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Technical Data Sheet

Plicast AI-Tuff 40

Product # 14142

Available Internationally As:

Plico Castable A-T 40

Product Description:

A high alumina, high purity, high strength, non-wetting refractory castable.

Standard Packaging: 55 # / 25 kg Bag

Shelf Life: 9 months

Service Limit: 3400 °F 1870 °C

Contact Limit: 1700 °F 927 °C

Bulk Density - In Service: 165 pcf 2643 kg/m³

Bulk Density - To Place: 165 pcf 2643 kg/m³

Minimum Time To Firing: 24 hr

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

12 cc

Chemistry (calcined) %					
Al ₂ O ₃	94.5	Alk	0.5	MgO	
SiO ₂	0.1	TiO ₂		ZrO ₂	
CaO	4.9	P ₂ O ₅		Other	
Fe ₂ O ₃	0.1	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	8.4	2.2	2.1
	max	10.0	2.6	2.5
Pumping	min			
	max			

Coefficient of Thermal Expansion (reversible):

5.0 x 10⁻⁶ in/in/°F / 9.0 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	18.0	2.6
1000°F / 540°C	14.5	2.1
1500°F / 815°C	13.0	1.9
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	-0.1	6500	45.0	1000	6.9		
1000	540	-0.2			950	6.6		
1500	820	-0.2	4500	31.0	900	6.2	1100	7.6

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule B

ASTM Class: C 401 Class G 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.