



GRAFSTAR™ CSX Grade Graphite

Technical Data Sheet

Product Overview

Densified prior to graphitization, Amsted Graphite Materials GRAFSTAR™ CSX graphite is 25-30% higher in strength and lower in permeability than our grade CS graphite. It is a material made for demanding applications requiring higher densities, better mechanical properties, and less porosity than grade CS material. Grade CSX graphite has a particularly low ash content for enhanced oxidation resistance.

Applications

- Heat treatment boats and trays
- Sintering applications
- Induction furnace susceptors
- Furnace parts & fixtures
- Crucibles for melting and alloying
- Resistance heaters
- Powder metallurgy
- Quartz processing
- Casting molds

Sizes*

Standard Sizes	
English	Metric
8-30 dia x72 in rounds	200-762 mm dia x 1829 mm rounds

Typical Properties at Room Temperature**

Characteristic	English Units	WG	AG	Metric Units	WG	AG	SI Units	WG	AG
Bulk Density	lbs/ft ³	111		g/cm ³	1.78		g/cm ³	1.78	
Maximum Particle Size	inches	0.03		mm	0.76		mm	0.76	
Specific Resistance	10 ⁻⁴ Ω-in	2.8	3.5	μΩm	7.1	8.9	μΩm	7.1	8.9
Flexural Strength	psi	3480	2900	kg/cm ²	245	204	MPa	24	20
Young's Modulus	10 ⁶ psi	1.6	1.2	kg/mm ²	1117	843	GPa	11.0	8.3
Tensile Strength	psi	2755	2175	kg/cm ²	194	153	MPa	19	15
Compressive Strength	psi	7974	7974	kg/cm ²	560	560	MPa	55	55
Permeability	Darcy	0.02	0.02	Darcy	0.02	0.02	Darcy	0.02	0.02
Hardness	Rockwell "R"	93		Rockwell "R"	93		Rockwell "R"	93	
C.T.E. (to 100 °C)	10 ⁻⁶ / °F	1.4	2.0	10 ⁻⁶ / °C	2.5	3.6	10 ⁻⁶ / K	2.5	3.6
Thermal Conductivity	BTU/hr-ft-°F	98	84	W/m-K	170	145	W/m-K	170	145
Ash Content	%	0.09		%	0.09		%	0.09	

Notes:

- * Other round sizes can be made available on a made-to-order basis. Rectangles can be made available on a made-to-order basis.
- ** Properties listed are typical and cannot be used as accept/reject specifications

