

## Keratherm Graphite 90/10, 90/15, 90/20, 90/25



Keratherm® graphite films are based on 100% pure graphite. The films are available as uncoated types, or, for specific applications, coated with thermal wax, filled adhesive or standard adhesives. Because of their high thermal conductivity, they are used e.g. in the CPU sector.

### APPLICATIONS

- Chipsets
- Memory Chips
- Micro BGA's

DISCLAIMER: Purchaser shall be solely responsible for determining the adequacy of the product for any and all uses which the purchaser shall apply the product, and the application of the product by the purchaser shall not be subject to any implied warranty of fitness for that purpose.

Properties	symbol	unit	90/10 basis foil	90/25
Color			black	black
<b>Thermal Properties</b>				
Thermal Resistance	$R_{th}$	K/W	0.09	0.05
Thermal Impedance	$R_{ti}$	$^{\circ}Cmm^2/W$ $Kin^2/W$	36 0.05	21 0.03
Thermal Conductivity	$\lambda$ (z/x-y)	W/mK	5.5 / 55	7.0 / 150
<b>Electrical Properties</b>				
Breakdown Voltage	$U_{d,ac}$	$\Omega cm$	not insulating	not insulating
Volume Resistivity		kV	0.07	0.05
<b>Mechanical Properties</b>				
Overall Thickness ( $\pm 10\%$ )		mm	0.200	0.125
Hardness		Shore D	25 - 35	25 - 35
Tensile Strength		N/mm <sup>2</sup>	5.5	4.0
Elongation		%	10	10
<b>Physical Properties</b>				
Application Temperature		$^{\circ}C$	-40 to +500	-40 to +500
Density		g/cm <sup>3</sup>	1.0	1.1
Flame Class		UL	94V-0	94V-0
TML		Ma.%	0.01	0.01
Possible Thickness		mm	0.15 - 0.30	0.125

### Options for Keratherm 90-Series:

Type	Film Structure	Overall Thickness	Tensile Strength	Thermal Resistance	
		mm	N/mm <sup>2</sup>	K/W	Kin <sup>2</sup> /W
90/15	90/10 with filled adhesives	0.175	6.0	0.07	0.04
90/20	90/10 with standard adhesives	0.250	5.5	0.23	0.10