



Company Contact:

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

Press Contact:

Dave Richardson
Vice President
Impress Public Relations
t: +1-415-994-1423
e: dave@impress-pr.com

sp3 Launches DiaTherm Diamond Heat Spreaders

Material Offers Best Available Cost/Performance Solution for Device-Level Thermal Management Issues

SANTA CLARA, Calif. — November 8, 2005 — sp3 Diamond Technologies, Inc., a leading supplier of diamond film products, equipment and services, today announced the worldwide availability of its new DiaTherm™ diamond heat spreaders. Capitalizing on the inherent benefits of diamond, including its thermal conductivity and ability to be precision cut, sp3's new heat spreaders exhibit exceptionally high thermal diffusivity and conductivity making them ideal mounting structures for laser diodes, laser diode arrays, LEDs, and high power semiconductor devices including RF. In such applications DiaTherm is capable of achieving a reduction in overall package thermal resistance of 30 percent. This translates into 50% power increases for RF devices and 50% increases in LED light output without negatively affecting reliability.

DiaTherm heat spreaders are typically placed as a submount between the active region of the device and a metal or ceramic heat sink to achieve optimum heat transfer by conduction. This quickly moves heat from the active region and spreads it out over a larger volume of metal or ceramic to keep the device itself cool and fully operational at optimal performance levels.

“sp3's freestanding diamond is a highly cost-effective thermal management tool for anyone wrestling with device-level thermal management issues, as are often seen in

telecom and laser applications” explained Dwain Aidala, president and COO of sp3 Diamond Technologies, Inc. “In addition to our recent corporate relocation to Santa Clara, Calif., we have expanded our manufacturing capacity which allows us to offer DiaTherm in volume to customers worldwide with an unmetallized price of about \$1.50 per cubic millimeter.”

Available as bare, freestanding diamond segments or in metallized form, sp3’s DiaTherm heat spreaders are laser cut from sheets of pure diamond formed by chemical vapor deposition in DC torch reactors. DiaTherm is 100 percent polycrystalline diamond with a density of 3.5 g/cm³. Typical electric resistivity is 10¹⁵ ohms/cm and the material achieves a thermal conductivity of up to 1400 W/m[°]k. In addition to its heat conductivity, insulating properties and ability to be machined to tight tolerances, diamond is a passive heat spreader consuming no power.

For further information on pricing and delivery times, please call 877-773-9940 or [email](#).

About sp3 Diamond Technologies, Inc.

Diamond is hard, durable, stiff, thermally conductive and electrically insulating. These are just some of the many qualities that diamond offers making it ideal for a wide variety of applications, from cutting tools to advanced semiconductor manufacturing. sp3 Diamond Technologies makes CVD (chemical vapor deposition) diamond for a broad range of applications where current materials have reached their limit. Our ability to make and deposit diamond is a direct result of our proprietary chemical vapor deposition diamond reactor technology and our coating services capability. It is this technology that allows us to deposit uniform thin-film diamond and do it cost-effectively. Consistent and cost-effective manufacture of CVD diamond is in turn broadening the material’s appeal throughout multiple industries where diamond could be considered the material of choice.

Based in Santa Clara, California, USA, the company provides diamond products for advanced thermal applications, diamond coating and material services, hot filament CVD reactors, and deposition consulting services. sp3 Diamond Technologies is a subsidiary

of sp3 Inc., a full service provider of products and services relating to thin-film and freestanding diamond deposition and other diamond materials. For more information about the company and its products and services please visit www.sp3inc.com.

ENDS