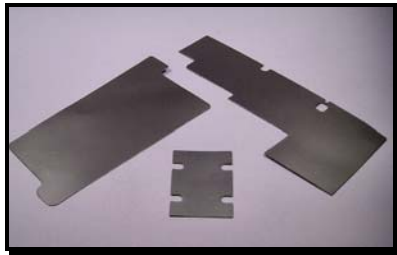


eGraf SpreaderShield Thermal Management Products are custom designed for use in applications requiring excellent two dimensional heat spreading and reduction in "hot spots" or touch temperature. Typical applications are in laptop computers, flat panel displays, DVD cameras, cellular phones and PDA's. SpreaderShield materials are ideally suited where space for other cooling solutions is limited and lightweight is critical.



eGraf SpreaderShield components are composites of natural graphite and can be laminated with Mylar® or metal foils. SpreaderShield materials are available with adhesive backing for easy peel and stick application.

As shown in Figure 1, SpreaderShield components are designed, and cut to shape, based on the thermal and mechanical requirements of each application.

SpreaderShield is covered by US Patent 6482520 and other patents pending.

Typical eGraf SpreaderShield 20P/P Material Properties

Property	eGraf SpreaderShield 20P/P	Test Method
<i>Physical</i>		
Color	Dark Grey	
Thickness	0.50 mm	
Tensile Strength	4700kPa	ASTM F-152
Dielectric Layer	2 µm thick Mylar Type C applied to both faces	
Flammability Rating	UL94 V-0	UL 94
<i>Thermal</i>		
Operating Temperature	-40 to 400 °C	
Thermal Conductivity ⁽¹⁾		
Thru-thickness	6 W/mK	ASTM D 5470 Modified
In-plane	240 W/mK	Angstrom's Method
Notes:		
1. Thermal conductivity properties are those of the base graphite without the Mylar layers.		

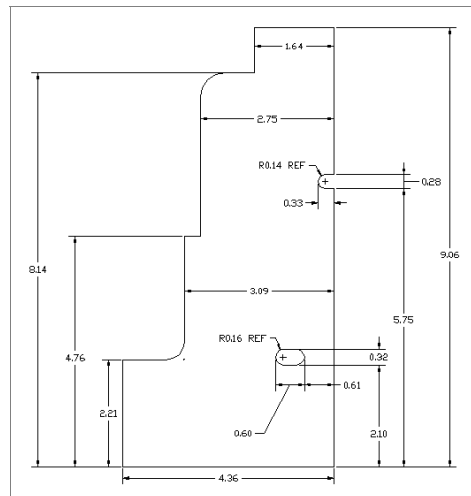


Figure 1. Typical eGraf SpreaderShield component

This information is not to be taken as a warranty of representation for which we will assume legal responsibility nor permission or recommendation to practice any patented invention without license. It is offered solely for your consideration, investigation and verification.