hardness [Shore D]: PE-Norm P052 75 to 85
- Volume resistivity [Ohm x cm]: ASTM-D-257-93 0.0003
- Water Absorption [mass-%]: PE-Norm P053 < 0.17
- Tg [°C] (DSC): PE-Norm P009 140 to 150
- CTE [ppm/K]: PE-Norm P017 52
- Thermal conductivity [W/m·K]: ASTM 1530 8.5

Generally the guidelines for application, storage etc. as mentioned in our general data sheet for Elecolit® are valid.

Panacol-Elosol GmbH · Daimlerstr. 8 · 61449 Steinbach · Tel. 00496171/6202 - 0 · Fax 00496171/6202-590 · e-mail: info@panacol.de
TECHNICAL DATASHEET

Elecolit® 3655

Mechanical Data

- Die* Shear Strength (bare Cu) [N/Die]  
  [PE-Norm P057] approx. 140

- Die* Shear Strength (AgPd/CuNiAu) [N/Die]  
  [PE-Norm P057] approx. 260

- Lap Shear Strength (Ag/Cu) [MPa]  
  [PE-Norm P013] approx. 25

- Lap Shear Strength (Si/Cu) [MPa]  
  [PE-Norm P013] approx. 23.5

- Lap Shear Strength (AgPd/Cu) [MPa]  
  [PE-Norm P013] approx. 24

* Si die 3x3mm (120x120 mil)

**Instructions for Use**

**Surface Preparation**
The surfaces to be bonded should be free of dust, oil, fat or any other dirt in order to optimise reproducible results. Lightly soiled surfaces can be cleaned with cleaner IP to create a suitable working surface.

**Application**
Our products are delivered ready for use. As soon as you receive them, you can dispense or use them for screen printing processes. You should store the products at 5°C for longer shelf life time.

Before using acclimate the adhesive up to room temperature. Liquid Elecolit products have to be homogenised well before application. Paste-like products can be used directly.

1-C Products have no mixing ration and pot life time.

**Curing**
For curing heat must be applied. The polyaddition starts at temperature over 100°C. Higher temperature will reduce the curing time. For detailed curing information, please look into the technical data sheet. Higher curing temperature will lead to better electrical conductivity and less volume resistivity.

If help is required, please contact our engineering department.
Please read the corresponding Safety Data Sheet for this product.

Generally the guidelines for application, storage etc. as mentioned in our general data sheet for Elecolit® are valid.