CS-114 Graphite

Technical Data Sheet 6026

Product Overview

GRAFSTAR™ CS-114 graphite is specially engineered to greatly reduce degradation due to oxidation at temperatures as high as 750ºC. This oxidation resistant grade has been shown to have product life 4 to 6 times that of standard graphite materials in oxygen rich, high temperature processes. The oxidation resistance is stable and does not drop off in high humidity environments.

CS-114 graphite should be used in all applications requiring high product density, good mechanical properties and strong protection against oxidation.

Applications

- Aluminum pumps
- Aluminum dispersers/impellers
- Aluminum degassing shapes/rotors
- Aluminum degassing volute case/rotors
- Casting molds
- Furnace parts

Sizes*

Shape	Measurement	Unit	Value	Unit	Value
Round	Diameter	in	3 – 30 x 72	mm	75 – 760 x 1830
Rectangle	Length	in	15 x 30 x 72	mm	380 x 760 x 1830
Rectangle	Length	in	17 x 17 x 72	mm	430 x 430 x 1830
Rectangle	Length	in	17 x 17 x 88	mm	430 x 430 x 2235
Rectangle	Length	in	20 x 20 x 72	mm	525 x 525 x 1830
Rectangle	Length	in	24 x 24 x 72	mm	610 x 610 x 1830

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}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 ^{o}C)	10^{-6}/^{o}F	1.4	2.0	10^{-6}/^{o}K	2.5	3.6
Thermal Conductivity	BTU-ft/hr ft^2 ^{o}F	90	85	W/mK	160	145
Ash Content	%	0.09		%	0.09	
Oxidation Rate at 750°C	lbs/ft^2/hr	0.042		gm/m^2/hr	325	

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