

CSX™ Graphite

Technical Data Sheet 5084

Product Overview

Densified prior to graphitization, GrafTech's GRAFSTAR CSX graphite is higher in strength and lower in permeability than CS™ graphite. It is a material for applications requiring higher densities, better mechanical properties, and less porosity than the CS material. CSX graphite has a particularly low ash content which enhances its oxidation resistance.

Applications

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

Sizes

- 8"-13" diameter rounds
- 200 - 330 mm diameter rounds

Typical Properties at Room Temperature*

Characteristic	Unit	WG	AG	Unit	WG	AG	Unit	WG	AG
Density	lbs/ft ³	111		g/cm ³	1.78		g/cm ³	1.78	
Maximum Particle Size	inches	0.030		mm	0.76		mm	0.76	
Specific Resistance	10 ⁻⁴ Ωin	2.8	3.5	μΩm	7.0	9.0	μΩm	7.0	9.0
Flexural Strength	psi	3480	2900	kg/cm ²	245	204	MPa	24	20
Young's Modulus	10 ⁶ psi	1.59	1.20	kg/mm ²	1118	844	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	561	561	MPa	55	55
Permeability	Darcy	0.002	0.002	Darcy	0.002	0.002	Darcy	0.002	0.002
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 /°K	2.5	3.6	10 ⁻⁶ /°K	2.5	3.6
Thermal Conductivity	BTU-ft/hr ft ² °F	98	75	W/mK	170	130	W/mK	170	130
Ash Content	ppm	1200		ppm	1200		ppm	1200	

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

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Redefining limits