

Metal-Bonded Graphite Foam Composites

Disclosure Number

201102608

Technology Summary

For thermal properties applications, the well-known graphite foam technology developed at ORNL has demonstrated remarkable performance when compared to other more commonly used materials such as aluminum and magnesium, for example. Carbon foam has found its way into a broadening array of products, although for some applications, its' relatively low mechanical properties have precluded its use. In order to improve the mechanical properties, there have been a variety of efforts to infiltrate the "as-foamed" product with metals and epoxies to render a finished product with improved structural integrity as well as excellent thermal conductivity. The present invention combines the high conductivity of the graphite foams with light weight of metals and composites them together in a fashion that yields a material that is lightweight and very high conductivity, compared to the base alloy.

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