



# Plibrico Company, LLC

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# Technical Data Sheet Plicast Al-Tuff 3000 KK

Product # 14193

Available Internationally As: Plico Castable A-T 3000 KK

### Product Description:

A non-wetting, super duty, low cement castable that may be vib cast, cast or pumped

**Standard Packaging:** 55 # / 25 kg Bag

**Shelf Life:** 6 months

**Service Limit:** 3000 °F 1650 °C

**Contact Limit:** 1700 °F 927 °C

**Bulk Density - In Service:** 139 pcf 2227 kg/m<sup>3</sup>

**Bulk Density - To Place:** 139 pcf 2227 kg/m<sup>3</sup>

**Minimum Time To Firing:** 16 hr

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

10 cc

Chemistry (calcined) %					
Al <sub>2</sub> O <sub>3</sub>	48.8	Alk	0.6	MgO	0.1
SiO <sub>2</sub>	44.8	TiO <sub>2</sub>	1.8	ZrO <sub>2</sub>	
CaO	3.6	P <sub>2</sub> O <sub>5</sub>		Other	
Fe <sub>2</sub> O <sub>3</sub>	0.8	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	7.2	1.9	1.8
	max	7.6	2.0	1.9
Pumping	min	8.0	2.1	2.0
	max	8.8	2.3	2.2

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

3.1 x 10<sup>-6</sup> in/in/°F / 5.6 x 10<sup>-6</sup> mm/mm/°C

Thermal Conductivity	btu*in/hr*ft <sup>2</sup> *°F	W/m <sup>2</sup> *°C
500°F / 260°C	9.3	1.3
1000°F / 540°C	10.0	1.4
1500°F / 815°C	10.7	1.5
2000°F / 1090°C	11.5	1.7

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	7000	48.0	1650	11.4		
1000	540	-0.2			1400	9.7	1500	10.3
1500	820	-0.3	6500	44.8	1800	12.4	2200	15.2

Other Data:

Release Date: 1 Aug 2019

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.