

Plico Shotcrete A-T 3100 KK

Product Number 15403

Date 2/10/2014

Product Description

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

Typical Aluminum Applications

Aluminum Melting and Holding furnaces: lower sidewall, division wall and jamb repairs. Rotary dross furnace linings.

Service limit - 3100°F 1704 °C

Std. package 55 # / 25 kg Bag

Al contact limit - 1800 °F 982 °C

Water range per std. package:

Density to place 165 pcf 2,643 kg/m³

Casting to qts 0.0 to 0.0 l

Density in service 165 pcf 2,643 kg/m³

Pumping 1.8 to 2.0 qts 1.6 to 1.8 l

Min time before firing 16 hr

Chemistry % (calcined)

Al ₂ O ₃	73.3	P ₂ O ₅	
SiO ₂	20.4	Alk.	0.2
Fe ₂ O ₃	1.3	MgO	0.1
CaO	3.2	SiC	
TiO ₂	1.4	ZrO ₂	
		Other	

Thermal Conductivity

	btu*in/hr*ft ² *°F	w/m°C
500F / 260C	14.1	2.03
1000F / 540C	13.6	1.95
1500F / 815C	13.6	1.95
2000F / 1090C	14.1	2.03

Abrasion Loss

per ASTM C 704
after 1500 F

9 cc

Coefficient of Thermal Expansion

(reversible)

4.3 x 10⁻⁶ in/in F

7.7 x 10⁻⁶ m/m C

Temperature per <u>ASTM C113 / C865</u>	Linear Change per <u>ASTM C113 / C179</u>	Cold MOR		CCS		Hot MOR	
		per ASTM C133 <u>psi</u>	<u>MPa</u>	per ASTM C133 <u>psi</u>	<u>MPa</u>	per ASTM C583 <u>psi</u>	<u>MPa</u>
230 F / 110 C	0.0%	1800	12.4	7000	48		
1000 F / 540 C	-0.2%	2000	13.8		0	2200	15.2
1500 F / 815 C	-0.3%	2200	15.2	8000	55	3500	24.1
			0.0		0		0.0
			0.0		0		0.0

Other Data

Heat Up Guide

Schedule AT AS or AT AS Linear

ASTM Class

C 401 Class F

Low Cement Castable

Note:

All data are averaged results of ASTM tests (where applicable) on laboratory shotcreted 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 / testing changes. Please consult your Plico representative to make sure you have the most current data.

Plico Refractories are manufactured by Plibrico Company LLC, USA.