



NEWS RELEASE

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New High-efficiency Pastes for Silicon Solar Cells from Ferro Electronic Materials

Pastes reduce costs and improve electrical conductivity

CLEVELAND, OH—22 October 2010—Ferro Electronic Materials, a leading supplier of materials for fabricating photovoltaic silicon solar cells for more than 25 years, will introduce new front and rear contact pastes at PV Taiwan, held in Taipei, Taiwan 26–28 October, and DIREC2010, held in Greater Noida, Delhi, India 27–29 October. The two new products improve solar cell efficiency and throughput rates, enabling solar energy to become a more cost-competitive energy generation alternative. Both are RoHS-compliant and are lead- and phthalate-free.

Front contact paste

NS 33-512 front contact paste increases electrical efficiency by up to 0.6% and enables fast printing of three bus bar cell designs. It is designed for silicon wafers with 70 ohm/sq emitters, which represents a significant portion of the industry. The product has reduced contact resistance to n-silicon layer passivated silicon nitride, lower series resistance with higher solids, and is capable of printing 70 micron grid lines with 0.25 aspect ratio using conventional screening techniques.

Back side aluminum paste

Aluminum BSF paste AL 53-140 lowers cell costs by reducing paste lay down by as much as 25%. Its reduced organic content enables high throughput drying and firing, and it maintains low bow with <180 micron wafers. The paste improves cell efficiency, offering higher open circuit voltage (Voc) than earlier generation paste, strong BSF over a wide temperature range, and excellent adhesion to silicon.

"These new products address both factors in the equation to make solar energy more cost-competitive—they increase cell efficiency and reduce manufacturing costs," said Todd Williams, business manager for Ferro Electronic Materials. "They also are environmentally-friendly and meet all global regulations."

About Ferro Corporation

Ferro Corporation (www.ferro.com) is a leading global supplier of technology-based performance materials for manufacturers. Ferro materials enhance the performance of products in a variety of end markets, including electronics, solar energy, telecommunications, pharmaceuticals, building and renovation, appliances, automotive, household furnishings, and industrial products. Headquartered in Cleveland, Ohio, the Company has approximately 5,200 employees globally and reported 2009 sales of \$1.7 billion.

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MEDIA CONTACTS:

Mary Abood
Director, Corporate Communications, Ferro Corporation
Phone: 216-875-6202
E-mail: aboodm@ferro.com

INVESTOR CONTACT:

David Longfellow
Director, Investor Relations, Ferro Corporation
Phone: 216-875-7155
E-mail: longfellowd@ferro.com