



# Plibrico Company, LLC

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# Technical Data Sheet Plicast HyMOR 80 C KK

Product # 3215

Available Internationally As: Plico Castable LC 80 C KK

## Product Description:

A coarse grain, bauxite based, low cement castable with excellent resistance to thermal cycling, impact and fracture

**Standard Packaging:** 1300 # / 591 kg Super Sack

**Shelf Life:** 6 months

**Service Limit:** 3100 °F 1700 °C

**Contact Limit:** N/A °F N/A °C

**Bulk Density - In Service:** 168 pcf 2691 kg/m<sup>3</sup>

**Bulk Density - To Place:** 168 pcf 2691 kg/m<sup>3</sup>

**Minimum Time To Firing:** 16 hr

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

6 cc

| Chemistry (calcined) %         |      |                               |     |                  |     |
|--------------------------------|------|-------------------------------|-----|------------------|-----|
| Al <sub>2</sub> O <sub>3</sub> | 81.1 | Alk                           | 0.2 | MgO              | 0.3 |
| SiO <sub>2</sub>               | 12.8 | TiO <sub>2</sub>              | 2.4 | ZrO <sub>2</sub> |     |
| CaO                            | 2.0  | P <sub>2</sub> O <sub>5</sub> |     | Other            |     |
| Fe <sub>2</sub> O <sub>3</sub> | 1.2  | SiC                           |     |                  |     |

| Water Range Per Standard Package |     | %   | Quarts | Liters |
|----------------------------------|-----|-----|--------|--------|
| Vib Casting                      | min | 5.4 | 33.8   | 31.9   |
|                                  | max | 6.2 | 38.8   | 36.7   |
| Casting                          | min | 6.2 | 38.8   | 36.7   |
|                                  | max | 7.0 | 43.8   | 41.4   |
| Pumping                          | min |     |        |        |
|                                  | max |     |        |        |

| Coefficient of Thermal Expansion (reversible): |   |
|--|---|
| 4.3  | x 10 <sup>-6</sup> in/in/°F / 7.7 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        | 14.1                          | 2.0   |
| 1000°F / 540°C       | 13.6                          | 2.0   |
| 1500°F / 815°C       | 13.6                          | 2.0   |
| 2000°F / 1090°C      | 14.1                          | 2.0   |

| Temperature |      | Linear Change%<br>per ASTM C113 | CCS<br>per ASTM C133 |      | Cold MOR<br>per ASTM C133 |      | Hot MOR<br>per ASTM C583 |      |
|-------------|------|---------------------------------|----------------------|------|---------------------------|------|--------------------------|------|
| °F          | °C   |                                 | psi                  | MPa  | psi                       | MPa  | psi                      | MPa  |
| 230         | 110  | 0.0                             | 6500                 | 45.0 | 1750                      | 12.1 |                          |      |
| 1500        | 820  | -0.2                            | 8500                 | 59.0 | 2400                      | 16.6 | 3000                     | 20.7 |
| 1800        | 980  | -0.3                            |                      |      | 2500                      | 17.2 | 3300                     | 22.8 |
| 2000        | 1090 |                                 |                      |      |                           |      | 3000                     | 20.7 |
| 2500        | 1370 |                                 |                      |      |                           |      | 900                      | 6.2  |

**Other Data:** Course aggregate mixing instructions if required: Per 50 lb package: mix one 44 lb bag with 6 lb of aggregate, per 500 lb package, mix on 440 lb bag with one 60 lb bag of aggregate. Any package larger than 500 lb will have the coarse aggregate inside of the bulk bag.

Release Date: 1 Aug 2019

Heat Up Guide: Schedule AT AS or AT AS

ASTM Class: C 401 Class F 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.