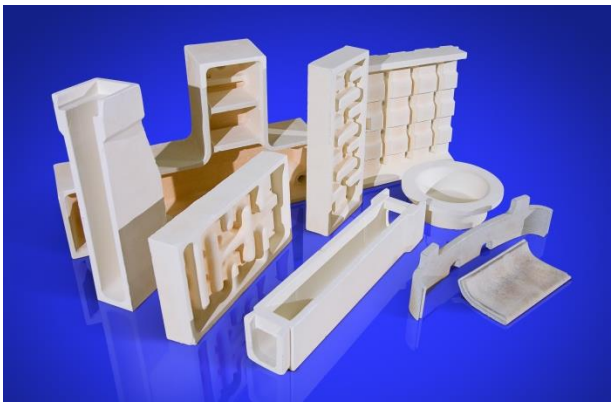
Cerox® Pre-Fired Refractory Shapes

Datasheet Code US: 1-14-25



Product Description

Cerox pressed fired shapes are used in a variety of alloy melt-pour systems. The pressed manufacture process meets the tight tolerance specifications required by end users. Precise size dies and detailed product inspection provide the user with a high-quality, dimensionally accurate refractory shape.

Features

- Variety of available compositions in high alumina and fused silica
- Extreme tight tolerance capabilities
- Low gas permeability to ferrous alloys
- Good non-wetting characteristics
- Excellent mechanical strength
- Proven performance in super alloy, investment

Applications

- Standard size crucibles and liners for induction melting and investment casting
- Tundish nozzles – meet user demands on pour stream and pour speeds
- Gas atomized nozzles – for custom-designed atomizing powder metal systems

Standard Shapes

Numerous crucible sizes are in stock and most can be used interchangeably with a variety of refractory compositions. A variety of compositions are available:

- Cerox 90V - 90% alumina, versatile mix commonly used for crucibles and furnace spouts
- Cerox 90P - 90% alumina composition commonly used for tundish nozzles, and small crucible size applications
- Cerox 95P - 95% alumina material for tundish nozzles, small crucibles and gas atomizing nozzles
- Cerox FS-85P - 85% fused silica product primarily used for melt liner applications

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Physical properties	Cerox 90V	Cerox FS-99V	Cerox 90P	Cerox 95P	Cerox FS-85P
Method of Forming	Thix. cast	Thix. cast	Pressed	Pressed	Pressed
Classification temperature rating, °F (°C)	3090 (1699)	2800 (1538)	3090 (1699)	3100 (1704)	2750 (1510)
Bulk Density pcf (kg/m^3)	176 (2820)	113 (1811)	178 (2853)	188 (3013)	109 (1510)
Apparent porosity, %	20	12	23	20	22
Modulus of Rupture, psi (MPa)	2500 (17.2)	1150 (7.9)	4000 (27.6)	4100 (28.3)	510 (3.5)
Coefficient of thermal expansion, in./in.•°F x 10-6	4.1	0.2	4.2	4.5	3.2
Thermal conductivity, Btu•in./hr•ft^2•°F (W/m•K), ASTM C417					
@ 2000°F (1093°C)	16.0 (2.3)	16.0 (2.3)	22.0 (3.2)	10.6 (1.5)	9.5 (1.37)
Chemical Analysis, %					
Alumina, Al_2O_3	91	0.7	90	95	14
Silica, SiO_2	8	99	8.6	4.0	85
Ferric oxide, Fe_2O_3	0.15	0.1	0.4	0.4	0.3
Titanium oxide, TiO_2	0.1	Trace	0.2	–	0.7
Calcium + Magnesium oxide, CaO + MgO	0.04	0.1	0.1	–	0.15
Alkalies, NaO_2 + K_2O	0.15	0.1	0.3	0.3	0.45
Silicon Carbide, SiC	–	–	–	–	–

Thix. = Thixotropix
Vib. = Vibratory

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