



# Plibrico Company, LLC

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# Technical Data Sheet Plicast Al-Tuff 70 KK

Product # 3277

Available Internationally As:

Plico Castable A-T 70 KK

### Product Description:

Plicast® Al-Tuff® 70 KK is a mullite based, non-wetting, low cement castable with a modified matrix and grain sizing. Thermal cycling characteristics make it ideal for many high temperature cyclic applications. These characteristics include hot strength at elevated temperatures and low abrasion loss. Plicast Al-Tuff 70 can be placed by vibration, casting or pumping.

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

**Shelf Life:** 6 months

**Service Limit:** 3100 °F 1700 °C

**Contact Limit:** 1800 °F 982 °C

**Bulk Density - In Service:** 156 pcf 2499 kg/m<sup>3</sup>

**Bulk Density - To Place:** 156 pcf 2499 kg/m<sup>3</sup>

**Minimum Time To Firing:** 16 hr

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

7 cc

Chemistry (calcined) %					
Al <sub>2</sub> O <sub>3</sub>	71.8	Alk	0.2	MgO	
SiO <sub>2</sub>	22.9	TiO <sub>2</sub>	2.0	ZrO <sub>2</sub>	
CaO	1.5	P <sub>2</sub> O <sub>5</sub>	0.1	Other	1.0
Fe <sub>2</sub> O <sub>3</sub>	0.8	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	5.8	1.5	1.5
	max	6.6	1.7	1.7
Pumping	min	6.6	1.7	1.7
	max	7.0	1.9	1.8

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

4.1 x 10<sup>-6</sup> in/in/°F / 7.4 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	11.4	1.64
1000°F / 540°C	11.1	1.60
1500°F / 815°C	11.3	1.63
2000°F / 1090°C	11.8	1.70

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	2000	13.8		
1500	820	-0.2	9500	66.0	1900	13.1	3400	23.4
2000	1090	-0.3			2200	15.2	3800	26.2
2500	1370	0.9			2400	16.6	850	5.9

Other Data:

Release Date: 5 May 2021

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.