

Fine Grain Graphite

Enhanced Process Performance

GrafTech's GRAFSTAR fine grain graphite offers greater uniformity than traditional graphite products, providing enhanced machinability, quality surface finish and advanced mechanical properties.

The unique combination of thermal, mechanical and electrical properties offered by each grade afford ultimate design flexibility in a variety of applications.



Features

- High strength and durability
- Stable and optimized coefficient of thermal expansion
- High purity, available to < 10 ppm
- Flexural strength designed to meet rigorous requirements
- Uniquely tailored specific resistance

Benefits

- Longer life than other grades
- Optimized performance results
- Easily machined to tight tolerances or surface requirements
- Superior mechanical strength

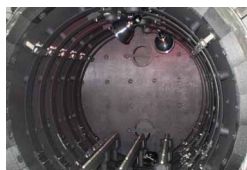
Applications



Czochralski (CZ) Pullers



Directional Solidification System (DSS) Furnaces



Vacuum Furnaces

GRAFSTAR Fine Grain Graphite

Characteristic	Units	Grade TS5324 Values	Grade TS5328 Values
Grain Size	µm	15	15
Bulk Density	g/cm ³	1.80	1.72
Specific Resistance	µΩm	14.8	11.7
Thermal Conductivity	W/m-K	75	120
CTE (to 100 °C)	ppm/°C	4.6	3.5
Flexural Strength	MPa	40	28
Compressive Strength	MPa	109	62
Tensile Strength	MPa	28	22
Sonic Young's Modulus	GPa	12	9.0
Hardness	Rockwell "L"	100	67
Trace Ash	ppm	550	400
Average Permeability	Darcy	0.004	0.007

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

Application Information

Application	Description	Parts Include
Czochralski (CZ) Pullers	Excels in the high temperature and chemical environment of the purification of silicon using the pulling method	<ul style="list-style-type: none"> ■ Seed Chucks ■ Furnace Fixtures ■ Heaters
Directional Solidification System (DSS) Furnaces	Designed to perform in purification of silicon through segregation and growth of multicrystalline silicon ingots using directional solidification	<ul style="list-style-type: none"> ■ Heat Exchangers ■ Furnace Fixtures ■ Heaters
Vacuum Furnace	Ideal for high-density graphite solutions such as heating elements and furniture for use in vacuum furnaces	<ul style="list-style-type: none"> ■ Furnace Fixtures ■ Heaters

Our global team of Applications Engineers are knowledgeable about graphite and applications spanning multiple industries. These include metallurgical casting, electronics, chemical, nuclear, defense/aerospace, solar, LED, semiconductor, and other high temperature processes.

Regardless of your product design phase (concept, prototyping, or mass production), we offer technical answers to some of your most challenging problems with a fast response time.



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Redefining limits