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Technical Data Sheet

Pliflow Al-Tuff 3100 Special KK

Product # 14426

Available Internationally As: Plico Flow A-T 3100 Special KK

Product Description:

A 60% alumina, mullite based, self leveling, non-wetting, low cement castable.

Standard Packaging: 55 # / 25 kg Bag

Shelf Life: 6 months

Service Limit: 3100 °F 1700 °C

Contact Limit: 1700 °F 927 °C

Bulk Density - In Service: 150 pcf 2403 kg/m³

Bulk Density - To Place: 150 pcf 2403 kg/m³

Minimum Time To Firing: 24 hr

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

8 cc

Chemistry (calcined) %					
Al ₂ O ₃	60.8	Alk	0.2	MgO	0.1
SiO ₂	33.5	TiO ₂	1.6	ZrO ₂	
CaO	2.7	P ₂ O ₅		Other	
Fe ₂ O ₃	0.9	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	5.6	1.5	1.4
	max	6.6	1.7	1.7
Pumping	min			
	max			

Coefficient of Thermal Expansion (reversible):

3.6 x 10⁻⁶ in/in/°F / 6.5 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	10.7	1.5
1000°F / 540°C	11.3	1.6
1500°F / 815°C	12.0	1.7
2000°F / 1090°C	12.6	1.8

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	1800	12.4		
1000	540	-0.2			2000	13.8	2900	20.0
1500	820	-0.3	9000	62.1	2700	18.6	3100	21.4

Other Data:

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.