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Plico Refractories

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Technical Data Sheet

Plico Castable Si-Bond SP 90

Product Number 3245

Date 2/21/2018

Product Description

A spinel enriched, high alumina, cement free castable.

Service limit - 3100°F 1704 °C

Std. package 55 # / 25 kg Bag

Density to place 186 pcf 2,979 kg/m³

Water range per std. package:

Density in service 186 pcf 2,980 kg/m³

Casting 1.20 to 1.40 qts 1.13 to 1.32 l

Min time before firing 24 hr

Pumping to qts 0.00 to 0 l

Chemistry % (calcined)

Al ₂ O ₃	91.4	P ₂ O ₅	
SiO ₂	5.8	Alk.	0.2
Fe ₂ O ₃	0.1	MgO	2.3
CaO	0.1	SiC	
TiO ₂		ZrO ₂	
		Other	

Thermal Conductivity

	btu*in/hr*ff ² * F	w/m°C
500F / 260C	20.0	2.88
1000F / 540C	19.0	2.73
1500F / 815C	19.0	2.73
2000F / 1090C	20.0	2.88

Abrasion Loss

per ASTM C 704
after 1500 F

cc

Coefficient of Thermal Expansion
(reversible)

5.4 x 10⁻⁶ in/in F

9.7 x 10⁻⁶ m/m C

Temperature per ASTM C113 / C865	Linear Change per ASTM C113 / C179	Cold MOR		CCS		Hot MOR	
		per ASTM C133 psi	MPa	per ASTM C133 psi	MPa	per ASTM C583 psi	MPa
230 F / 110 C	0.0%	300	2.1	1400	10		
1500 F / 815 C	0.0%	900	6.2	2700	19	1200	8.3
1800 F / 980 C			0.0		0		0.0
2000 F / 1090 C	-0.4%	4000	27.6	12000	83		0.0
2500 F / 1370 C			0.0		0	700	4.8

Other Data

Heat Up Guide

Schedule E

ASTM Class

C 401 Class F

No Cement Castable

Note:

All data are averaged results of ASTM tests (where applicable) on laboratory cast specimens.

Reasonable variations in data can be expected. Data is not to be used for specification purposes. Product data is periodically updated to reflect product / raw material / process / testing changes. Please consult your Plibrico representative to make sure you have the most current data.