

# PGX Graphite

Technical Data Sheet 5087

## Product Overview

Available in low ash monolithic sizes as large as 73" diameter, GRAFSTAR™ PGX graphite has excellent erosion resistance and thermal properties.

## Applications

- Fluidized bed reactors
- Centrifugal casting molds
- Large diameter molds and crucibles
- Monolithic composite tooling parts
- Induction and vacuum furnace parts
- Heat exchangers chemical process equipment

## Sizes

- 36 to 73" diameter x 72" long rounds
- (36 to 55" diameter also in 42" lengths)
- 914 to 1854 mm x 1829 long rounds
- (914 to 1397 mm diameter also in 1067 mm lengths)

## Typical Properties at Room Temperature\*

Characteristic	Unit	WG	AG	Unit	WG	AG	Unit	WG	AG
Density	lbs/ft <sup>3</sup>	108		g/cm <sup>3</sup>	1.73		g/cm <sup>3</sup>	1.73	
Maximum Particle Size	inches	0.03		mm	0.76		mm	0.76	
Specific Resistance	10 <sup>-4</sup> Ωin	4.0	5.4	μΩm	10.2	13.7	μΩm	10.2	13.7
Flexural Strength	psi	1600	1300	kg/cm <sup>2</sup>	112	91	MPa	11	9
Young's Modulus	10 <sup>6</sup> psi	1.0	0.7	kg/mm <sup>2</sup>	701	492	GPa	6.9	4.8
Tensile Strength	psi	1200	1000	kg/cm <sup>2</sup>	84	70	MPa	8	7
Compressive Strength	psi	4000	4100	kg/cm <sup>2</sup>	280	287	MPa	28	28
Permeability	Darcy	0.04	0.05	Darcy	0.04	0.05	Darcy	0.04	0.05
Hardness	Rockwell "R"	-		Rockwell "R"	-		Rockwell "R"	-	
C.T.E. (to 100 °C)	10 <sup>-6</sup> /°F	0.7	1.1	10 <sup>-6</sup> /°K	1.2	1.9	10 <sup>-6</sup> /°K	1.2	1.9
Thermal Conductivity	BTU-ft/hr ft <sup>2</sup> °F	72	60	W/mK	125	104	W/mK	125	104
Ash Content	%	0.07		%	0.07		%	0.07	

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

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**Redefining limits**