

## Silver Paste|Adhesive|Ink for solar cells

### 1 Alwaysstone Conductor Pastes for solar Cells

The Thick Film Materials Division of Uninwell International is market leader in electronic materials such as thick film pastes and materials for passive components and hybrid circuits, as well as advanced materials such as LTCC materials and photo-etchable pastes.

Due to the development of conductive pastes, this expertise can be used in the photovoltaic industry.

Uninwell® Alwaysstone™ is the brand name for products that are used to apply electrical contacts to solar cells of the first photovoltaic generation (wafer based cells).

The conductive pastes are based on silver. The Uninwell Solarcare series is cadmium-free and the printing properties are excellent. After firing, the series stands out due to its high efficiency and fill factor along with excellent line resolution. Lead-free formulations are also available.

AS-999-900 silver pastes series

AS-999-800 silver pastes series

AS-999-700 silver pastes series

AS-999-600 silver pastes series

AS-999-400 silver pastes series

AS-888-800 Ag/Al pastes series

AS-888-400 Ag/Al pastes series

AS-777-800 Al pastes series

AS-777-400Al pastes series

### 2 Solarcare Conductor Pastes for Thin Film solar Cells

Uninwell has now introduced a new range of low temperature screen printable pastes for all major thin film PV applications enabling more cost effective manufacturing of solar cells with improved efficiency and yield.

The main purpose of the low temperature curing Ag Silver paste is for use as a front side current collector grid and bus bar to reduce the resistive losses due to the relatively low conductivity of the transparent conductive oxide (TCO) layer used in thin film PV devices.

Uninwell® Solarcare™ can be used on both rigid (glass, silicon) and flexible (polyimide, polyester, stainless steel) substrates.

#### Thin Film Applications

##### A. Amorphous Silicon (a-Si) / Microcrystalline Silicon ( $\mu$ c-Si) - Ag Silver grid & bus bar

SC-666-80series

SC-666-120series

SC-666-150series

SC-666-180series

SC-666-200series

##### B. Copper Indium Gallium Selenium (CIGS) - Ag Silver grid & bus bar

SC-666-80series

SC -666-120series

SC -666-150series

SC-666-180series

SC -666-200series

C. Heterojunction - Ag Silver grid & bus bar

SC-666-80series

SC -666-120series

SC -666-150series

SC-666-180series

SC -666-200series

D. Cadmium Telluride (CdTe) - Carbon ink (back contact)

SC-11XX series

SC-12XX series

E. SC-6XXX series

### **3 Alwaysstone&Solarcare Conductor Pastes for CPV Cells**

SC-666-25 series

SC-666-150 series

SC-666-180 series

AS-61XX series

### **4 Canano Nanometer Silver pastes**

CN-11XX Nanometer Silver pastes

CN-21XX Nanometer Silver pastes

CN-31XX Nanometer Silver pastes

CN-41XX Nanometer Silver pastes

CN-51XX Nanometer Silver pastes

CN-61XX Nanometer Silver pastes

CN-71XX Nanometer Silver pastes

CN-81XX Nanometer Silver pastes

CN-91XX Nanometer Silver pastes

### **Stated importantly:**

Uninwell®、Breakover-quick®、Canano®、Solarcarer®、LEDcarer®、Silverworld AG®、Silver valley®、AlwaysStone®、Bestcarer®、Fastestone®、AnyFaster®、Fitcarer®、Very high conductive®、Anyhighbond®、Carerfreer®、The silver of science™、The conductive of science™、The adhesive of science™、The carefree of science™、The paste of science™、The target of science™、The nanomaterials of science™ are registered trademark of Uninwell International LTD.