



Applied Materials Releases ACE Oxide Spacer System to Enable Patterning at 32nm and Below

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SANTA CLARA, Calif.--(BUSINESS WIRE)--July 17, 2007--Applied Materials, Inc. today broadened its portfolio of advanced patterning solutions with the launch of its Applied Producer(R) ACE(TM) SACVD(R)(1) system. Helping customers extend 193nm lithography using self-aligned double patterning (SADP) schemes, Applied's ACE system delivers a highly conformal oxide spacer film with greater than 95% step coverage, less than 5% pattern loading and less than 1% non-uniformity, enabling state-of-the-art critical dimension control. Combined with a benchmark throughput of greater than 80 wafers per hour and a low thermal budget, the ACE system offers the industry's most productive and extendible spacer solution for SADP at the 32nm node and beyond.

"Lithography is struggling to keep pace with the demand for higher memory storage densities; SADP technology enables a doubling of pattern densities using current litho schemes, making it the preferred solution for 32nm and beyond," said Hichem M'Saad, vice president and general manager of Applied Materials' Dielectric Systems and CMP Business Group. "The proprietary Producer ACE technology delivers a film of unmatched step coverage and uniformity that is compatible with patterning films such as Applied's industry leading APF(TM) carbon hardmask, to achieve the industry's most advanced 22nm line/space arrays."

Spacer films play a key role in fabricating advanced memory cells using SADP schemes. Deposited on top of a sacrificial APF line/space array, the ACE spacer film becomes a hard mask that creates half-pitch features in a second APF layer below.

The performance of Applied's ACE technology has been validated at Applied's Maydan Technology Center. An advanced TANOS flash memory structure was fabricated using an advanced SADP technique. The structure was successfully optimized using Applied's Producer CVD, Centura(R) AdvantEdge(TM) G3 Etch and VeritySEM(TM) Metrology systems. This advanced learning can assist customers in reducing development time and cost for implementing double patterning technology in their next generation devices.

The Twin Chamber(TM) architecture of Applied's very successful Producer GT(TM) platform offers the industry's highest throughput density. Applied's Producer CVD systems are being used by every major chip manufacturer, with more than 1,500 systems shipped worldwide. The Producer system has established Applied's technology leadership in all advanced CVD chipmaking applications, including low-k, strain engineering, litho-enabling films, thermal films and high temperature PECVD(2).

The Applied Producer ACE technology will be showcased at Applied's booth #1030 at SEMICON West, as part of Applied's portfolio of lithography-enabling solutions.

Applied Materials, Inc. (Nasdaq:AMAT - News) is the global leader in Nanomanufacturing Technology(TM) solutions with a broad portfolio of innovative equipment, service and software products for the fabrication of semiconductor chips, flat panels, solar photovoltaic cells, flexible electronics and energy efficient glass. At Applied Materials, we apply Nanomanufacturing Technology to improve the way people live. Learn more at www.appliedmaterials.com.

(1) SACVD=sub-atmospheric chemical vapor deposition

(2) PECVD=plasma enhanced chemical vapor deposition

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