



# Plibrico Company, LLC

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# Technical Data Sheet

## Plicast 31 RS

Product # 14007

Available Internationally As:

Plico Castable 31 RS

### Product Description:

A high duty, low iron, high strength castable refractory engineered for casting shapes.

**Standard Packaging:** 55 # / 25 kg Bag

**Shelf Life:** 12 months

**Service Limit:** 2800 °F 1540 °C

**Contact Limit:** N/A °F N/A °C

**Bulk Density - In Service:** 125 pcf 2003 kg/m<sup>3</sup>

**Bulk Density - To Place:** 125 pcf 2003 kg/m<sup>3</sup>

**Minimum Time To Firing:** 24 hr

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

N/A cc

Chemistry (calcined) %					
Al <sub>2</sub> O <sub>3</sub>	53.0	Alk	0.6	MgO	
SiO <sub>2</sub>	39.0	TiO <sub>2</sub>	1.6	ZrO <sub>2</sub>	
CaO	4.5	P <sub>2</sub> O <sub>5</sub>		Other	0.6
Fe <sub>2</sub> O <sub>3</sub>	0.7	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	11.7	3.1	2.9
	max	13.2	3.5	3.3
Pumping	min			
	max			

**Coefficient of Thermal Expansion (reversible):**

3.0 x 10<sup>-6</sup> in/in/°F / 5.4 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	6.7	0.96
1000°F / 540°C	6.8	0.98
1500°F / 815°C	6.9	0.99
2000°F / 1090°C	7.1	1.02

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	2000	14.0	675	4.7		
1500	820	-0.3	2000	14.0	400	2.8	600	4.1
2000	1090	-0.3			400	2.8	400	2.8
2500	1370	0.2			1100	7.6	200	1.4
2800	1540	0.9			2000	13.8		

Other Data:

Release Date: 1 Oct 2020

Heat Up Guide: Schedule PS-1

ASTM Class: C 401 Class D  
 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.