GRAFSTAR™
SL Grade Graphite
Technical Data Sheet

Product Overview
Densified prior to graphitization, GRAFSTAR™ SL graphite is for applications requiring higher densities and good mechanical strength. And with its higher coefficient of thermal expansion (C.T.E.), it is a very attractive match for Si / SiC application environments.

Applications
- CZ silicon crystal growth
- Polysilicon seed chucks
- Quartz processing
- Casting molds and furnace parts for hot metal

Sizes*

Standard Sizes	
English	**Metric**
20-26 dia x 72 in rounds	500-660 mm dia x 1828 mm rounds

Typical Properties at Room Temperature**

Characteristic	English Units	WG	AG	Metric Units	WG	AG	SI Units	WG	AG
Bulk Density	lbs/ft^3	110		g/cm^3	1.76		g/cm^3	1.76	
Maximum Particle Size	inches	0.03		mm	0.76		mm	0.76	
Specific Resistance	10^{-4} Ω-in	2.9	3.4	μΩm	7.4	8.6	μΩm	7.4	8.6
Flexural Strength	psi	2900	2465	kg/cm^2	204	173	MPa	20	17
Young's Modulus	10^6 psi	1.5	1.2	kg/mm^2	1019	864	GPa	10.0	8.5
Tensile Strength	psi	2030	1740	kg/cm^2	143	122	MPa	14	12
Compressive Strength	psi	8000	8000	kg/cm^2	562	562	MPa	55	55
Permeability	Darcy	0.02	0.02	Darcy	0.02	0.02	Darcy	0.02	0.02
Hardness	Rockwell "R"	93		Rockwell "R"	93		Rockwell "R"	93	
C.T.E. (to 100 °C)	10^{-6}/ °F	1.8	2.1	10^{-6}/ °C	3.2	3.8	10^{-6}/ K	3.2	3.8
Thermal Conductivity	BTU/hr-ft-°F	90	81	W/m-K	156	140	W/m-K	156	140
Ash Content	%	0.15		%	0.15		%	0.15	

Notes:
* Other sizes available upon request. Rectangles can be made available on a made-to-order basis.
** Properties listed are typical and cannot be used as accept/reject specifications