

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	AG	Metric Units	WG	AG	SI Units	WG	AG
Bulk Density	lbs/ft ³	115		g/cm ³	1.85		g/cm³	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 0C)	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-⁰F	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

© 2021 Amsted Graphite Materials LLC. This information is based on data believed to be reliable but Amsted Graphite Materials LLC makes no warranties, express or implied, as to its accuracy and assumes no liability arising out of its use. The data listed falls within the normal range of product properties but should not be used to establish specification limits or used alone as the basis of design. Amsted Graphite Materials LLC's liability to purchasers is expressly limited to the terms and conditions of sale. GRAFSTAR is a trademark of Amsted Graphite Materials LLC.

