

AGSX-114 Graphite

Technical Data Sheet 6027

Product Overview

GRAFSTAR™ AGSX-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.

AGSX-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

Sizes*

Shape	Measurement	Unit	Value	Unit	Value
Round	Diameter	in	3 - 9 x 72	mm	75 - 225 x 1830
Rectangle	Length	in	Available in 40, 48, 60, 65, 72	mm	Available in 1015, 1220, 1525, 1650, 1830

Typical Properties at Room Temperature**

Characteristic	Unit	WG	AG	Unit	WG	AG
Density	lbs/ft ³	107		g/cm ³	1.72	
Maximum Particle Size	inches	0.03		mm	0.76	
Specific Resistance	10 ⁻⁴ Ωin	2.8	3.9	μΩm	7	10
Flexural Strength	psi	3350	2200	MPa	23	15

(Typical Properties continued on next page)

Typical Properties at Room Temperature** (continued)

Characteristic	Unit	WG	AG	Unit	WG	AG
Young's Modulus	10 ⁶ psi	1.9	1.0	GPa	13	7
Tensile Strength	psi	2750	1600	MPa	19	11
Compressive Strength	psi	6500		MPa	45	
Permeability	Darcy	0.008	0.004	Darcy	0.008	0.004
Thermal Conductivity	BTU-ft/hr ft ² °F	100	70	W/mK	170	120
CTE (RT to 100 °C)	10 ⁻⁶ /°F	0.7	1.7	10 ⁻⁶ /K	1.2	3.1
Ash Content	%	0.15		%	0.15	
Porosity	%	16		%	16	
Oxidation Rate at 750°C	lbs/ft ² /hr	0.067		gm/m ² /hr	325	

Notes:

* Other sizes available upon request

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

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Redefining limits