

# PRESS RELEASE

Number 37

## WACKER Presents New Silicone Encapsulant for Flexible Thin-Film Modules

**Munich, August 10, 2011 – WACKER, the Munich-based chemical company, has developed a new silicone encapsulant for the solar industry which enables flexible thin-film modules to be laminated cost-effectively using roll-to-roll processing. Marketed under the trade name ELASTOSIL® Solar 2200, this new product is transparent, pourable and non-corrosive. It vulcanizes rapidly at elevated temperature and has outstanding adhesive properties. In its cured state, it provides all types of thin-film solar cells with effective long-term protection from chemical and mechanical stresses.**

ELASTOSIL® Solar 2200 is a two-component liquid silicone rubber which vulcanizes to form a transparent silicone elastomer. The silicone contains adhesion-promoting additives which ensure optimum bonding to all substrates typically used in the manufacture of thin-film modules. As a result, it readily bonds to glass and flexible films made from a variety of materials including aluminum, polyethylene terephthalate (PET), polyethylene naphthalate (PEN) or activated ethylene tetrafluoroethylene copolymer (ETFE) without the need for a primer.

The rubber system has been specially formulated to provide a long pot life at room temperature, combined with rapid vulcanization when heat is applied. The reactivity range of this new encapsulant allows module manufacturers to produce flexible modules cost-effectively

using continuous roll-to-roll processing techniques which are more familiar in the textile and paper industry. This type of roll lamination permits application of the silicone encapsulant, feed of the front film and vulcanization of the silicone rubber to be performed in a single, continuous, automated process. ELASTOSIL<sup>®</sup> Solar 2200 may be applied to the film to be laminated with the aid of a doctor blade or transfer roller.

In its cured state, the silicone elastomer bonds the composite layers into a stable laminate and provides the thin-film modules with an effective moisture barrier. ELASTOSIL<sup>®</sup> Solar 2200 is electrically insulating, permanently flexible across a temperature range from -50 to +200 °C and virtually chemically inert. Furthermore, the vulcanized silicone is extremely resistant to weathering and UV radiation, so there is no risk of yellowing, and it does not release any corrosive substances.

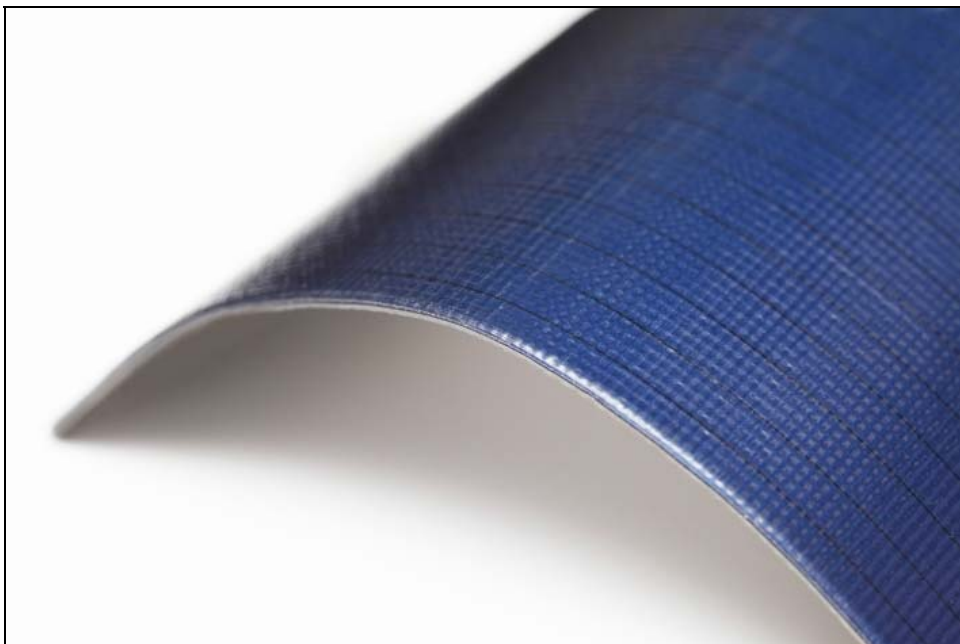
ELASTOSIL<sup>®</sup> Solar 2200 is thus ideally suited for laminating all types of flexible thin-film module, including organic solar cells or thin-film cells from compound semiconductors. Thin-film modules can be incorporated into the facade of buildings as attractive architectural elements and can also be used in textiles due to their inherent flexibility.

### **Solar Industry Partner**

As a leading supplier of raw materials, WACKER has been an important partner of the solar industry for many years. In addition to hyperpure polysilicon, the starting material for crystalline solar cells, the Munich-based chemical company also produces silicones which

are used as potting materials, adhesives and sealants or encapsulants in solar cells and modules.

WACKER is one of the largest silicone manufacturers in the world and has decades of experience in the field of silicone chemistry. Its ELASTOSIL® Solar and TECTOSIL® brands offer a wide range of specialty products for the photovoltaics industry. As a leading manufacturer of polysilicon and silicones, WACKER is widely sought-after as a partner in the development of innovative materials to increase the efficiency of photovoltaics.



WACKER's new liquid silicone rubber ELASTOSIL® Solar 2200 contains adhesion-promoting additives which enable flexible thin-film modules to be laminated cost effectively using roll-to-roll processing techniques. (Photo: Wacker Chemie AG)

Note:

You can download this picture at:

<http://www.wacker.com/pressreleases>

**Further information**

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**Brief Company Profile**

WACKER is a globally operating chemical company with around 16,300 employees and an annual turnover of around €4.75 billion (2010). WACKER has more than 26 production sites, 20 technical centers and 50 sales offices throughout the world.

**WACKER SILICONES**

Silicone fluids, emulsions, rubbers and resins, silanes, pyrogenic silica, thermoplastic silicone elastomers

**WACKER POLYMERS**

Polyvinyl acetates and vinyl acetate copolymers in the form of dispersible polymer powders, dispersions, solid resins and solutions used as binders for construction chemicals, paints and coatings, adhesives, plasters, textiles and nonwovens, as well as for polymeric materials based on renewable raw materials

**WACKER BIOSOLUTIONS**

Biotech products such as cyclodextrins, cysteine and biopharmaceuticals, as well as fine chemicals and PVAc solid resins

**WACKER POLYSILICON**

Polysilicon for the semiconductor and photovoltaics industries

**Siltronic**

Hyperpure silicon wafers and monocrystals for semiconductor components