



Plibrico Company, LLC

1935 Techny Road - Unit 16
 Northbrook, IL 60062
 (312) 337-9000
 www.plibrico.com

Technical Data Sheet Plicast Si-Bond M AL

Product # 14779

Available Internationally As:

Plico Castable Si-Bond M AL

Product Description:

Plicast Si-Bond M AL is a 60% alumina, mullite based, no-cement castable enhanced for resistance to aluminum reaction and flux attack.

Standard Packaging: 55 # / 25 kg Bag

Shelf Life: 4 months

Service Limit: 3100 °F 1700 °C

Contact Limit: N/A °F N/A °C

Bulk Density - In Service: 152 pcf 2435 kg/m³

Bulk Density - To Place: 152 pcf 2435 kg/m³

Minimum Time To Firing: 24 hr

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

10 cc

Chemistry (calcined) %					
Al ₂ O ₃	59.3	Alk	0.1	MgO	0.1
SiO ₂	37.7	TiO ₂	1.8	ZrO ₂	
CaO	0.1	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	6.0	1.6	1.5
	max	6.6	1.7	1.7
Pumping	min	6.4	1.7	1.6
	max	7.0	1.9	1.8

Coefficient of Thermal Expansion (reversible):

3.5 x 10⁻⁶ in/in/°F / 6.3 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	9.5	1.37
1000°F / 540°C	9.8	1.41
1500°F / 815°C	10.0	1.44
2000°F / 1090°C	10.1	1.45

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	2500	17.0	650	4.5		
1500	820	-0.1	4500	31.0	1000	6.9	1500	10.3
1800	980	-0.2			1500	10.3	3500	24.1
2000	1090	-0.2			2500	17.2	4500	31.0
2500	1370	0.2			3000	20.7	1200	8.3

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule E

ASTM Class: C 401 Class F

No 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.