



**Plibrico Company, LLC**  
**Plico Refractories**

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**Technical Data Sheet**

**Plico Castable LC 3100 KK**

Product Number 14137

Date 2/10/2014

**Product Description**

An 80% alumina, bauxite based, low cement castable. May be vibration cast, cast or pumped.

**Service limit -** 3100°F 1,704 °C

**Std. package** 55 # / 25 kg Bag

**Density to place** 167 pcf 2,675 kg/m<sup>3</sup>

**Water range per std. package:**

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

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

**Min time before firing** 16 hr

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

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	77.9	P <sub>2</sub> O <sub>5</sub>	
SiO <sub>2</sub>	17.3	Alk.	0.2
Fe <sub>2</sub> O <sub>3</sub>	1.4	MgO	0.1
CaO	1.6	SiC	
TiO <sub>2</sub>	1.5	ZrO <sub>2</sub>	
		Other	

**Thermal Conductivity**

	btu*in/hr*ff <sup>2</sup> *°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

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 ASTM C113 / C865	Linear Change per ASTM C113 / C179	Cold MOR		CCS		Hot MOR	
		per ASTM C133 psi	MPa	per ASTM C133 psi	MPa	per ASTM C583 psi	MPa
230 F / 110 C	0.0%	2200	15.2	13500	93		
1500 F / 815 C	-0.3%	2500	17.2	14000	97	3500	24.1
2000 F / 1090C	-0.4%	2700	18.6		0	3800	26.2
2500 F / 1370 C	0.9%	2300	15.9		0	1000	6.9
3000 F / 1650 C	0.5%	2800	19.3		0		0.0

**Other Data**

**Heat Up Guide**

Schedule C or C-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.*