Heraeus’ newly developed electrically conductive adhesive (ECA) for PV applications – Hecaro® – resumes Heraeus’ long tradition in providing ECAs to the automotive and semiconductor industry. Hecaro® is the answer to the PV industry’s need for a reliable, cost-effective, fast curing and screen-printable material. Using a unique and patented set of pure Ag particles Hecaro® provides excellent conductivity while viscosity and curing time allow for high-throughput processing.

Hecaro® can be used for almost all cell and module concepts currently found in PV. The material is appropriate for the application in shingled PV modules, for interconnecting HJT and IBC cells, and enables the replacement of soldering processes in conventional PV modules. Hecaro® has proven its reliability in long-term climate chamber testing.
**APPLICATION CONCEPTS**

**FOR SHINGLED CELL MODULES**

Additional Benefits
- No ribbon required
- Higher module power

**FOR CELL INTERCONNECTION / BUSBAR REPLACEMENT**

Additional Benefits
- No solder required
- Higher reliability

**FOR BACK CONTACT SOLAR CELLS**

Additional Benefits
- No ribbon required
- No shading

**MATERIAL PROPERTIES**

- Solid content: 71.5 +/- 1 %
- Density: 2.8 ± 0.2 g/cm³
- Pot life: 48 h
- Viscosity (CP 25-2 Anton Paar): 15 – 30 Pas at 50 s⁻¹

Typical properties of cured ECA
- Volume resistivity: < 1 mOhmcm
- Storage modulus at 25°C: 700 MPa
- Shear strength: 12 MPa

**RECOMMENDED PROCESSING GUIDELINES**

Printing: Screen parameter recommendations with stainless steel screen:
- > 120 μm opening (depend on actual cell bus bar design)

Screen thickness: 80 – 100 μm

EOM thickness: 8 – 16 μm

Curing: 200 – 230°C, > 30 S

Storage: REFRIGERATION REQUIRED.

Store in a freezer at or below -20°C. Allow adhesive to come to room temperature prior to opening the container to avoid condensation. Stir well before using.

**RELIABILITY DATA**

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<th>TC1500 passed</th>
<th>FF in Temperature Cycling Test</th>
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