



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

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**Technical Data Sheet**

**Plico Castable LC 3000 KK**

Product Number 2109

Date 2/10/2014

**Product Description**

A super duty low cement castable that may be vib cast, cast or pumped.

**Service limit -** 3000°F 1,648 °C

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

**Density to place** 139 pcf 2,226 kg/m<sup>3</sup>

**Water range per std. package:**

**Density in service** 139 pcf 2,227 kg/m<sup>3</sup>

**Casting** 1.9 to 2.0 qts 1.8 to 1.9 l

**Min time before firing** 16 hr

**Pumping** 2.1 to 2.3 qts 2.0 to 2.2 l

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	48.8	P <sub>2</sub> O <sub>5</sub>	
SiO <sub>2</sub>	45.4	Alk.	0.6
Fe <sub>2</sub> O <sub>3</sub>	0.8	MgO	0.1
CaO	2.5	SiC	
TiO <sub>2</sub>	1.8	ZrO <sub>2</sub>	
		Other	

**Thermal Conductivity**

	btu*in/hr*ff <sup>2</sup> *°F	w/m°C
500F / 260C	9.3	1.33
1000F / 540C	10.0	1.44
1500F / 815C	10.7	1.54
2000F / 1090C	11.5	1.65

**Abrasion Loss**

per ASTM C 704  
after 1500 F

8 cc

**Coefficient of Thermal Expansion**  
(reversible)

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

5.5 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%	1800	12.4	12500	86		
1500 F / 815 C	-0.3%	1600	11.0	11500	79	2200	15.2
2000 F / 1090C	-0.4%	1900	13.1		0	2100	14.5
2500 F / 1370 C	0.6%	2000	13.8		0	400	2.8
3000 F / 1650 C	-0.4%	3000	20.7		0		0.0

**Other Data**

**Heat Up Guide**

Schedule C or C-Linear

**ASTM Class**

C 401 Class E

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.*