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Technical Data Sheet Plicast Al-Shield BTR 7 KK

Product # 14927

Available Internationally As: Plico Castable A-S BTR 7 KK

Product Description:

An aluminum resistant, high hot strength, low cement, bauxite based castable for aluminum furnace contact applications with excellent resistance to reactive and fluid aluminum alloys.

Standard Packaging: 55 # / 25 kg Bag

Shelf Life: 6 months

Service Limit: 2800 °F 1540 °C

Contact Limit: 2000 °F 1093 °C

Bulk Density - In Service: 172 pcf 2755 kg/m³

Bulk Density - To Place: 172 pcf 2755 kg/m³

Minimum Time To Firing: 16 hr

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

9 cc

Chemistry (calcined) %					
Al ₂ O ₃	69.5	Alk	0.2	MgO	0.1
SiO ₂	16.2	TiO ₂	1.4	ZrO ₂	
CaO	1.6	P ₂ O ₅		Other	9.5
Fe ₂ O ₃	1.3	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	6.0	1.6	1.5
	max	6.8	1.8	1.7
Pumping	min	6.4	1.7	1.6
	max	7.2	1.9	1.8

Coefficient of Thermal Expansion (reversible):

4.2 x 10⁻⁶ in/in/°F / 7.6 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	16.9	2.4
1000°F / 540°C	16.5	2.4
1500°F / 815°C	16.0	2.3
2000°F / 1090°C	16.7	2.4

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	6500	45.0	1500	10.3		
1500	820	-0.2	7000	48.0	1800	12.4	3000	20.7
1800	980	-0.3			2000	13.8	4100	28.3
2000	1090	0.2			2200	15.2	2800	19.3

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule AT AS or AT AS

ASTM Class: C 401 Class D Low 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.