

# GRAFSTAR™ ATJ<sup>™</sup> Grade Graphite

### **Product Overview**

ATJ<sup>™</sup> 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<sup>™</sup> 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 <sup>3</sup>	110	g/cm <sup>3</sup>	1.76	g/cm <sup>3</sup>	1.76
Average Particle Size	inches	0.001	mm	0.03	mm	0.03
Specific Resistance (AG)	10 <sup>-4</sup> Ω-in	4.61	μΩm	11.7	μΩm	11.7
Flexural Strength	psi	4500	kg/cm <sup>2</sup>	316	MPa	31
Young's Modulus	10 <sup>6</sup> psi	1.40	kg/mm <sup>2</sup>	984	GPa	9.7
Tensile Strength	psi	3740	kg/cm <sup>2</sup>	263	MPa	26
Compressive Strength	psi	9500	kg/cm <sup>2</sup>	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 <sup>-6</sup> / °F	1.7	10 <sup>-6</sup> / °C	3.1	10 <sup>-6</sup> / 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

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