



# Plibrico Company, LLC

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# Technical Data Sheet Plicast AI-Tuff 65C KK

Product # 16539

Available Internationally As: Plico Castable A-T 65 C KK

### Product Description:

Plicast® AI-Tuff® 65 C KK is a super coarse version of Plicast® AI-Tuff® 3100 Special KK which is Plibrico's best-selling castable for standard aluminum contact applications. Plicast AI-Tuff 65 C KK utilizes the same mullite based, aluminum resistant matrix modified with super coarse size bauxite which enhances crack, impact, wear, and thermal cycling resistance while maintaining excellent hot strength and abrasion resistance. Unlike many other competitive super coarse aggregate

**Standard Packaging:** 1250 # / 568 kg Super Sack

**Shelf Life:** 6 months

**Service Limit:** 3100 °F 1700 °C

**Contact Limit:** 1700 °F 927 °C

**Bulk Density - In Service:** 158 pcf 2531 kg/m<sup>3</sup>

**Bulk Density - To Place:** 158 pcf 2531 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>	64.5	Alk	0.2	MgO	0.1
SiO <sub>2</sub>	29.8	TiO <sub>2</sub>	1.8	ZrO <sub>2</sub>	
CaO	2.7	P <sub>2</sub> O <sub>5</sub>		Other	
Fe <sub>2</sub> O <sub>3</sub>	0.9	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min	5.8	34.9	33.0
	max	6.4	38.5	36.4
Casting	min	6.4	38.5	36.4
	max	7.0	42.1	39.8
Pumping	min			
	max			

Coefficient of Thermal Expansion (reversible):	
3.9	x 10 <sup>-6</sup> in/in/°F / 7.0 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	11.2	1.6
1000°F / 540°C	11.8	1.7
1500°F / 815°C	12.5	1.8
2000°F / 1090°C	13.1	1.9

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	9500	66.0	2200	15.2		
1500	820	-0.2	10000	69.0	2300	15.9	3500	24.1
1800	980	-0.3			2500	17.2	3400	23.4

**Other Data:** Course aggregate mixing instructions if required: Per 50 lb package: mix one 44 lb bag with 6 lb of aggregate, per 500 lb package, mix on 440 lb bag with one 60 lb bag of aggregate. Any package larger than 500 lb will have the coarse aggregate inside of the bulk bag.

Release Date: 1 Aug 2019

Heat Up Guide: Schedule AT AS or AT AS Linear

ASTM Class: C 401 Class F

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.