

**Plico Castable A-S 55M KK**

Product Number 14924

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**Product Description**

An aluminum resistant, high strength, low cement, mullite based castable for both aluminum furnace contact and non-contact applications. Maintains hot strength at elevated temperature and has good thermal shock resistance.

**Typical Aluminum Applications**

Furnace lower & upper sidewalls, hearths, ramps, & sills. Transfer & OTR ladles. Troughs & launders.

**Service limit -** 3000°F 1648 °C

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

**Al contact limit -** 2000 °F 1093°C

**Water range per std. package:**

**Density to place** 155 pcf 2,483 kg/m<sup>3</sup>

**Casting** 1.6 to 1.9 qts 1.6 to 1.8 l

**Density in service** 155 pcf 2,483 kg/m<sup>3</sup>

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

**Min time before firing** 16 hr

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	57.0	P <sub>2</sub> O <sub>5</sub>	0.1
SiO <sub>2</sub>	31.3	Alk.	0.2
Fe <sub>2</sub> O <sub>3</sub>	0.8	MgO	0.1
CaO	1.6	SiC	
TiO <sub>2</sub>	1.5	ZrO <sub>2</sub>	
		Other	7.5

**Thermal Conductivity**

	btu*in/hr*ft <sup>2</sup> *°F	w/m°C
<b>500F / 260C</b>	10.5	1.51
<b>1000F / 540C</b>	11.2	1.61
<b>1500F / 815C</b>	11.8	1.69
<b>2000F / 1090C</b>	12.6	1.81

**Abrasion Loss**

per ASTM C 704  
after 1500 F

10 cc

**Coefficient of Thermal Expansion**

(reversible)

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

6.1 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	4500	31		
1500 F / 815 C	-0.2%	1050	7.2	4500	31	2500	17.2
1800 F / 980 C	-0.3%	1600	11.0		0	3000	20.7
2000 F / 1090 C	-0.5%	1800	12.4		0	2600	17.9
2300 F / 1260 C	-0.2%	2200	15.2		0	1250	8.6

**Other Data**

**Heat Up Guide**

Schedule AT AS or AT AS Linear

**ASTM Class**

C 401 Class E

Low Cement Castable

**Note:**

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