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**Plico Refractories**

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**Technical Data Sheet**

**Plico Shotcrete Si-Bond M**

Product Number 15417

Date 8/5/2015

**Product Description**

A 60% alumina, mullite based, low porosity, cement free castable formulated shotcrete application.

**Service limit -** 3100°F 1700 °C

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

**Density to place** 150 pcf 2,403 kg/m<sup>3</sup>

**Water range per std. package:**

**Density in service** 150 pcf 2,403 kg/m<sup>3</sup>

**Pumping** 1.7 to 1.9 qts 1.6 to 1.8 / 6.3% to 7.3%

**Min time before firing** 4 hr

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	60.6	P <sub>2</sub> O <sub>5</sub>	
SiO <sub>2</sub>	35.7	Alk.	0.5
Fe <sub>2</sub> O <sub>3</sub>	0.9	MgO	
CaO	0.1	SiC	
TiO <sub>2</sub>	1.6	ZrO <sub>2</sub>	
		Other	

**Thermal Conductivity**

	btu*in/hr*ff <sup>2</sup> * F	w/m°C
<b>500F / 260C</b>	9.5	1.4
<b>1000F / 540C</b>	9.8	1.4
<b>1500F / 815C</b>	10.0	1.4
<b>2000F / 1090C</b>	10.1	1.5

**Abrasion Loss**

per ASTM C 704  
after 1500 F

10 cc

**Coefficient of Thermal Expansion**

(reversible)

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

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

Temperature per <u>ASTM C113 / C865</u>	Linear Change per <u>ASTM C113 / C179</u>	Cold MOR		CCS		Hot MOR	
		per ASTM C133 <u>psi</u>	<u>MPa</u>	per ASTM C133 <u>psi</u>	<u>MPa</u>	per ASTM C583 <u>psi</u>	<u>MPa</u>
230 F / 110 C	0.0%	800	5.5	3500	24.0		
1500 F / 815 C	-0.1%	900	6.2	4000	28.0	2000	13.8
1800 F / 980 C	-0.2%	1500	10.3			2600	17.9
2000 F / 1910 C	-0.4%	2000	13.8			3000	20.7
2500 F / 1370 C	0.2%	2300	15.9			900	6.2

**Other Data**

**Heat Up Guide**  
Schedule E

**ASTM Class**  
C 401 Class E

No Cement Castable

**Note:**

All data are averaged results of ASTM tests (where applicable) on laboratory shotcreted 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 Plibrico representative to make sure you have the most current data.