



**Company Contact:**

Dwain Aidala  
President & COO  
sp3 Diamond Technologies, Inc.  
t: +1-408-492-0630  
e: [daidala@sp3inc.com](mailto:daidala@sp3inc.com)

**Press Contact:**

Amy Smith  
Impress Public Relations  
t: +1-401-369-9266  
e: [amy@impress-pr.com](mailto:amy@impress-pr.com)

## **sp3 Diamond Technologies Introduces New CVD Diamond Deposition System for Doped Diamond Applications**

**SANTA CLARA, Calif. — November 20, 2008** — sp3 Diamond Technologies, Inc. (sp3), a leading supplier of diamond film products, equipment and services, today brought to market the newest member of its Model 650 Series of Hot Filament CVD (chemical vapor deposition) Diamond Coating Systems with the Model 655D for doped diamond applications. The Model 655D incorporates advanced process capabilities to dope diamond as it is deposited, making it electrically conductive with resistivity from .05 to 10 ohm-cm, while maintaining excellent uniformity.

The Model 655D has been configured with two dopant flow ranges giving the user flexibility to tailor processes with very specific electrical characteristics. By adding gas loops to the baseline diamond deposition configuration, the 655D has the ability to deliver Boron dopant via a Hydrogen carrier gas. Boron is required to dope diamond films in order to render them electrically conductive. The Model 655D also integrates new system controls and a dedicated user interface to assure process repeatability and intrinsically safe operation.

“Over the past 15 years, sp3 has gained a deep understanding of the potential applications for diamond based on extensive customer experience and in-house R&D activities,” said Dwain Aidala, president and COO for sp3 Diamond Technologies. “In the Model 655D, and the entire Model 650 Series, sp3 is bringing its industry leadership in diamond deposition to market in the form of turnkey systems that are fully configured and ready-for-use for specific manufacturing applications.”



sp3's hot filament diamond deposition technology offers customers a critical advantage in terms of reduced development time and shortened time-to-market. By incorporating electrically conductive diamond into its reactor's broad range of commercial applications, which includes cutting tools, wear surfaces and wafer-scale diamond, sp3 is expanding future customers' opportunities to implement thin film diamond in conductive diamond applications, such as in coated electrodes for water treatment and electrochemistry. Having been developed originally for internal use, the company has deployed over twenty hot filament CVD diamond coating systems around the world.

#### **About the Model 650 Series Hot Filament CVD Diamond Coating Systems**

The 650 series CVD diamond deposition systems deliver turnkey solutions to customers with systems pre-configured for use in specific applications. All models provide enhanced process control capabilities for precise growth of ultra-thin pinhole-free diamond films. The systems offer precise and repeatable diamond deposition for a wide range of applications, including flat substrates which require a coating on one planar surface (Model 650F), wafer coating (Model 650W), 3-dimensional applications which require a uniformly thick coating in more than one plane (Model 650T), coated round tools such as drills, endmills, countersinks, and routers (Model 650RT), and the newest model for doped diamond applications that require electrical conductivity (Model 655D). All of the systems deliver exceptional process repeatability, thickness uniformity within plus/minus 10 percent, or better, over the entire deposition area, high throughput with a deposition rate of up to 1.1 microns per hour, and a broad deposition area up to 300 mm by 330 mm. The systems deliver precise process control and low cost operation for a wide range of 2- and 3-dimensional applications. All models within the 650 Series are CE compliant.

###



### **About sp3 Diamond Technologies, Inc.**

sp3 Diamond Technologies is focused on providing diamond-based solutions for electronics thermal management, diamond-on-silicon applications, and enhanced cutting surfaces. Based in Santa Clara, California, USA, the company provides diamond products for thermal and cutting applications, diamond deposition services, hot filament CVD reactors, and deposition consulting services to companies worldwide across a broad spectrum of industries.

sp3 Diamond Technologies is a subsidiary of sp3 Inc., a full service provider of products and services relating to thin-film and thick-film diamond deposition and other diamond materials. sp3 Inc. is comprised of sp3 Diamond Technologies and sp3 Cutting Tools.

For more information about the company and its products and services please visit [www.sp3diamondtech.com](http://www.sp3diamondtech.com).