

## ElectroCast<sup>™</sup> Sil 1199

## **TECHNICAL DATA SHEET**

**ElectroCast<sup>™</sup> Sil 1199** is a fused silica based, no cement castable based on Reno's Electro-Chemical bond system. This product is designed to be placed by vibration casting.

- Based on Reno's proprietary Electro-Chemical bond system for maximum performance.
- Low porosity and permeability further reduces penetration and reaction with vapors.
- Recommended for use in applications where the presence of chlorine, sulfur compounds, and alkali vapors are present. Aluminum furnaces, above the metal line. Cement plant preheater stages 2,3, and 4, and riser duct can be lined with Sil 1199. Zinc recycling dust catcher roof and walls.
- Excellent Thermal Shock resistance. Best for cyclical applications such as wood burning systems, boilers, hoods or any uses where rapid temperature swings are present. Single component lining design allows for rapid installation with reduced labor costs.
- Provides unique physical properties that allow the refractory to excel against dirty fuels.

Service Temperature: 2900°F
Electrolyte Type: E11
Addition Quantity: 7-9%
Wt. Required for Estimating 114 lb/ft³
Storage Life: 6 months

## TYPICAL CHEMICAL ANALYSIS (Calcined Basis)

$Al_2O_3$	$SiO_2$	$Fe_2O_3$	CaO	MgO
0.5	99	0.1	0.1	0.1

## TYPICAL PHYSICAL PROPERTIES

Prefire Temperature	Modulus of Rupture	Cold Crushing	Density (pcf)	Porosity (%)	Linear Change	Permeability (mDarcys)	Thermal k (Btu/ft²/in/hr)	Surface Area
(°F)	(psi)	Strength (psi)	(I - 7	(**)	(%)	( 3, 3, 3,	,	$(m^2/g)$
250	902	3,675	113.3	13.0	0.07	1.8	8.0	8.81
750	721	3,618	113.0	12.7	0.19	5.4	8.1	8.11
1000	894	4,933	113.7	14.2	0.19	4.0	8.3	7.45
1500	1,179	5,227	113.8	14.7	0.15	5.7	8.5	6.76
2000	701	7,942	113.3	13.8	0.00	32.5	8.5	4.20
2200	478	3,754	116.1	14.4	-0.30	74.8	8.5	5.01
2500	430	6,063	116.5	14.6	-0.48	86.2	8.6	6.06
2650	471	4,711	116.3	14.9	-0.67	83.6	8.7	5.79
2800	457	4,340	115.6	15.0	-0.39	116	8.8	3.09

Thermal Expansion Coefficient: 0.8E-6 (ASTM C832)

Thermal Cycle Loss (after 2000°F): 10% MOR Gain (ASTM C-1171)

Hot MOR at 2750°F: 1364 psi (ASTM C583)

Abrasion Loss After 1500°F: 7.1 cc (ASTM C704)
Abrasion Loss After 2500°F: 5.0 cc (ASTM C704)

**PACKAGING:** 55 lb. Bags, 72 per Pallet (3960 lbs.) 1500 lb. Bags, 2 per Pallet (3000 lbs.) 2000 lb. Bags, 2 per Pallet (4000 lbs.) 19-026 Revised BP 5/12/2021 pin#191020

The data presented represents typical average results obtained by testing under ASTM or other acceptable procedures as required. They are subject to normal variations and should not be used for specification purposes.