



PYROTEK SC460 REFRACTORY

SILICON CARBIDE AND FUSED SILICA REFRACTORY

Pyrotek SC460 Refractory is a fine-grained conventional cement refractory castable primarily consisting of silicon carbide and fused silica aggregate. It contains a non-wetting additive package that gives it excellent resistance to molten aluminium-based alloys, and is specifically designed to provide improved surface finishes.

COMPOSITION

Material	Approximate Percentage of Weight
SiC	46.1%
SiO ₂	25.9%
Al ₂ O ₃	20.1%
CaO	6.5%
Fe ₂ O ₃	0.3%
Other	1.1%

BENEFITS

- Good surface finish
- Thermal shock resistant
- Excellent wear resistance



APPLICATIONS

- Continuous casters
- High erosion areas
- Troughs and launders
- Crucibles
- Spouts
- Tundishes

AVAILABILITY

- 25 kg (55 lb) multi-wall paper bags
- Bulk bags are available upon request



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Property	Value
Permanent Linear Change at 110°C (230°F) at 816°C (1500°F) at 982°C (1800°F) at 1093°C (2000°F)	-0.06% 0.00% 0.4% 0.47%
Linear Expansion at 816°C (1500°F)	0.42%
Density—g/cm ³ (lb/ft ³) at 110°C (230°F) at 260°C (500°F) at 500°C (925°F) at 725°C (1337°F) at 816°C (1500°F) at 982°C (1800°F) at 1093°C (2000°F)	2.39 (149) 2.29 (143) 2.25 (141) 2.24 (140) 2.24 (140) 2.23 (139) 2.24 (140)
Modulus of Rupture—MPa (psi) at 110°C (230°F) at 260°C (500°F) at 500°C (925°F) at 725°C (1337°F) at 816°C (1500°F) at 982°C (1800°F) at 1093°C (2000°F)	9.9 (1430) 8.1 (1180) 10.8 (1560) 10.4 (1510) 13.0 (1880) 7.6 (1100) 7.0 (1020)
Cold Crushing Strength—MPa (psi) at 110°C (230°F) at 260°C (500°F) at 500°C (925°F) at 725°C (1337°F) at 816°C (1500°F) at 982°C (1800°F) at 1093°C (2000°F)	70.3 (10,200) 65.5 (9500) 71.0 (10,300) 73.8 (10,700) 77.2 (11,200) 54.5 (7900) 46.2 (6700)
Porosity at 110°C (230°F) at 260°C (500°F) at 500°C (925°F) at 725°C (1337°F) at 816°C (1500°F) at 982°C (1800°F) at 1093°C (2000°F)	7.8% 13.2% 13.5% 18.8% 18.5% 19.9% 23.9%
Abrasion Loss—cm ³ (in ³) at 110°C (230°F) at 816°C (1500°F)	15.5 (1.0) 12.0 (0.7)
Grain Size—mm (in)	2 (0.08), 10 mesh and finer
Maximum Practical Use Temperature	1093°C (2000°F)
Material Required—g/cm ³ (lb/ft ³)	2.24 (140)
Thermal Conductivity—W/m·K (BTU·in/ft ² ·hr·°F) at 400°C (752°F) at 550°C (1022°F) at 700°C (1292°F) at 800°C (1472°F)	1.37 (9.46) 1.75 (12.12) 2.13 (14.78) 2.39 (16.56)

