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FOR IMMEDIATE RELEASE

RASIRC Study Shows Improved Uniformity with New Steam Delivery Method

Paper now available at

http://www.rasirc.com/resources/whitepapers/whitepaper_uniformity.pdf

San Diego, Calif. – January 22, 2008 – RASIRC[®], the steam purification company, releases research indicating that a new steam delivery method results in significant improvement in uniformity throughout the furnace from oxides as thin as 25 Angstroms to as thick as 150,000 Angstroms eliminating the need for pyrolytic steam. The paper, *Improved Uniformity through New Steam Delivery Method*, by Jeffrey Spiegelman, is available at

http://www.rasirc.com/resources/whitepapers/whitepaper_uniformity.pdf.

Semiconductor, flat panel, solar, and optical devices all use oxide films as an essential feature. Uniformity of that oxide film is an important factor determining device yield. When oxygen is part of the process recipe, the partial pressure within the furnace tube will not be uniform. In the study, RASIRC found that by eliminating the oxygen gas, water vapor pressure stays relatively constant and film uniformity improves across the furnace.

Four facilities with horizontal furnaces and one with a vertical furnace participated in the study. Process recipe temperatures and run times were kept constant. Existing water vapor generating technologies were replaced with a RASIRC Steamer and hydrogen and oxygen gases were eliminated. The total steam supplied was initially the same as the replaced technology and then adjusted to maximize performance.

Different facilities using different methods—a bubbler, vaporizer, and pyrolytic torch—all confirmed that a reduction in background oxygen gas and an increase in water vapor pressure resulted in better uniformity and increased oxide growth rate.

The RASIRC Steamer uses de-ionized water as its steam source, eliminating all dependence on hydrogen and oxygen gas. It uses a non-porous hydrophilic membrane that selectively allows water vapor to pass. Membrane selectivity is significant, with water molecules passing through it 1,000,000 times faster than nitrogen molecules. Both temperature and water vapor flow rate can be controlled through the RASIRC Steamer, enabling maximum performance.

About RASIRC

RASIRC products purify and deliver ultra pure liquids and gases. RASIRC technology is the first to generate ultra high purity (UHP) steam from de-ionized water. It reduces cost, improves yield, and improves safety. RASIRC dryers, humidifiers and steam generators are of critical importance for many applications in the semiconductor, pharmaceutical, medical, biological, fuel cell, and power industries. Custom systems are available upon request. Call 858-259-1220, e-mail info@rasirc.com, or visit www.rasirc.com.

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