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Graphite, Carbon, C

Material Notes

Natural Occurrence: Metamorphic rocks: marble, slate, schist. Weathering end product(s): flaky residue in soils.
 Virtually all graphite in use is artificially produced under controlled conditions.

Physical Properties	Metric	English	Comments
Average Grain Size	7 μm	.0003 inch	
Open Porosity	10 % Vol.	10 % Vol.	
Density	1.84g/cc ³	1.84g/cc ³	
Median Pore Size	.8 μm	.00003 inch	
Mechanical Properties			
Hardness, Shore	75	75	DIN IEC 60413/302
Youngs Modulus	12.5 x 10 ³ N/mm ²	1.8 x 10 ⁶ psi	DIN 51915
Electrical Properties			
Electrical Resistivity	14 $\mu\text{ohm-m}$	5.5 x 10 ⁻⁴ ohm-inch	
Thermal Properties			
CTE, linear 20-200°C	0.6 – 4.3 $\mu\text{m/m-}^\circ\text{C}$	0.333 – 2.39 $\mu\text{in/in-}^\circ\text{F}$	
Heat Capacity	0.69 J/g-°C	0.165 BTU/lb-°F	
Thermal Conductivity	90 W/m-K	52 Btu-in/hr-ft ² -°F	
Melting Point	3650°C	6600°F	Sublimes
Maximum Service Tem, Inert	3650°C	6600°F	Sublimation temp.
Descriptive Properties			
Ash Value	200 ppm	200 ppm	
Color	Black		

References are available for this material.