

**Plico Gun Mix CL 5Z-F KK**

Product Number 13076

Date 2/10/2014

**Product Description**

A super duty, alkali resistant gun mix.

**Service limit -** 2800°F 1,537 °C

**Density to place** 129 pcf 2,066 kg/m<sup>3</sup>

**Density in service** 129 pcf 2,067 kg/m<sup>3</sup>

**Min time before firing** 24 hr

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

**Water range per std. package:**

**Casting** to qts 0.0 to 0.0 l

**Pumping** to qts 0.0 to 0.0 l

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	45.1	P <sub>2</sub> O <sub>5</sub>	
SiO <sub>2</sub>	45.6	Alk.	0.7
Fe <sub>2</sub> O <sub>3</sub>	0.8	MgO	0.2
CaO	2.6	SiC	
TiO <sub>2</sub>	1.8	ZrO <sub>2</sub>	3.3
		Other	

**Thermal Conductivity**

	btu*in/hr*ff <sup>2</sup> *°F	w/m°C
500F / 260C	6.8	0.97
1000F / 540C	6.9	0.99
1500F / 815C	7.1	1.02
2000F / 1090C	7.6	1.09

**Abrasion Loss**

per ASTM C 704  
after 1500 F

cc

**Coefficient of Thermal Expansion**  
(reversible)

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

5 x 10<sup>-6</sup> m/m C

Temperature per ASTM C113 / C865	Linear Change per ASTM C113 / C179	Cold MOR per ASTM C133		CCS per ASTM C133		Hot MOR per ASTM C583	
		psi	MPa	psi	MPa	psi	MPa
230 F / 110 C	-0.1%	850	5.9	5000	34		
1500 F / 815 C	-0.3%	600	4.1	3800	26	1300	9.0
2000 F / 1090C	-0.4%	750	5.2		0	850	5.9
2500 F / 1370 C	-0.2%	1100	7.6		0		0.0
			0.0		0		0.0

**Other Data**

**Heat Up Guide**

Schedule B

**ASTM Class**

C 401 Class D

Regular 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.*