

Henkel at the 26th EU PVSEC

Conductive Adhesive Innovations Advance Solar Module Assembly Capability

At the 26th European Photovoltaic Solar Energy Conference (EU PVSEC) in Hamburg, Germany, Henkel will display some of the company's innovations in electrically conductive adhesive technology (ECA). These advances address the low stress, faster cure speeds and lower temperature curing requirements for modern thin-film and crystalline silicon (c-Si) module assembly. In conjunction with global customer service, Henkel offers a unique package of services to the photovoltaic industry. Visitors can see these offerings first-hand at the Henkel-stand in Hall B6, Stand B11.

Reducing module stress, particularly at the tabbing ribbon connection points, is key to high yield production and module in-field reliability but, to date, materials such as solder and high-temperature cure ECAs haven't been able to effectively deliver on these demands. Henkel, however, has developed ECAs that solve these issues.

Adhesive Innovations for Thin-Film Solar Modules

Hysol Eccobond CE3103WLV is an electrically conductive adhesive designed for assembly of thin-film solar substrates and overcomes challenges with unstable contact resistance posed by older-generation ECAs. Based on research that concluded electrochemical corrosion on copper and tin in elevated temperature and humidity conditions was the primary culprit of contact resistance instability, Henkel developed an ECA to overcome this challenge. By introducing advanced corrosion inhibition characteristics into Hysol Eccobond CE3103WLV, the material enables stable electrical contact resistance between transparent conductive oxides (TCO) and tin terminations through 1000 hours of 85 degrees centigrade temperature at 85 per cent relative humidity (RH). This advance allows manufacturers to now employ a low temperature process, thus reducing energy consumption and device stress.

Electrical Connections for c-Si Solar Modules

Also part of Henkel's portfolio of solar ECA solutions is Hysol Eccobond CA3556HF. As an alternative to traditional solder connections used for c-Si solar modules which can be problematic for emerging thin, fragile solar cells, Hysol Eccobond CA3556HF has been formulated to deliver low temperature curing at 150 degrees centigrade and an exceptionally fast cure time of five seconds. The award-winning material provides an excellent bond between the Ag and SnPbAg coated tabs and the c-Si cells, delivering a stable and reliable electrical connection over the life of the module. But, it's not just c-Si processes that benefit from Hysol Eccobond CA3556HF; thin-film module manufacturers have also successfully incorporated this material into processes that dictate low-stress, fast curing interconnection of cells and ribbons.

— “As solar technology advances, so must the material sets used to facilitate higher efficiency, improved reliability and greater yield,” explains Joseph Xu, Marketing Manager for Henkel. “The ECAs from Henkel have addressed all of these requirements. With Henkel's vast knowledge base and engineering expertise at their core – not to mention being backed by a world-class global support network – Hysol Eccobond CA3556HF and Hysol Eccobond CE3103WLV are raising the bar on ECA performance for thin-film and c-Si module assembly.”

— With manufacturing centers of excellence around the globe and a worldwide staff of solar materials experts, Henkel is positioned to deliver leading-edge support resource wherever and whenever it is required.

Visitors to the European Photovoltaic Solar Energy Conference, taking place September 5th through 9th in Hamburg, Germany, can receive more information about Henkel's latest ECA advances for solar module manufacturing in Hall B6, Stand B11. Additional product details can also be obtained by visiting www.henkel.com/electronics.

Photo material is available at <http://www.henkel.com/press>

— Henkel operates worldwide with leading brands and technologies in three business areas: Laundry & Home Care, Cosmetics/Toiletries and Adhesive Technologies. Founded in 1876, Henkel holds globally leading market positions both in the consumer and industrial businesses with well-known brands such as Persil, Schwarzkopf and Loctite. Henkel employs about 48,000 people and reported sales of 15,092 million euros and adjusted operating profit of 1,862 million euros in fiscal 2010. Henkel's preferred shares are listed in the German stock index DAX and the company ranks among the Fortune Global 500.

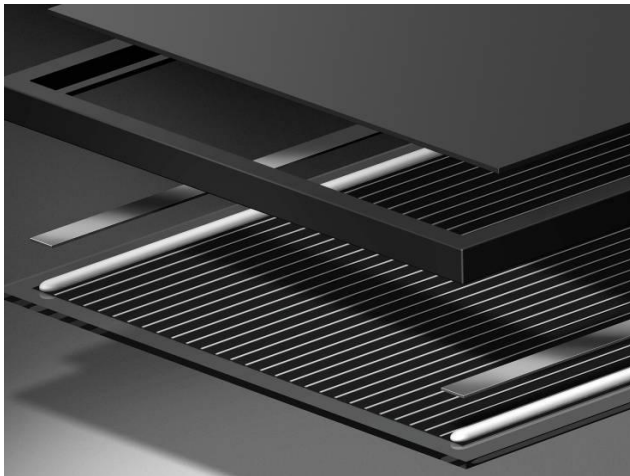
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Henkel AG & Co. KGaA

The following material is available:



With its conductive adhesives Hysol Eccobond CA3556HF Henkel offers a new alternative to traditional solder connections used for c-Si solar modules.



Designed for assembly of thin-film solar substrates Hysol Eccobond CE3103WLV overcomes challenges with unstable contact resistance posed by older-generation ECAs.