



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

1935 Techny Road - Unit 16  
 Northbrook, IL 60062  
 Phone: 312-337-9000 Fax: 312-337-9003  
 www.plico-refractories.com.com

**Technical Data Sheet**

**Plico Castable LC TSR Plus KK**

Product Number 14102

Date 2/10/2014

**Product Description**

A fused silica-mullite, thermal shock resistant, high strength, low cement castable. May be cast, pumped or shotcreted (see other data below).

**Service limit -** 2500°F 1,371 °C

**Std. package** 50 # / 22.7 kg Bag

**Density to place** 127 pcf 2,034 kg/m<sup>3</sup>

**Water range per std. package:**

**Density in service** 127 pcf 2,035 kg/m<sup>3</sup>

**Casting** 1.7 to 1.9 qts 1.6 to 1.8 l

**Min time before firing** 16 hr

**Pumping** 1.8 to 2.3 qts 1.7 to 2.2 l

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	31.1	P <sub>2</sub> O <sub>5</sub>	
SiO <sub>2</sub>	65.5	Alk.	0.2
Fe <sub>2</sub> O <sub>3</sub>	0.3	MgO	0.1
CaO	2.5	SiC	
TiO <sub>2</sub>	0.3	ZrO <sub>2</sub>	
		Other	

**Thermal Conductivity**

	btu*in/hr*ff <sup>2</sup> *°F	w/m°C
500F / 260C	6.1	0.87
1000F / 540C	6.4	0.92
1500F / 815C	7.1	1.02
2000F / 1090C	8.1	1.16

**Abrasion Loss**

per ASTM C 704  
after 1500 F

9 cc

**Coefficient of Thermal Expansion**

(reversible)

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

1.2 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%	1600	11.0	11500	79		
1000 F / 540 C	-0.1%	1600	11.0		0	2000	13.8
1500 F / 815 C	-0.2%	1650	11.4	11000	76	2300	15.9
2000 F / 1090 C	-0.4%	1400	9.7		0	2000	13.8
2300 F / 1260 C	-0.3%	1100	7.6		0	1500	10.3

**Other Data**

Shotcrete Data: Density in service - 122pcf, CCS 1800F- 6000psi, CMOR 1800F - 1300 psi, Abr loss 1800F - 14 cc

**Heat Up Guide**

Schedule C or C-Linear

**ASTM Class**

C 401 Class C

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.*