



PYROCAST FS59 AL FINE

FUSED SILICA BASED CASTABLE REFRACTORY FOR INTRICATE SHAPES

Pyrocast FS59 AL Fine is a fused silica based castable with similar insulating properties and lighter weight than Pyrocast FS73 AL. It has a fine grain sizing distribution formulated for intricate shapes, thin wall castings, or cast shapes with less than 25 millimetre (1 inch) cross section thickness. This product provides improved surface finishes compared to similar density fused silica products, and is non-wetting to aluminium and zinc alloys.

COMPOSITION

Material	Approximate Percentage of Weight
SiO ₂	59.0%
Al ₂ O ₃	30.5%
CaO	10.3%

BENEFITS

- Dimensionally stable
- Thermal shock resistant
- Easily cleaned
- Extremely durable
- Smooth cast surface
- Non-wetting

APPLICATIONS

- Thimbles
- Hot-top table sections
- Sheet ingot spouts
- Control pins

AVAILABILITY

- 25 kg (55 lb) bags
- Precise precast shapes

PHYSICAL PROPERTIES

Property	Value
Permanent Linear Change–Shrinkage Heating from green to fired at 110°C (230°F)	-0.06%
Permanent Linear Change–Shrinkage Heating from dried to fired at 650°C (1200°F)	-0.16%
Density–kg/m ³ (lb/ft ³) at 110°C (230°F) at 650°C (1200°F) at 815°C (1500°F)	2035 (127) 1986 (124) 1970 (123)
Modulus of Rupture–MPa (psi) at 110°C (230°F) at 650°C (1200°F) at 815°C (1500°F)	11.6 (1680) 8.2 (1190) 7.1 (1030)
Hot Modulus of Rupture–MPa (psi) at 725°C (1337°F) at 815°C (1500°F)	11.9 (1730) 10.6 (1530)
Cold Crushing Strength–MPa (psi) at 110°C (230°F) at 650°C (1200°F) at 815°C (1500°F)	91.2 (13,200) 48.1 (7000) 57.9 (8400)
Thermal Conductivity– W/m·K (BTU·in/ft ² ·hr·°F) at 150°C (300°F) at 316°C (600°F) at 427°C (800°F) at 538°C (1000°F) at 649°C (1200°F) at 815°C (1500°F) at 982°C (1800°F) at 1093°C (2000°F)	1.00 (6.96) 0.87 (6.02) 0.80 (5.55) 0.75 (5.20) 0.72 (4.99) 0.71 (4.90) 0.74 (5.10) 0.78 (5.40)
Grain Size–mm (in)	0.9 (0.04)
Maximum Use Temperature	982°C (1800°F)

