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PRESS RELEASE

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WACKER HONORS RESEARCHERS FOR THE DEVELOPMENT OF A NEW PROCESS FOR MANUFACTURING ULTRA-FLAT SILICON WAFERS

Munich and Burghausen, July 9, 2010 – Wacker Chemie AG bestowed its annual Alexander Wacker Innovation Award on Dr. Georg Pietsch and Michael Kerstan yesterday for the development of a novel grinding process for semiconductor wafers. Their innovation will allow ultra-flat silicon wafers to be manufactured for future generations of electronic components. Called Planetary Pad Grinding (PPG), the process combines the advantages of two techniques previously considered incompatible – lapping and grinding. This opens up new possibilities for producing silicon wafers in the required quality, in high yields and at competitive prices for even more powerful electronic components. PPG has already progressed beyond the development phase.

“Planetary Pad Grinding is an important step toward meeting Siltronic customers’ demand for silicon wafers of even higher quality for future device generations,” said CEO Rudolf Staudigl in his speech. “Thanks to our employees’ creativity, the new process has further strengthened our position as a technological leader in the semiconductor sector.”

According to Moore's Law, the efficiency of semiconductor devices doubles approximately every two years. Among the key performance-boosting parameters are the design rules achieved on a silicon wafer. They determine how many transistors fit on a device per square centimeter.

Today, the semiconductor industry's standard design rules are 45 and 32 nanometers. In the coming years, they are expected to decrease to 22 and 16 nanometers. Key manufacturing steps are planarization processes. They must be fundamentally enhanced for silicon wafers with 16-nanometer design rules. Protected by numerous Siltronic patents and patent applications, the new PPG process has already shown its capabilities in test wafer runs, with high yields at competitive costs. PPG has also proven suitable for developing 450 millimeter wafers.

The Alexander Wacker Innovation Award

Since 2006, the Munich-based chemical company has honored employees' outstanding R&D work as part of its annual research symposium. Named after the company's founder, the €10,000 Alexander Wacker Innovation Award rotates between the categories of product innovation, process innovation and basic research. Next year, this groupwide competition will focus on basic research.

This year's Alexander Wacker Innovation Award winners (from left): Dr. Georg Pietsch and Michael Kerstan with WACKER CEO Rudolf Staudigl.
(Photo: Wacker Chemie AG)

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The company in brief:
WACKER is a globally-active chemical company with about 15,600 employees and annual sales of around €3.7 billion (2009).
WACKER has 26 production sites and over 100 sales offices worldwide.

WACKER SILICONES
Silicone fluids, emulsions, rubber and resins; silanes; pyrogenic silicas; thermoplastic silicone elastomers

WACKER POLYMERS
Polyvinyl acetate and vinyl acetate copolymers in the form of dispersible polymer powders, dispersions and solid resins used as binders for construction chemicals, coatings, adhesives, paints, plasters and nonwovens

WACKER BIOSOLUTIONS
Biotech products such as cyclodextrins, cysteine and biologics, 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 devices