GRAFTech International | GRAFSTAR™

CBY-114 Graphite
Technical Data Sheet 6028

Product Overview

GRAFSTAR™ CBY-114 graphite is specially engineered to greatly reduce degradation due to oxidation at temperatures as high as 750°C. 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.

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

Applications

- Aluminum pumps
- Aluminum disperers/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	104		g/cm^3	1.66	
Maximum Particle Size	inches	0.03		mm	0.76	
Specific Resistance	$10^{-4}\Omega$in	3.2	3.9	$\mu\Omega$m	8.1	9.9
Flexural Strength	psi	2400	1900	kg/cm^2	170	140
Young's Modulus	10^6 psi	1.32	0.96	kg/mm^2	930	680
Tensile Strength	psi	1950	1300	kg/cm^2	140	90
Compressive Strength	psi	5200	5350	kg/cm^2	370	380
Permeability	Darcy	0.13	0.16	Darcy	0.16	0.16
Hardness	Rockwell "R"	70		Rockwell "R"	70	
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	85	75	W/mK	145	130
Ash Content	%	0.07		%	0.07	
Oxidation Rate at 750°C	lbs/ft^2/hr	0.067		gm/m^2/hr	325	

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

www.graftech.com | grafstar@graftech.com

Redefining limits

United States of America
101 N. Philippi Pike
Anmoore, WV 26323-0120
Ph: +1-800-842-8805
      +1-304-624-1253

China
Unit 2104 of International Capital Plaza
1318, Sichuan Road North
Hongkou District, Shanghai China
Ph: +86-21-6325-8018

Italy
Via Forno Allione, 2
1-25040 Malonno, Brescia, Italy
Ph: +39-036-463-0131

France
La Lechere
73264 Aigueblanche Cedex, France
Ph: +33-4-79-41-45-00

© 2012 GrafTech International Holdings Inc. This information is based on data believed to be reliable but GrafTech makes no warranties, express or implied, as to its accuracy and assumes no liability arising out of its use. The data listed falls within the normal range of product properties but should not be used to establish specification limits or used alone as the basis of design. GrafTech's liability to purchasers is expressly limited to the terms and conditions of sale. GRAFSTAR is a trademark of GrafTech International Holdings Inc.

3.26.2014