

Trade Press Release

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Heraeus Continues to Lower Silver Content Per Cell, Yet Still Maintain High-Efficiency

- **New products utilize less silver per cell, lowering cell manufacturers' cost per watt**

Heraeus continues to focus on improving the value of their customers' solar cells by reducing the silver content and usage per cell of their pastes for front-side and back side applications while improving the cells' efficiency.

According to Andy London, Global Manager of Heraeus Photovoltaics, "Heraeus develops front-side and backside pastes that lower the silver content per cell. Front-side silver paste has become an increasing cost in the production of crystalline solar cells as silver bullion prices have escalated to historic highs. Heraeus addresses the need to reduce that cost by producing silver pastes that allow for up to 40% reduction in silver usage."

Andy London states, "Heraeus SOL9600, our current new product for the front-side, prints finer lines thus reducing silver usage and increase efficiency due to less shading. Heraeus SOL205S, our current product for the back-side, is produced using 52% silver content, further reducing silver usage on the cell. Heraeus SOL315, our current product for passivated emitters has a silver content significantly less than standard pastes. "

"Silver bullion prices have eased over the last nine months, as increased silver bullion production has resulted in an oversupply. Whether this is a permanent situation or not, Heraeus will continue in the direction of reducing the silver usage in cells", says Andy London.

To learn more about Heraeus' metallization pastes that provide lower silver content per cell, visit us at Intersolar North America 2012 Exhibition in San Francisco, USA, July 10th - 12th, at the Moscone center, North hall, booth 5747. You can also go to www.pvsilverpaste.com.

About the Heraeus Photovoltaics Business Unit

The Heraeus Photovoltaics Business Unit is an industry leading developer and manufacturer of silver metallization pastes for the photovoltaic industry. For over 40 years, Heraeus has built a reputation of innovation, extensive research and new product development in thick film technologies. In the field of photovoltaics, the Heraeus Photovoltaics Business Unit applies this history and its innovative technology to offer metallization pastes for solar cell applications. The Heraeus SOL Series of silver pastes is specially formulated to provide higher efficiencies and wider processing windows, resulting in better yields and higher output for cell manufacturers.

Heraeus, the precious metals and technology group headquartered in Hanau, Germany, is a global, private company with more than 160 years of tradition. Our fields of competence include precious metals, materials, and technologies, sensors, biomaterials, and medical products, as well as dental products, quartz glass, and specialty light sources. With product revenues of €4.8 billion and precious metal trading revenues of €21.3 billion, as well as more than 13,300 employees in over 120 subsidiaries worldwide, Heraeus holds a leading position in its global markets.

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