



# Plibrico Company, LLC

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# Technical Data Sheet Plibrico HyRATE 80 AB

Product # 10080

Available Internationally As:

Plico HR 80 AB

### Product Description:

A 60% alumina, air bonded plastic designed for pneumatic application.

<b>Standard Packaging:</b>	# /	kg	Variable wt piece
<b>Shelf Life:</b>	4 months		
<b>Service Limit:</b>	3200 °F	1760 °C	
<b>Contact Limit:</b>	N/A °F	N/A °C	
<b>Bulk Density - In Service:</b>	165 pcf	2643 kg/m <sup>3</sup>	
<b>Bulk Density - To Place:</b>	175 pcf	2804 kg/m <sup>3</sup>	
<b>Minimum Time To Firing:</b>	0 hr		

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

N/A cc

Chemistry (calcined) %					
Al <sub>2</sub> O <sub>3</sub>	77.8	Alk	0.3	MgO	0.1
SiO <sub>2</sub>	18.6	TiO <sub>2</sub>	1.6	ZrO <sub>2</sub>	
CaO	0.1	P <sub>2</sub> O <sub>5</sub>		Other	
Fe <sub>2</sub> O <sub>3</sub>	1.5	SiC			

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

### Coefficient of Thermal Expansion (reversible):

4.2 x 10<sup>-6</sup> in/in/°F / 7.6 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	10.2	1.5
1000°F / 540°C	9.5	1.4
1500°F / 815°C	10.0	1.4
2000°F / 1090°C	11.5	1.7

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	-0.4	700	5.0	550	3.8		
1500	820	-0.5	1000	7.0	400	2.8	700	4.8
2000	1090	-0.6			650	4.5	1000	6.9
2500	1370	-0.1			700	4.8	350	2.4
3000	1650	1.8			1100	7.6		

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule A

ASTM Class: C 673 80% 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.