



# Plibrico Company, LLC

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# Technical Data Sheet

## Plicast Al-Shield GHC 7 C KK

Product # 3230

Available Internationally As: Plico Castable AS GHC 7 CKK

### Product Description:

A 70% alumina, coarse grain aluminum resistant, low cement castable with excellent resistance to thermal cycling, impact and fracture.

**Standard Packaging:** 1500 # / 682 kg Super Sack

**Shelf Life:** months

**Service Limit:** 3000 °F 1650 °C

**Contact Limit:** 2000 °F 1090 °C

**Bulk Density - In Service:** 167 pcf 2675 kg/m<sup>3</sup>

**Bulk Density - To Place:** 167 pcf 2675 kg/m<sup>3</sup>

**Minimum Time To Firing:** 16 hr

**Abrasion Loss after 1500°F / 815°C**  
per ASTM C704

6 cc

Chemistry (calcined) %					
Al <sub>2</sub> O <sub>3</sub>	70.2	Alk	0.2	MgO	0.1
SiO <sub>2</sub>	16.6	TiO <sub>2</sub>	1.5	ZrO <sub>2</sub>	
CaO	2.1	P <sub>2</sub> O <sub>5</sub>		Other	8.1
Fe <sub>2</sub> O <sub>3</sub>	1.1	SiC			

Water Range Per Standard Package		%	Quarts	Liters
<b>Vib Casting</b>	min	5.6	40.4	38.2
	max	6.2	44.7	42.3
<b>Casting</b>	min	6.2	44.7	42.3
	max	6.8	49.0	46.4
<b>Pumping</b>	min			
	max			

**Coefficient of Thermal Expansion (reversible):**

4.0 x 10<sup>-6</sup> in/in/°F / 7.2 x 10<sup>-6</sup> mm/mm/°C

Thermal Conductivity	btu*in/hr*ft <sup>2</sup> *°F	W/m°C
500°F / 260°C	11.1	1.6
1000°F / 540°C	10.6	1.5
1500°F / 815°C	10.5	1.5
2000°F / 1090°C	10.6	1.5

Temperature		Linear Change% per ASTM C113	CCS per ASTM C133		Cold MOR per ASTM C133		Hot MOR per ASTM C583	
°F	°C		psi	MPa	psi	MPa	psi	MPa
230	110	0.0	10000	69.0	2000	13.8		
1500	820	-0.2	10000	69.0	1600	11.0	2800	19.3

Other Data:

Release Date: 27 Jan 2017

Heat Up Guide: Schedule AT AS or AT AS

ASTM Class: C 401 Class E Low Cement Castable

Refractory material should be stored in a cool, dry environment.

**Note:** All data are averaged results of ASTM tests (where applicable) on laboratory 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 and/or testing changes. Please consult your Plibrico representative to make sure you have the most current data.