



Diamond Composite Thermal Solutions

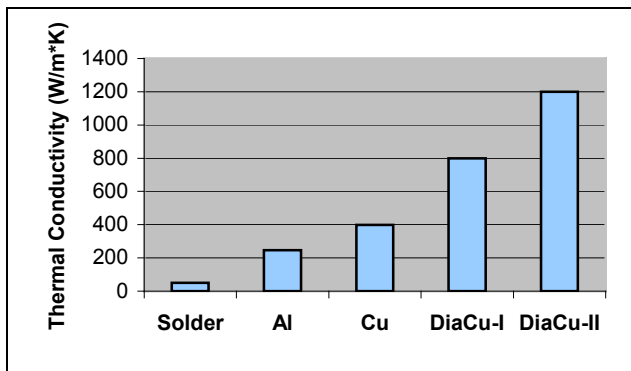
Announcing HeaThru – a breakthrough sintered composite product line made of copper and diamond! HeaThru offers thermal conductivities two to three times greater than that of copper, with an order of magnitude cost reduction over existing diamond materials. HeaThru's superior thermal properties and tunable composition/dimensions makes it the ideal material for heat spreaders and a variety of other thermal management applications.

Just a few of the many advantages of HeaThru:

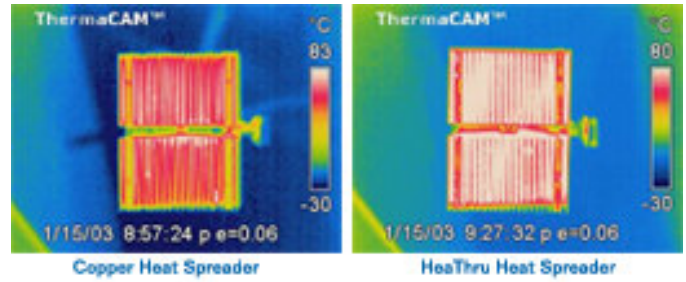
- Extremely high thermal conductivity
- Low thermal expansion (silicon compatible)
- Metallization: HeaThru can be metallized for direct bonding with heat pipes, heat sinks or even the chip die itself
- Plating: HeaThru can be plated with just about any metal, including Ni/Ag/Au
- Very flat and smooth surfaces
- Very hard, durable, and corrosion-resistant
- Customizable range of electrical/thermal properties and dimensions
- Low density and lightweight
- Low cost that is competitive with existing materials

DiaCu-I and DiaCu-II

HeaThru is available in two versions: DiaCu-I and DiaCu-II, offering two different levels of thermal conductivity to suit your particular application. DiaCu-I offers conductivities of nearly 2x copper, ideal for current high-end thermal management applications. DiaCu-II is our advanced product line, offering conductivities of 3x copper for when even more power-dissipation capabilities are required.



Thermal Conductivities of DiaCu vs. Common Metals



Note the dramatic difference in heat transfer between normal copper heat spreaders (left) and DiaCu-I (right), using identical heat sinks (viewed from the top)

Top-Notch Research and Validation

Our patent-pending technology is based on world-class diamond synthesis expertise. HeaThru has been independently validated at a number of highly respected companies and organizations, including Taipei University of Taiwan, Tufts University, South Korea University and Kinik Corporation. HeaThru is already being tested at leading IC companies.

For more information on HeaThru, please refer to our website (www.heathru.com) or contact our Cambridge, MA sales office:

Advanced Diamond Solutions, Inc.

12 Inman St. #15
Cambridge, MA 02139

www.advanceddiamond.com



Barnas Monteith: 617-291-3497 (Sales Lead)
Michael Sung: 857-928-3828 (Technical Lead)
Felicia Hu: 617-576-9164 (Alliances Lead)

HEATHRU QUICK FACTS

Material: Diamond/Copper Composite

Thermal Conductivity: ~800-1200 W/m²K (different grades)

Dimensions: up to 6 cm in diameter, between 1.5 to over 3.0 mm thicknesses

Costs: Competitive with existing high-end thermal materials; less than 1/20 the cost of traditional CVD diamond materials

Customization: Tunable composition and manufacturing process means we can work with you to control the thermal and electrical properties, dimensions and tolerances, and surface metallization/plating to dovetail with your company's exact needs