

GRAFTech International

ATJ™ Graphite

GrafTech International is a global leader in graphite and carbon products. We enable customer leadership better and faster than our competition, through the creation, innovation and manufacture of carbon and graphite material science based solutions.

Grade ATJ™ Graphite

Grade ATJ™ 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™ graphite has unique thermal shock resistance due to the combination of low thermal expansion, high thermal conductivity, and low elastic modulus.

Typical Applications

- Permanent molds
- Composite tooling
- Continuous casting dies
- Hot pressing molds and punches
- Rocket motor nozzles
- Plungers & rams

Sizes:

Inches
 16" x 16" x 65" rectangles
 12" x 25" x 80" rectangles
 8" - 24" diameter x 72" long rounds

MM
 406 x 406 x 1651 mm rectangles
 305 x 635 x 2032 mm rectangles
 203-610 mm diameter x 1829 long rounds

Grade ATJW™ graphite is a post purified version of ATJ™ graphite for applications requiring very low ash. ATJW™ has the same properties as ATJ™ with an ash content of less than 20ppm.

Typical ATJ™ Graphite Properties at Room Temperature

	<u>ENGLISH</u>	<u>WG</u>	<u>METRIC</u>	<u>WG</u>	<u>SI</u>	<u>WG</u>
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	10 ⁻⁴ Ω in.	4.61	μΩm	11.7	μΩm	11.7
Flexural Strength	psi	4500	kg/cm ²	317	MPa	31
Young's Modulus	10 ⁶ psi	1.40	kg/mm ²	982	GPa	9.7
Tensile Strength	psi	3740	kg/cm ²	262	MPa	26
Compressive Strength	psi	9500	kg/cm ²	670	MPa	66
Permeability	Darcy	0.002	Darcy	0.002	Darcy	0.002
Hardness	Rockwell "L"	60	Rockwell "L"	60	Rockwell "L"	60
C.T.E. (to 100 °C)	10 ⁻⁶ /°F	1.7	10 ⁻⁶ /°C	3.0	10 ⁻⁶ /K	3.0
Thermal Conductivity	BTU-ft/hr ft ² °F	67	W/mK	116	W/mK	116
Ash Content	%	.11	%	.11	%	.11

This information is based on data believed to be reliable but GrafTech 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. GrafTech's liability to purchasers is expressly limited to the terms and conditions of sale. ATJ and ATJW are trademarks of GrafTech International Holdings Inc.

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