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Technical Data Sheet Plicast Al-Tuff Floor Guard HT

Product # 3247

Available Internationally As: Plico Castable A-T Floor Guard HT

Product Description:

A high temperature spall resistant, fireclay castable designed for hot flooring and splash pads around furnaces. Develops full hydraulic strength after 48 hr cure but can be used in as little as 16 hr with reduced cured strength.

Standard Packaging: 55 # / 25 kg Bag

Shelf Life: 12 months

Service Limit: 2500 °F 1370 °C

Contact Limit: 1700 °F 927 °C

Bulk Density - In Service: 135 pcf 2163 kg/m³

Bulk Density - To Place: 135 pcf 2163 kg/m³

Minimum Time To Firing: 16 hr

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

13 cc

Chemistry (calcined) %					
Al ₂ O ₃	43.2	Alk	0.5	MgO	0.2
SiO ₂	40.4	TiO ₂	2.1	ZrO ₂	
CaO	10.2	P ₂ O ₅		Other	
Fe ₂ O ₃	3.4	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	10.1	2.7	2.5
	max	11.1	2.9	2.8
Pumping	min	10.0	2.7	2.5
	max	11.2	3.0	2.8

Coefficient of Thermal Expansion (reversible):

3.0 x 10⁻⁶ in/in/°F / 5.4 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	7.0	1.0
1000°F / 540°C	6.8	1.0
1500°F / 815°C	6.8	1.0
2000°F / 1090°C	7.5	1.1

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	8500	59.0				
1500	820	-0.3	6000	41.0				
2000	1090	-0.5						

Other Data: ASTM C 704 - Abrasion Loss 9cc dried, 11cc after 500F, 13cc after 1000F; CCS: 16 hr Cure - 2100psi 14 Mpa, 24 hr Cure - 6500psi 45 Mpa

Release Date: 1 Aug 2019

Heat Up Guide:

ASTM Class: C 401 Class C
 Regular 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.