

GRAFSTAR™ **CSX Grade Graphite**

Technical Data Sheet

Product Overview

Densified prior to graphitization, Amsted Graphite Materials GRAFSTAR™ CSX graphite is 25-30% higher in strength and lower in permeability than our grade CS graphite. It is a material made for demanding applications requiring higher densities, better mechanical properties, and less porosity than grade CS material. Grade CSX graphite has a particularly low ash content for enhanced oxidation resistance.

Applications

- Heat treatment boats and trays
- Sintering applications
- Induction furnace susceptors
- Furnace parts & fixtures
- Crucibles for melting and alloying
- Resistance heaters

- Powder metallurgy
- Quartz processing
- · Casting molds

Sizes*

| Standard Sizes | | | | | | |
|------------------------|---------------------------------|--|--|--|--|--|
| English | Metric | | | | | |
| 8-30 dia x72 in rounds | 200-762 mm dia x 1829 mm rounds | | | | | |

Typical Properties at Room Temperature**

| Characteristic | English Units | WG | AG | Metric Units | WG | AG | SI Units | WG | AG |
|-----------------------|-----------------------|------|------|-----------------------|------|------|----------------------|------|------|
| Bulk Density | lbs/ft³ | 111 | | g/cm³ | 1.78 | | g/cm³ | 1.78 | |
| Maximum Particle Size | inches | 0.03 | | mm | 0.76 | | mm | 0.76 | |
| Specific Resistance | 10 ⁻⁴ Ω-in | 2.8 | 3.5 | μΩm | 7.1 | 8.9 | μΩm | 7.1 | 8.9 |
| Flexural Strength | psi | 3480 | 2900 | kg/cm² | 245 | 204 | MPa | 24 | 20 |
| Young's Modulus | 10 ⁶ psi | 1.6 | 1.2 | kg/mm² | 1117 | 843 | GPa | 11.0 | 8.3 |
| Tensile Strength | psi | 2755 | 2175 | kg/cm² | 194 | 153 | MPa | 19 | 15 |
| Compressive Strength | psi | 7974 | 7974 | kg/cm² | 560 | 560 | 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 | 1.4 | 2.0 | 10 ⁻⁶ / °C | 2.5 | 3.6 | 10 ⁻⁶ / K | 2.5 | 3.6 |
| Thermal Conductivity | BTU/hr-ft-°F | 98 | 84 | W/m-K | 170 | 145 | W/m-K | 170 | 145 |
| Ash Content | % | 0.09 | | % | 0.09 | | % | 0.09 | |

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



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