

**Plico Castable A-T 3100 KK**

Product Number 14267

Date 2/10/2014

**Product Description**

An 80% alumina, bauxite based, non-wetting low cement castable. 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** 167 pcf 2,675 kg/m<sup>3</sup>

**Casting** 1.6 to 1.9 qts 1.5 to 1.8 l

**Density in service** 167 pcf 2,675 kg/m<sup>3</sup>

**Pumping** 1.8 to 2.0 qts 1.6 to 1.9 l

**Min time before firing** 16 hr

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	77.5	P <sub>2</sub> O <sub>5</sub>	
SiO <sub>2</sub>	16.9	Alk.	0.2
Fe <sub>2</sub> O <sub>3</sub>	1.3	MgO	0.1
CaO	2.6	SiC	
TiO <sub>2</sub>	1.4	ZrO <sub>2</sub>	
Other			

**Thermal Conductivity**

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

**Abrasion Loss**

per ASTM C 704  
after 1500 F

7 cc

**Coefficient of Thermal Expansion**

(reversible)

4.3 x 10<sup>-6</sup> in/in F

7.7 x 10<sup>-6</sup> 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	-0.2%	2400	16.6		0	2900	20.0
1500 F / 815 C	-0.3%	2800	19.3	8500	59	3900	26.9
			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.*