

CS™ Graphite

Technical Data Sheet 5073

Product Overview

Densified prior to graphitization, GrafTech's GRAFSTAR carbon block grade CS graphite is 25-30% higher in strength than grade CBY™ graphite. GrafTech grade CS graphite is also a low ash graphite with an oxidation resistance similar to grade CBY graphite. It is the material of choice for applications requiring higher densities, better mechanical strength, or less porosity than grade CBY material. GrafTech grade CS graphite is the most popular multi-purpose grade.

Applications

- Casting molds and furnace parts for hot metal
- Boats and trays for sintering applications
- Crucibles for melting and alloying
- Powder metallurgy
- Resistance heating

Sizes*

- 3 – 30 x 72" diameter rounds
- 15 x 30 x 72"
- 17 x 17 x 72"
- 17 x 17 x 88"
- 19 x 19 x 72" rectangles
- 24 x 24 x 72" rectangles

Typical Properties at Room Temperature**

Characteristic	Unit	WG	AG	Unit	WG	AG
Density	lbs/ft ³	108		g/cm ³	1.74	
Maximum Particle Size	inches	0.03		mm	0.76	
Specific Resistance	10 ⁻⁴ Ωin	2.8	3.7	μΩm	7.1	9.4
Flexural Strength	psi	3050	2250	kg/cm ²	215	160
Young's Modulus	10 ⁶ psi	1.59	1.20	kg/mm ²	1120	840
Tensile Strength	psi	2150	1600	kg/cm ²	150	110
Compressive Strength	psi	6600	6600	kg/cm ²	470	470
Permeability	Darcy	0.05	0.04	Darcy	0.05	0.04
Hardness	Rockwell "R"	83		Rockwell "R"	83	
C.T.E. (to 100 °C)	10 ⁻⁶ /°F	1.4	2.0	10 ⁻⁶ /°K	2.5	3.6
Thermal Conductivity	BTU-ft/hr ft ² °F	90	85	W/mK	160	145
Ash Content	%	0.09		%	0.09	

Notes:

* Other sizes available upon request

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

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Redefining limits

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