



Plibrico Company, LLC

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Technical Data Sheet

Plibrico 68-S

Product # 10037

Available Internationally As:

Plico 68-S

Product Description:

Plibrico 68 S is mullite based, phosphate bond, plastic refractory. Product attributes include high hot strength, good refractoriness under load (RUL), good volume stability through its service temperature range, excellent abrasion resistance, good slag resistance, and non-wetting to aluminum. Plibrico 68 S is available in standard, stiff and soft consistencies to conform with installation and storage requirements.

Standard Packaging: 55 # / 25 kg Carton

Shelf Life: 4 months

Service Limit: 3100 °F 1700 °C

Contact Limit: N/A °F N/A °C

Bulk Density - In Service: 152 pcf 2435 kg/m³

Bulk Density - To Place: 167 pcf 2675 kg/m³

Minimum Time To Firing: 0 hr

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

7 cc

| Chemistry (calcined) % | | | | | |
|--------------------------------|------|-------------------------------|-----|------------------|-----|
| Al ₂ O ₃ | 67.8 | Alk | 0.1 | MgO | 0.2 |
| SiO ₂ | 26.9 | TiO ₂ | 1.3 | ZrO ₂ | |
| CaO | 0.1 | P ₂ O ₅ | 2.7 | Other | |
| Fe ₂ O ₃ | 0.8 | SiC | | | |

| Water Range Per Standard Package | | % | Quarts | Liters |
|----------------------------------|-----|---|--------|--------|
| Vib Casting | min | | | |
| | max | | | |
| Casting | min | | | |
| | max | | | |
| Pumping | min | | | |
| | max | | | |

Coefficient of Thermal Expansion (reversible):

3.7 x 10⁻⁶ in/in/°F / 6.7 x 10⁻⁶ mm/mm/°C

| Thermal Conductivity | btu*in/hr*ft ² *°F | W/m°C |
|----------------------|-------------------------------|-------|
| 500°F / 260°C | 8.1 | 1.2 |
| 1000°F / 540°C | 8.3 | 1.2 |
| 1500°F / 815°C | 9.1 | 1.3 |
| 2000°F / 1090°C | 10.5 | 1.5 |

| 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 | -0.4 | 2000 | 14.0 | 1500 | 10.3 | | |
| 1500 | 820 | -0.5 | 6000 | 41.0 | 1600 | 11.0 | 2200 | 15.2 |
| 2000 | 1090 | -0.5 | | | 2100 | 14.5 | 1800 | 12.4 |
| 2500 | 1370 | -0.2 | | | 2400 | 16.6 | 1500 | 10.3 |
| 3000 | 1650 | 0.6 | | | 3350 | 23.1 | | |

Other Data: Material ordered in either Stiff (SF), Standard (SD), or Export (EX) workability.

Release Date: 1 Aug 2019

Heat Up Guide: Schedule A

ASTM Class: C 673 70% Alumina Plastic Refractory

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.