



GRAFSTAR™ PCEA Grade Graphite

Product Overview

GRAFSTAR™ PCEA graphite is a very high density, very high strength Extruded graphite material. It has a medium grain size with excellent properties designed for evaluation within the Nuclear Industry and other more demanding applications.

Applications

- Nuclear applications
- Polysilicon seed chucks
- CZ silicon crystal growth
- Purified electronic fixturing

Sizes

Standard Sizes	
English	Metric
18" dia rounds x 36"	457 mm dia x 914 mm rounds
18" dia rounds x 72"	457 mm dia x 1828 mm rounds
Other round sizes can be made available on a made-to-order basis.	
Rectangles can be made available on a made-to-order basis.	

Typical Properties at Room Temperature*

Characteristic	English Units	WG		Metric Units	WG		SI Units	WG	
		WG	AG		WG	AG		WG	AG
Bulk Density	lbs/ft ³	115		g/cm ³	1.85		g/cm ³	1.85	
Maximum Particle Size	inches	0.03		mm	0.76		mm	0.76	
Specific Resistance	10 ⁻⁴ W-in	2.5	2.84	μΩm	6.4	7.2	μΩm	6.4	7.2
Flexural Strength	psi	4200	3600	kg/cm ²	295	253	MPa	29	25
Young's Modulus	106 psi	1.9	1.3	kg/mm ²	1335	913	GPa	13.1	9.0
Tensile Strength	psi	2700	2600	kg/cm ²	190	183	MPa	19	18
Compressive Strength	psi	9500	9500	kg/cm ²	668	668	MPa	66	66
Permeability	Darcy	0.009	0.008	Darcy	0.009	0.008	Darcy	0.009	0.008
Hardness	Rockwell "R"	100		Rockwell "R"	100		Rockwell "R"	100	
C.T.E. (to 100 OC)	10 ⁻⁶ / °F	1.9	2.2	10 ⁻⁶ / °C	3.4	3.9	10 ⁻⁶ / K	3.4	3.9
Thermal Conductivity	BTU/hr-ft-°F	98	87	W/m-K	170	151	W/m-K	170	151
Ash Content	%	0.15		%	0.15		%	Bulk Density	

Notes:

* Properties listed are typical and cannot be used as accept/reject specifications

