

Plico Castable A-T 3100 Special KK

Product Number 16524

Date 2/10/2014

Product Description

A versatile high strength, mullite based, non wetting, low cement castable with excellent resistance to thermal shock/cycling. May be vibration cast, cast or pumped.

Typical Aluminum Applications

Aluminum Melting and Holding furnaces: lower sidewalls, division walls, hearths and sills. Transfer ladles, troughs and launders.

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 152 pcf 2,435 kg/m³

Casting 1.6 to 1.8 qts 1.6 to 1.7 l

Density in service 152 pcf 2,435 kg/m³

Pumping 1.9 to 2.0 qts 1.8 to 1.9 l

Min time before firing 16 hr

Chemistry % (calcined)

Al ₂ O ₃	60.3	P ₂ O ₅	
SiO ₂	34.3	Alk.	0.2
Fe ₂ O ₃	0.9	MgO	0.1
CaO	2.6	SiC	
TiO ₂	1.6	ZrO ₂	
		Other	

Thermal Conductivity

	btu*in/hr*ft ² *°F	w/m°C
500F / 260C	10.7	1.54
1000F / 540C	11.3	1.62
1500F / 815C	12.0	1.72
2000F / 1090C	12.6	1.81

Abrasion Loss

per ASTM C 704
after 1500 F

7 cc

Coefficient of Thermal Expansion

(reversible)

3.6 x 10⁻⁶ in/in F

6.4 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%	2200	15.2	9000	62		
1000 F / 540 C	-0.1%	2500	17.2		0	2400	16.6
1500 F / 815 C	-0.3%	2900	20.0	9000	62	4000	27.6
			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 cast 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.