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Technical Data Sheet Plicast Si-Bond SP

Product # 14794

Available Internationally As: Plico Castable Si-Bond SP

Product Description:

Plicast® Si-Bond SP is a high alumina based, cement less castable, modified with a magnesium aluminate spinel addition. This castable was specifically developed for enhanced resistance to high alkali slags and alkali vapor attacks. Plicast Si-Bond SP also exhibits exceptional hot strength up through 2500°F.

Standard Packaging:	55 # /	25 kg Bag
Shelf Life:	4 months	
Service Limit:	3100 °F	1700 °C
Contact Limit:	N/A °F	N/A °C
Bulk Density - In Service:	182 pcf	2916 kg/m ³
Bulk Density - To Place:	182 pcf	2916 kg/m ³
Minimum Time To Firing:	24 hr	

Abrasion Loss after 1500°F / 815°C per ASTM C704

N/A cc

Chemistry (calcined) %					
Al ₂ O ₃	84.3	Alk	0.5	MgO	7.2
SiO ₂	7.9	TiO ₂		ZrO ₂	
CaO	0.1	P ₂ O ₅		Other	
Fe ₂ O ₃	0.1	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	5.3	1.4	1.3
	max	6.0	1.6	1.5
Pumping	min			
	max			

Coefficient of Thermal Expansion (reversible):

4.9 x 10⁻⁶ in/in/°F / 8.8 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	18.0	2.6
1000°F / 540°C	17.5	2.5
1500°F / 815°C	17.0	2.4
2000°F / 1090°C	18.0	2.6

Temperature		Linear Change% per ASTM C113	CCS per ASTM C133		Cold MOR per ASTM C133		Hot MOR per ASTM C583	
°F	°C		psi	MPa	psi	MPa	psi	MPa
230	110		1800	12.0	850	5.9		
1500	820		2500	17.0	1600	11.0	1500	10.3
1800	980						3200	22.1
2000	1090				2500	17.2	4500	31.0
2500	1370				3500	24.1	1000	6.9

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule E

ASTM Class: C 401 Class F No Cement Castable

Refractory material should be stored in a cool, dry environment.

Note: All data are averaged results of ASTM tests (where applicable) on laboratory 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 and/or testing changes. Please consult your Plibrico representative to make sure you have the most current data.