RENO REFRACTORIES, INC

Reno Firecast SiC BF

TECHNICAL DATA SHEET

Reno Firecast SiC BF is a high alumina silicon-carbide, no-cement castable designed to be installed by vibration casting, pump cast, and shotcrete techniques. Based on Reno's new propriety Firecast bond system with a very easy to use character.

- Water based, easy mixing, easy dry out, consistent wear patterns.
- Rapid dry out capability while still retaining reduced porosity and high strengths.
- Excellent material for applications in steel mill Blast Furnace troughs where difficult installation conditions exist.
- Excellent resistance to iron, slag, thermal shock, and oxidation.
- Recommended for use in blast furnace troughs and skimmer blocks, tilting runners, cupola skimmer blocks, cupola wells, troughs, and tap-hole blocks.
- Excellent refractory for large blast furnace troughs where slag resistance at high temperatures is paramount.

Service Temperature:	3000°F (1648°C)	Wt. Required for Estimating:	183 lbs./ft^3
Liquid Type:	Water	Storage Life:	6 months
Addition Quantity:	5.0 – 6.0%	Shotcrete Binder:	1.5% Mag Sulfate

TYPICAL CHEMICAL ANALYSIS (% Calcined Basis)

Al_2O_3	SiC	SiO_2	Fe_2O_3	TiO_2	CaO	MgO	Alkalies
68-72	14-17	8-10	<2	<3.7	<1	1-2	< 1

TYPICAL COLD PHYSICAL PROPERTIES

Prefired to °F	Cold Modulus of Rupture (psi)	Cold Crushing Strength (psi)	Density (pcf)	Porosity (%)	Linear Change (%)	Abrasion Loss (cc)	Thermal Cycle Change (%)	Permeability (mDarcys)
250	662	3,369	185	14.4	0.00	-	-	0.54
750	664	3,708	184	14.2	0.00	-	-	1.10
1500	850	5,536	183	14.1	0.10	<10 cc	-	1.64
2000	1,869	15,182	183	14.2	0.00	-	+1.78	4.41
2500	1,508	12,973	184	14.2	0.30	5 cc	-	7.79
2700	1,557	13,190	185*	14.4*	0.56*	-	-	8.78

TYPICAL HOT PHYSICAL PROPERTIES

Prefired to °F	Hot Modulus of Rupture (psi)	Thermal Conductivity (BTU/ft^2/hr./in/°F)	Thermal Expansion (%)
250		17.6	0.00
750		16.2	0.16
1500		15.4	0.40
2000		15.1	0.76
2500		14.8	1.12
2700	635*	14.7	1.22

US Steel Thermal Shock after 10 cycles 2000F: 2,2,2,2,2
(*) Test results from Edward Orton Testing Center

Bake Out Schedule: Schedule D

22-172 & 24-012

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