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Technical Data Sheet Pli-Shot Al-Tuff 3100 Special KK

Product # 15247

Available Internationally As:

Plico Shotcrete A-T 3100

Product Description:

A high strength, mullite based, non wetting, low cement castable designed for shotcrete application with excellent resistance to thermal shock/cycling.

Standard Packaging: 55 # / 25 kg Bag

Shelf Life: 6 months

Service Limit: 3100 °F 1700 °C

Contact Limit: 1800 °F 982 °C

Bulk Density - In Service: 148 pcf 2371 kg/m³

Bulk Density - To Place: 148 pcf 2371 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	58.7	Alk	0.2	MgO	0.1
SiO ₂	35.3	TiO ₂	1.6	ZrO ₂	
CaO	3.3	P ₂ O ₅		Other	
Fe ₂ O ₃	0.9	SiC			

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

Coefficient of Thermal Expansion (reversible):

3.6 x 10⁻⁶ in/in/°F / 6.5 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	10.7	1.5
1000°F / 540°C	11.3	1.6
1500°F / 815°C	12.0	1.7
2000°F / 1090°C	12.6	1.8

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	7000	48.0	1700	11.7		
1000	540	-0.2			1900	13.1	2200	15.2
1500	820	-0.3	8000	55.2	2300	15.9	3400	23.4

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule AT AS or AT AS

ASTM Class: C 401 Class F 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.