



Plibrico Company, LLC
Plico Refractories

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Technical Data Sheet

Plico Shotcrete LC 3100 Special KK

Product Number 15250

Date 2/10/2014

Product Description

A versatile high strength, mullite based, 60% alumina low cement castable designed for shotcrete application.

Service limit - 3100°F 1,704 °C

Std. package 55 # / 25 kg Bag

Density to place 149 pcf 2,386 kg/m³

Water range per std. package:

Density in service 149 pcf 2,387 kg/m³

Casting to qts 0.0 to 0.0 l

Min time before firing 16 hr

Pumping 1.8 to 2.0 qts 1.6 to 1.9 l

Chemistry % (calcined)

| | | | |
|--------------------------------|------|-------------------------------|-----|
| Al ₂ O ₃ | 59.3 | P ₂ O ₅ | |
| SiO ₂ | 35.6 | Alk. | 0.2 |
| Fe ₂ O ₃ | 0.9 | MgO | 0.1 |
| CaO | 2.3 | SiC | |
| TiO ₂ | 1.6 | ZrO ₂ | |
| | | Other | |

Thermal Conductivity

| | btu*in/hr*ff ² *°F | w/m°C |
|---------------|-------------------------------|-------|
| 500F / 260C | 10.7 | 1.54 |
| 1000F / 540C | 11.3 | 1.62 |
| 1500F / 815C | 12.0 | 1.72 |
| 2000F / 1090C | 12.6 | 1.81 |

Abrasion Loss

per ASTM C 704
after 1500 F

9 cc

Coefficient of Thermal Expansion
(reversible)

3.6 x 10⁻⁶ in/in F

6.4 x 10⁻⁶ m/m C

| Temperature per <u>ASTM C113 / C865</u> | Linear Change per <u>ASTM C113 / C179</u> | Cold MOR | | CCS | | Hot MOR | |
|---|---|-----------------------------|------------|-----------------------------|------------|-----------------------------|------------|
| | | per ASTM C133 <u>psi</u> | <u>MPa</u> | per ASTM C133 <u>psi</u> | <u>MPa</u> | per ASTM C583 <u>psi</u> | <u>MPa</u> |
| 230 F / 110 C | -0.1% | 1700 | 11.7 | 11500 | 79 | | |
| 1500 F / 815 C | -0.3% | 2000 | 13.8 | 8000 | 55 | 2900 | 20.0 |
| 2000 F / 1090C | -0.4% | 2200 | 15.2 | | 0 | 2700 | 18.6 |
| 2500 F / 1370 C | 0.5% | 2600 | 17.9 | | 0 | | 0.0 |
| | | | 0.0 | | 0 | | 0.0 |

Other Data

Heat Up Guide

Schedule C or C-Linear

ASTM Class

C 401 Class F

Low Cement Castable

Note:

All data are averaged results of ASTM tests (where applicable) on laboratory shotcreted 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 / testing changes. Please consult your Plico representative to make sure you have the most current data.

Plico Refractories are manufactured by Plibrico Company LLC, USA.