

# GRAFTech International

## CS™ 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 CS™ Graphite

Densified prior to graphitization, GrafTech 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.

### Typical 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

	<u>ENGLISH</u>	<u>WG</u>	<u>AG</u>	<u>METRIC</u>	<u>WG</u>	<u>AG</u>
Density	lbs/ft <sup>3</sup>	108		g/cm <sup>3</sup>	1.74	
Maximum Particle Size	Inches	0.03		mm	0.76	
Specific Resistance	10 <sup>-4</sup> Ω in.	2.8	3.7	μΩm	7.1	9.4
Flexural Strength	psi	3050	2250	kg/cm <sup>2</sup>	215	160
Young's Modulus	10 <sup>6</sup> psi	1.59	1.20	kg/mm <sup>2</sup>	1120	840
Tensile Strength	psi	2150	1600	kg/cm <sup>2</sup>	150	110
Compressive Strength	psi	6600	6600	kg/cm <sup>2</sup>	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 <sup>-6</sup> /°F	1.4	2.0	10 <sup>-6</sup> /°K	2.5	3.6
Thermal Conductivity	BTU-ft/hr ft <sup>2</sup> °F	90	85	W/mK	160	145
Ash Content	%	0.09		%	0.09	

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GT-5073  
Rev. 1

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