



# Plibrico Company, LLC

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

# Technical Data Sheet Pli-Shot HyMOR CL 20-M KK

Product # 15406

Available Internationally As: Plico Shotcrete LC CL 20-M KK

### Product Description:

A mullite based low cement castable for casting or shotcrete application. Formulated for resistance to alkali attack in cement kiln preheater applications.

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

**Shelf Life:** 6 months

**Service Limit:** 2800 °F 1540 °C

**Contact Limit:** N/A °F N/A °C

**Bulk Density - In Service:** 152 pcf 2435 kg/m<sup>3</sup>

**Bulk Density - To Place:** 152 pcf 2435 kg/m<sup>3</sup>

**Minimum Time To Firing:** 16 hr

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

8 cc

Chemistry (calcined) %					
Al <sub>2</sub> O <sub>3</sub>	47.2	Alk	0.2	MgO	0.1
SiO <sub>2</sub>	28.1	TiO <sub>2</sub>	1.2	ZrO <sub>2</sub>	
CaO	2.3	P <sub>2</sub> O <sub>5</sub>		Other	
Fe <sub>2</sub> O <sub>3</sub>	0.7	SiC	20.3		

Water Range Per Standard Package		%	Quarts	Liters
Vib Casting	min			
	max			
Casting	min	6.0	1.6	1.5
	max	7.2	1.9	1.8
Pumping	min	6.8	1.8	1.7
	max	7.6	2.0	1.9

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

3.3 x 10<sup>-6</sup> in/in/°F / 5.9 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	18.7	2.7
1000°F / 540°C	19.3	2.8
1500°F / 815°C	20.0	2.9
2000°F / 1090°C	20.6	3.0

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	8000	55.0	1900	13.1		
1500	820	-0.2	8000	55.0	2220	15.3	3300	22.8
2000	1090	-0.3			2500	17.2	3100	21.4
2300	1260	-0.3			3600	24.8	1000	6.9

Other Data:

Release Date: 1 Aug 2019

Heat Up Guide: Schedule C or C-Linear

ASTM Class: C 401 Class D 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.