GRAFSTAR™
ATJ™ Grade Graphite

Product Overview

ATJ™ grade graphite has been an industry standard for years. It is a fine grain, high strength material that can be machined to precise tolerances and a fine surface finish. ATJ™ grade graphite has unique thermal shock resistance due to the combination of low thermal expansion, high thermal conductivity and low elastic modulus.

Applications

- Ablatives
- Composite tooling
- Continuous casting dies
- Hot pressing molds and punches
- Permanent molds
- Rocket motor nozzles

Sizes*

Standard Sizes	
English	**Metric**
16 x 16 x 72 in	406 x 406 x 1828 mm
12 x 25 x 80 in	305 x 635 x 2032 mm

Typical Properties at Room Temperature**

Characteristic	English Units	WG	Metric Units	WG	SI Units	WG
Bulk Density	lbs/ft^3	110	g/cm^3	1.76	g/cm^3	1.76
Average Particle Size	inches	0.001	mm	0.03	mm	0.03
Specific Resistance (AG)	10^{-4} Ω-in	4.61	μΩm	11.7	μΩm	11.7
Flexural Strength	psi	4500	kg/cm^2	316	MPa	31
Young's Modulus	10^6 psi	1.40	kg/mm^2	984	GPa	9.7
Tensile Strength	psi	3740	kg/cm^2	263	MPa	26
Compressive Strength	psi	9500	kg/cm^2	668	MPa	66
Permeability	Darcy	0.002	Darcy	0.002	Darcy	0.002
Hardness	Rockwell "L"	65	Rockwell "L"	65	Rockwell "L"	65
C.T.E. (to 100 °C) (AG)	10^{-6}/ °F	1.7	10^{-6}/ °C	3.1	10^{-6}/ K	3.1
Thermal Conductivity	BTU/hr-ft-°F	70	W/m-K	121	W/m-K	121
Ash Content	%	0.09	%	0.09	%	0.09

Notes:
* Other sizes may be made available upon request.
** Properties listed are typical and cannot be used as accept/reject specifications
WG = With-the-Grain AG = Against-the-Grain