



# Plibrico Company, LLC

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# Technical Data Sheet Plicast HyMOR 93V KK

Product # 14212

Available Internationally As:

Plico Castable LC 93V KK

### Product Description:

A high alumina, high purity, low cement castable.

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

**Shelf Life:** 6 months

**Service Limit:** 3000 °F 1650 °C

**Contact Limit:** N/A °F N/A °C

**Bulk Density - In Service:** 182 pcf 2916 kg/m<sup>3</sup>

**Bulk Density - To Place:** 182 pcf 2916 kg/m<sup>3</sup>

**Minimum Time To Firing:** 16 hr

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

4 cc

Chemistry (calcined) %					
Al <sub>2</sub> O <sub>3</sub>	94.0	Alk	0.4	MgO	
SiO <sub>2</sub>	4.0	TiO <sub>2</sub>		ZrO <sub>2</sub>	
CaO	1.6	P <sub>2</sub> O <sub>5</sub>		Other	
Fe <sub>2</sub> O <sub>3</sub>	0.1	SiC			

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min	3.5	0.9	0.9
	max	4.5	1.2	1.1
Casting	min			
	max			
Pumping	min			
	max			

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

5.0 x 10<sup>-6</sup> in/in/°F / 9.0 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	28.0	4.03
1000°F / 540°C	23.3	3.36
1500°F / 815°C	20.6	2.97
2000°F / 1090°C	19.7	2.84

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	10000	69.0	2500	17.2		
1500	820	-0.2	10000	69.0	3200	22.1	4000	27.6
2000	1090	-0.4			3500	24.1	2500	17.2
2500	1370	-0.7			3800	26.2		
3000	1650	-1.4			5200	35.9		

Other Data:

Release Date: 15 Jan 2021

Heat Up Guide: Schedule C or C-Linear

ASTM Class: C 401 Class E

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.