



GRAFSTAR™ ATJP™ SPECIALTY GRAPHITE

Product Overview

ATJP™ grade graphite is a fine grain, high strength isomolded material that can be machined to precise tolerances and a fine surface finish. ATJP™ grade graphite has unique thermal shock resistance due to the combination of low thermal expansion, higher hardness, higher strength and low specific resistance. This grade graphite utilizes post graphite impregnation to significantly enhance its mechanical properties and reduce its open porosity.

Applications

- Ablatives
- Continuous casting dies
- Hot pressing molds and punches
- Permanent molds
- Plungers and rams
- Solid rocket motors

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	114	g/cm ³	1.82	g/cm ³	1.82
Average Particle Size	inches	0.001	mm	0.03	mm	30
Specific Resistance (AG)	10 ⁻⁴ Ω-in	3.54	μΩm	9.0	μΩm	9.0
Flexural Strength	psi	6000	kg/cm ²	421	MPa	41
Young's Modulus	10 ⁶ psi	1.9	kg/mm ²	1335	GPa	13.1
Tensile Strength	psi	5000	kg/cm ²	351	MPa	34
Compressive Strength	psi	10800	kg/cm ²	759	MPa	74
Permeability	Darcy	0.0001	Darcy	0.0001	Darcy	0.0001
Hardness	Rockwell "L"	85	Rockwell "L"	85	Rockwell "L"	85
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	81	W/m-K	140	W/m-K	140
Ash Content	%	0.09	%	0.09	%	0.09

Notes:

* Other sizes available upon request

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

WG = With-the-Grain AG = Against-the-Grain

