



Plibrico Company, LLC

1935 Techny Road - Unit 16
 Northbrook, IL 60062
 (312) 337-9000
 www.plibrico.com

Technical Data Sheet Pli-Shot Al-Tuff 3100 KK

Product # 15403

Available Internationally As: Plico Shotcrete A-T 3100 KK

Product Description:

A high strength, bauxite based, non wetting, low cement castable designed for shotcrete application.

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: 165 pcf 2643 kg/m³

Bulk Density - To Place: 165 pcf 2643 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	73.3	Alk	0.2	MgO	0.1
SiO ₂	20.4	TiO ₂	1.4	ZrO ₂	
CaO	3.2	P ₂ O ₅		Other	
Fe ₂ O ₃	1.3	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):

4.3 x 10⁻⁶ in/in/°F / 7.7 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	14.1	2.0
1000°F / 540°C	13.6	2.0
1500°F / 815°C	13.6	2.0
2000°F / 1090°C	14.1	2.0

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	1800	12.4		
1000	540	-0.2			2000	13.8	2200	15.2
1500	820	-0.3	8000	55.2	2200	15.2	3500	24.1

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.