



Plibrico Company, LLC

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

Technical Data Sheet Plibrico HyRATE 68 S

Product # 10047

Available Internationally As:

Plico HR 68 S

Product Description:

A 70% alumina, mullite based, phosphate bonded plastic designed for pneumatic application. Non wetting to aluminum alloys.

Standard Packaging:	# /	kg	Variable wt piece
Shelf Life:	3 months		
Service Limit:	3100 °F	1700 °C	
Contact Limit:	N/A °F	N/A °C	
Bulk Density - In Service:	152 pcf	2435 kg/m ³	
Bulk Density - To Place:	160 pcf	2563 kg/m ³	
Minimum Time To Firing:	0 hr		

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

12 cc

Chemistry (calcined) %					
Al ₂ O ₃	67.6	Alk	0.2	MgO	0.1
SiO ₂	27.1	TiO ₂	1.4	ZrO ₂	
CaO	0.1	P ₂ O ₅	2.7	Other	
Fe ₂ O ₃	0.8	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min			
	max			
Pumping	min			
	max			

Coefficient of Thermal Expansion (reversible):

3.7 x 10⁻⁶ in/in/°F / 6.7 x 10⁻⁶ mm/mm/°C

Thermal Conductivity	btu*in/hr*ft ² *°F	W/m°C
500°F / 260°C	8.1	1.2
1000°F / 540°C	8.3	1.2
1500°F / 815°C	9.1	1.3
2000°F / 1090°C	10.5	1.5

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	-0.5	2000	14.0	1100	7.6		
1500	820	-0.6	8000	55.0	1300	9.0	1700	11.7
2000	1090	-0.7			1400	9.7	1600	11.0
2500	1370	0.3			2000	13.8	650	4.5
3000	1650	-0.8			2400	16.6		

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule A

ASTM Class: C 673 70% Alumina Plastic Refractory

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.