

Thermal Interface Applications

ELECTRICAL RESISTIVITY

Unlike other ceramic materials, graphite is electrically conductive. At ambient temperature, homogeneous **GRAFOIL®** sheet along its length and width has an electrical resistivity of 6.8 to 8.1 micro ohm meters (268 to 320 micro ohm-in.) with an average of approximately 7.9 micro ohm-m (311 micro ohm-in.). The electrical resistivity through the thickness is considerably higher and very dependent on pressure applied to the surface. At low pressures, it is difficult to make good electrical contact for the measurements. At a pressure of 690 KPa (100 psi), an electrical resistivity of 15000 micro ohm meters (.59 ohm-in) has been measured; and at 34 KPa (5 psi), a resistivity of 139000 micro ohm-m (5.4 ohm-in.) has been recorded.

GRAFOIL laminates containing polyester interlayers would have approximately the same electrical resistivity as the homogeneous sheet in the length and width dimension. In the thickness dimension, the electrical resistivity, controlled mainly by the polyester interlayer is very high. **GRAFOIL** laminates with metal interlayers could have the electrical resistivity reduced in all directions, but this would be influenced by the adhesive layer, if used

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