



# Plibrico Company, LLC

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# Technical Data Sheet Plicast Al-Tuff 27 CP KK

Product # 14279

Available Internationally As: Plico Castable A-T 27 CP KK

### Product Description:

Plicast® Al-Tuff® 27 CP KK is the pumping version of Plibrico's workhorse castable for aluminum sub hearth application having been developed to allow for an easier, quicker pump cast installation. The pump castable benefits include coarse grain sizing, crushing strength, impact and crack resistance, and aluminum penetration resistance.

<b>Standard Packaging:</b>	55 # /	25 kg	Bag
<b>Shelf Life:</b>	12 months		
<b>Service Limit:</b>	2500 °F	1370 °C	
<b>Contact Limit:</b>	1700 °F	927 °C	
<b>Bulk Density - In Service:</b>	130 pcf	2083 kg/m <sup>3</sup>	
<b>Bulk Density - To Place:</b>	130 pcf	2083 kg/m <sup>3</sup>	
<b>Minimum Time To Firing:</b>	24 hr		

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

N/A cc

Chemistry (calcined) %					
Al <sub>2</sub> O <sub>3</sub>	43.6	Alk	0.6	MgO	0.3
SiO <sub>2</sub>	38.4	TiO <sub>2</sub>	2.1	ZrO <sub>2</sub>	
CaO	12.2	P <sub>2</sub> O <sub>5</sub>		Other	
Fe <sub>2</sub> O <sub>3</sub>	2.8	SiC			

Water Range Per Standard Package		%	Quarts	Liters
<b>Vib Casting</b>	min			
	max			
<b>Casting</b>	min			
	max			
<b>Pumping</b>	min	10.0	2.6	2.5
	max	11.6	3.1	2.9

### Coefficient of Thermal Expansion (reversible):

3.0 x 10<sup>-6</sup> in/in/°F / 5.4 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	6.5	0.9
1000°F / 540°C	6.6	1.0
1500°F / 815°C	6.7	1.0
2000°F / 1090°C	6.9	1.0

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	-0.1	4500	31.0	950	6.6		
1000	540	-0.2			450	3.1		
1500	820	-0.3	3800	26.2	600	4.1	650	4.5

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule B

ASTM Class: C 401 Class C Regular 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.