



Technical Data Sheet 5030

SL Grade Graphite

Product Overview

Densified prior to graphitization, GRAFSTAR™ SL graphite is for applications requiring higher densities and good mechanical strength.

Applications

- CZ silicon crystal growth
- Quartz
- Casting molds and furnace parts for hot metal

Sizes*

- 20" & 22" diameter rounds
- 500 mm & 550 mm diameter rounds
- 20" and 22" cross-section rounds
- 500 and 550 mm cross-section rounds

Typical Properties at Room Temperature**

| Characteristic | Unit | WG | AG | Unit | WG | AG | Unit | WG | AG |
|-----------------------|------------------------------|-------|------|----------------------|------|------|----------------------|------|------|
| Density | lbs/ft ³ | 110 | | g/cm ³ | 1.76 | | g/cm ³ | 1.76 | |
| Maximum Particle Size | inches | 0.030 | | mm | 0.76 | | mm | 0.76 | |
| Specific Resistance | 10 ⁻⁴ Ωin | 2.9 | 3.4 | μΩm | 7.4 | 8.5 | μΩm | 7.4 | 8.5 |
| Flexural Strength | psi | 2900 | 2465 | kg/cm ² | 204 | 173 | MPa | 20 | 17 |
| Young's Modulus | 10 ⁶ psi | 1.45 | 1.23 | kg/mm ² | 1019 | 866 | 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 /°K | 3.2 | 3.8 | 10 ⁻⁶ /°K | 3.2 | 3.8 |
| Thermal Conductivity | BTU-ft/hr ft ² °F | 90 | 81 | W/mK | 156 | 140 | W/mK | 156 | 140 |
| Ash Content | ppm | 1500 | | ppm | 1500 | | ppm | 1500 | |

Notes:

* Other sizes available upon request

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