

**Plico Gun Mix 3100 Special**

Product Number 14031

Date 2/10/2014

**Product Description**

A 60% alumina, mullite based, low cement refractory gun mix.

**Service limit -** 3100°F 1,704 °C

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

**Density to place** 132 pcf 2,114 kg/m<sup>3</sup>

**Water range per std. package:**

**Density in service** 132 pcf 2,115 kg/m<sup>3</sup>

**Casting** to qts 0.0 to 0.0 l

**Min time before firing** 16 hr

**Pumping** to qts 0.0 to 0.0 l

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	58.5	P <sub>2</sub> O <sub>5</sub>	
SiO <sub>2</sub>	35.9	Alk.	0.3
Fe <sub>2</sub> O <sub>3</sub>	1.1	MgO	0.2
CaO	2.4	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	7.2	1.03
1000F / 540C	7.3	1.05
1500F / 815C	7.5	1.08
2000F / 1090C	7.8	1.12

**Abrasion Loss**

per ASTM C 704  
after 1500 F

cc

**Coefficient of Thermal Expansion**  
(reversible)

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

5.7 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	-0.1%	750	5.2	2000	14		
1500 F / 815 C	-0.3%	575	4.0	1800	12	800	5.5
2000 F / 1090C	-0.2%	500	3.4		0	700	4.8
2500 F / 1370 C	0.0%	900	6.2		0	275	1.9
3000 F / 1650 C	0.2%	1650	11.4		0		0.0

**Other Data**

**Heat Up Guide**

Schedule B

**ASTM Class**

C 401 Class F

Low Cement Castable

**Note:**

All data are averaged results of ASTM tests (where applicable) on laboratory gunned 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.*