

ECW Graphite

Technical Data Sheet 5085

Product Overview

GRAFSTAR™ ECW graphite is a highly purified graphite. Machined GRAFSTAR™ CS-based material is halogen gas processed to typically less than 10 ppm.

Applications

- CZ silicon crystal growth parts
- Purified electronic fixturing
- Polysilicon seeds chucks
- Quartz processing

Sizes

Post machining gas purification of finished shapes to <10 ppm total impurities.

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	2.2	10 ⁻⁶ /°K	2.5	3.6
Thermal Conductivity	BTU-ft/hr ft ² °F	90	85	W/mK	160	145
Elemental Content	ppm	<10		ppm	<10	
Elemental Analysis	Ca	<2.0		Fe	<2.0	
	Al	<0.2		Ni	<0.2	
	Si	<2.0		Ti	<0.2	
	Mg	<0.2		Cu	nd	
	V	<0.2		B	nd	

Notes:

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

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