GRAFSTAR®
ATJM Grade Graphite

Product Overview

ATJM 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. ATJM graphite has unique thermal shock resistance due to the combination of low thermal expansion, high thermal conductivity, and low elastic modulus. Grade ATJM has a higher minimum Bulk Density to provide higher minimum strengths for critical military and defense applications.

Applications

- Rocket motor nozzles
- Albative plate
- Plungers and rams

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	3.97	μΩm	10.1	μΩm	10.1
Flexural Strength	psi	5000	kg/cm^2	350	MPa	34
Young's Modulus	10^6 psi	1.50	kg/mm^2	1054	GPa	10.3
Tensile Strength	psi	4100	kg/cm^2	288	MPa	28
Compressive Strength	psi	10000	kg/cm^2	700	MPa	68
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	1.6	10^{-6}/°C	2.8	10^{-6}/K	2.8
Thermal Conductivity	BTU/hr-ft-°F	75	W/m-K	130	W/m-K	130
Ash Content	%	0.06	%	0.06	%	0.06

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

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