



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

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**Technical Data Sheet**

**Plico Shotcrete Si-Bond M AL**

Product Number 15416

Date 12/10/2018

**Product Description**

An aluminum resistant, mullite based, low porosity, cement free castable formulated for aluminum contact application.

**Typical Aluminum Applications**

Aluminum melting and holding furnace repairs: lower sidewalls, division walls, skim shelves, ramps and dry hearths.

**Service limit -** 2800°F 1537 °C

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

**Al contact limit -** 2000 °F 1093°C

**Water range per std. package:**

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

**Casting** to qts 0.0 to 0.0 l

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

**Pumping** 1.6 to 1.9 qts 1.5 to 1.8 l

**Min time before firing** 4 hr

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	55.8	P <sub>2</sub> O <sub>5</sub>	
SiO <sub>2</sub>	32.9	Alk.	0.5
Fe <sub>2</sub> O <sub>3</sub>	0.8	MgO	0.0
CaO	0.1	SiC	
TiO <sub>2</sub>	1.5	ZrO <sub>2</sub>	
		Other	7.9

**Thermal Conductivity**

	btu*in/hr*ff <sup>2</sup> * F	w/m°C
<b>500F / 260C</b>	9.5	1.36
<b>1000F / 540C</b>	9.8	1.41
<b>1500F / 815C</b>	10.0	1.44
<b>2000F / 1090C</b>	10.1	1.45

**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%	1000	6.9	5000	34		
1500 F / 815 C	-0.2%	2000	13.8	8000	55	3000	20.7
1800 F / 980 C	-0.2%	2400	16.6		0	3200	22.1
2300 F / 1260 C	-0.4%	2000	13.8		0	3200	22.1
			0.0		0		0.0

**Other Data**

**Heat Up Guide**

Schedule R-PS-SB

**ASTM Class**

C 401 Class D

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.

*Plico Refractories are manufactured by Plibrico Company, LLC, USA.*