GRAFSTAR®
CS-114 Graphite
Technical Data Sheet 6026

Product Overview
Densified prior to graphitization, GRAFSTAR® CS-114 graphite has a specially engineered treatment to reduce oxidation at temperatures up to 750°C. This anti-oxidation graphite has been shown to increase lifetime 6 to 10 times greater than standard graphite materials in oxygen rich applications operating up to 750°C. CS-114 graphite is good for all applications requiring high densities, good mechanical properties, as well as oxidation protection.

Applications
- Aluminum pumps
- Aluminum dispersers/impellers
- Aluminum degassing shapes/rotors
- Aluminum degassing volute case/rotors
- Casting molds and furnace parts

Sizes*

Shape	Measurement	Unit	Value	Unit	Value
Round	Diameter	in	3 - 30 x 72	mm	76.2-762 x 1828.8
Rectangle	Length	in	15 x 30 x 72	mm	381 x 762 x 1828.8
Rectangle	Length	in	17 x 17 x 72	mm	431.8 x 431.8 x 1828.8
Rectangle	Length	in	17 x 17 x 88	mm	431.8 x 431.8 x 2235.2
Rectangle	Length	in	19 x 19 x 72	mm	482.6 x 482.6 x 1828.8
Rectangle	Length	in	24 x 24 x 72	mm	609.6 x 609.6 x 1828.8

Notes:
* Other sizes available upon request

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	$10^{-4}\Omega$in	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	%	2.7		%	2.7	
Oxidation Rate at 750°C	lbs/ft^2/hr	0.042		gm/m^2/hr	200	

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

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