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Technical Data Sheet

Plicast Si-Bond SiC 20 Al C KK

Product # 3313

Available Internationally As: Plico Castable Si-Bond SiC 20 Al C KK

Product Description:

Plicast Si-Bond SiC 20 Al C KK is a 60% alumina, no-cement castable with 20% silicon carbide to improve abrasion resistance. It is designed for aluminum contact, and contains an extra coarse aggregate to aid in thermal shock resistance. All of this makes this material ideal for applications such as sills and jambs in an aluminum furnace.

Standard Packaging: 55 # / 25 kg Bag

Shelf Life: 4 months

Service Limit: 2800 °F 1540 °C

Contact Limit: 2000 °F 1093 °C

Bulk Density - In Service: 155 pcf 2483 kg/m³

Bulk Density - To Place: 155 pcf 2483 kg/m³

Minimum Time To Firing: 24 hr

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

7 cc

Chemistry (calcined) %					
Al ₂ O ₃	56.2	Alk	0.1	MgO	0.3
SiO ₂	11.8	TiO ₂	2.2	ZrO ₂	
CaO	0.1	P ₂ O ₅		Other	
Fe ₂ O ₃	1.0	SiC	20.2		

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	6.0	1.6	1.5
	max	6.6	1.7	1.7
Pumping	min	6.4	1.7	1.6
	max	7.0	1.9	1.8

Coefficient of Thermal Expansion (reversible):

3.3 x 10⁻⁶ in/in/°F / 5.9 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	24.0	3.46
1000°F / 540°C	24.4	3.51
1500°F / 815°C	24.0	3.46
2000°F / 1090°C	28.5	4.10

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	0.0	1000	7.0	300	2.1		
1500	820	-0.1	2000	14.0	700	4.8	900	6.2
1800	980	-0.1						
2000	1090							
2500	1370							

Other Data:

Release Date: 21 Sep 2023

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.