

**Plico HR 85 S Special**

Product Number 10046

Date 2/10/2014

**Product Description**

An 85% alumina, bauxite based, phosphate bonded plastic designed for pneumatic application. Non wetting to aluminum alloys.

**Service limit -** 3300°F 1,815 °C

**Std. package** Variable wt piece

**Density to place** 180 pcf 2,883 kg/m<sup>3</sup>

**Water range per std. package:**

**Density in service** 170 pcf 2,723 kg/m<sup>3</sup>

**Casting** to qts 0.0 to 0.0 l

**Min time before firing** none

**Pumping** to qts 0.0 to 0.0 l

**Chemistry % (calcined)**

Al <sub>2</sub> O <sub>3</sub>	83.8	P <sub>2</sub> O <sub>5</sub>	2.7
SiO <sub>2</sub>	10.5	Alk.	0.2
Fe <sub>2</sub> O <sub>3</sub>	1.3	MgO	0.1
CaO	0.1	SiC	
TiO <sub>2</sub>	1.3	ZrO <sub>2</sub>	
		Other	

**Thermal Conductivity**

	btu*in/hr*ff <sup>2</sup> *°F	w/m°C
500F / 260C	11.5	1.65
1000F / 540C	10.6	1.52
1500F / 815C	10.7	1.54
2000F / 1090C	11.9	1.71

**Abrasion Loss**

per ASTM C 704  
after 1500 F

11 cc

**Coefficient of Thermal Expansion**  
(reversible)

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

8.1 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	-0.4%	1200	8.3	2000	14		
1500 F / 815 C	-0.5%	1400	9.7	8000	55	1800	12.4
2000 F / 1090C	-0.6%	1800	12.4		0	1000	6.9
2500 F / 1370 C	0.6%	2000	13.8		0	600	4.1
3000 F / 1650 C	1.1%	1800	12.4		0		0.0

**Other Data**

**Heat Up Guide**

Schedule A

**ASTM Class**

C 673 85% Alumina

Plastic Refractory

**Note:**

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