

**Plico Flow A-T 3100 Special KK**

Product Number 14426

Date 2/10/2014

**Product Description**

A 60% alumina, mullite based, self leveling, non-wetting, low cement castable.

**Typical Aluminum Applications**

Aluminum Melting and Holding furnaces: lower sidewalls, division walls, hearths and sills. Transfer ladles, troughs and launders.

**Service limit -** 3100°F 1704 °C

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

**Al contact limit -** 1700 °F 926°C

**Water range per std. package:**

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

**Casting** 1.6 to 1.8 qts 1.5 to 1.7 l

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

**Pumping** 1.8 to 2.0 qts 1.6 to 1.8 l

**Min time before firing** 24 hr

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	60.8	P <sub>2</sub> O <sub>5</sub>	
SiO <sub>2</sub>	33.5	Alk.	0.2
Fe <sub>2</sub> O <sub>3</sub>	0.9	MgO	0.1
CaO	2.7	SiC	
TiO <sub>2</sub>	1.6	ZrO <sub>2</sub>	
		Other	

**Thermal Conductivity**

	btu*in/hr*ft <sup>2</sup> *°F	w/m°C
<b>500F / 260C</b>	10.7	1.54
<b>1000F / 540C</b>	11.3	1.62
<b>1500F / 815C</b>	12.0	1.72
<b>2000F / 1090C</b>	12.6	1.81

**Abrasion Loss**

per ASTM C 704  
after 1500 F

8 cc

**Coefficient of Thermal Expansion**

(reversible)

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

6.4 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%	1800	12.4	7000	48		
1000 F / 540 C	-0.2%	2000	13.8		0	2900	20.0
1500 F / 815 C	-0.3%	2700	18.6	9000	62	3100	21.4
			0.0		0		0.0
			0.0		0		0.0

**Other Data**

**Heat Up Guide**

Schedule AT AS or AT AS Linear

**ASTM Class**

C 401 Class F

Low Cement Castable

**Note:**

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