RICHO Refractory
FIRE BRICK & INSULATING BRICK PRODUCT

# TECHNICAL DATA SHEET

## RCH-18 | CONVENTIONAL DENSE REFRACTORY CASTABLE

| PRODUCT CODE | PRODUCT TYPE | REFRACTORINESS |
|---|---|---|
| RCH-18 | Dense Castable (Conventional) | 1500 °C |

## 1. PRODUCT DESCRIPTION

RCH-18 is a conventional dense refractory castable with increased alumina content for continuous service temperatures up to 1400 °C. It provides good mechanical strength after drying and firing and is suitable for general furnace, kiln, boiler and incinerator lining where a conventional castable is preferred.

## 2. CHEMICAL ANALYSIS (CALCULATED)

| Chemical Composition | Calculated Range (%) |
|---|---|
| **$Al_2O_3$ — Alumina** | 48.0 - 53.0 |
| **$SiO_2$ — Silica** | 37.0 - 42.0 |
| **$Fe_2O_3$ — Iron Oxide** | 1.0 - 2.0 |
| **CaO — Calcium Oxide** | 6.0 - 7.0 |

*Calculated on a fired basis; indicative values, not contractual or batch-specific limits.*

## 3. PHYSICAL PROPERTIES (TYPICAL)

| Property | Test Condition | Typical Value |
|---|---|---|
| **Refractoriness** | — | 1500 °C |
| **Recommended Service Temperature** | — | 1400 °C * |
| **Classification** | — | Conventional Dense Castable |
| **Recommended Water Addition** | — | 17 - 18 % |
| **Bulk Density** | 110 °C x 24 h | 2.10 - 2.20 g/cm³ |
| **Material Required (approx.)** | — | 2,150 kg/m³ |
| **Cold Crushing Strength (CCS)** | 110 °C x 24 h | 145 - 170 kgf/cm² |
| **Cold Crushing Strength (CCS)** | 815 °C x 5 h | 85 - 105 kgf/cm² |
| **Modulus of Rupture (MOR)** | 110 °C x 24 h | 80 - 95 kgf/cm² |
| **Modulus of Rupture (MOR)** | 815 °C x 5 h | 45 - 55 kgf/cm² |

** Recommended service temperature is the temperature for continuous service and is application-dependent. Actual safe operating temperature can be lower depending on load, atmosphere, thermal cycling, abrasion, chemical attack and lining design. Refractoriness is the temperature at which the material begins to soften and is not a service rating.*

*CCS and MOR are cold-strength properties measured on laboratory specimens (CCS 5 x 5 x 5 cm; MOR 23 x 5 x 5 cm, span 20 cm) and are not a measure of strength at operating temperature.*


Office : Jalan Kebraon Praja Timur 1 GB No. 28, Surabaya 60222 | Telp. +62 31 766 9426 | Fax. +62 31 766 8790
Factory : Jalan Raya Kendalrejo, Desa Kendalrejo, Kec. Talun, Kab. Blitar 66183, Jawa Timur, Indonesia | Telp. +62 342 563854
info@richorefractory.com | richorefractorydigital@gmail.com

## 4. INSTALLATION GUIDELINE

- Add clean, cool water at 17 - 18 % of the dry material weight. Do not exceed the recommended dosage.
- Mix thoroughly using a forced-action pan or paddle mixer until a uniform consistency is obtained. Gravity (drum) mixers are not recommended.
- Place into the formwork in layers and compact with a vibrator until the surface is closed and entrapped air has been released.
- Keep the surface moist and cure for a minimum of 24 hours before stripping the formwork.
- Dry out gradually following a controlled heating schedule, holding at 110 - 150 °C until moisture release stops, prior to first firing.

## 5. TYPICAL APPLICATIONS

| | |
|---|---|
| • Furnace lining | • Incinerator |
| • Boiler | • Kiln lining |
| • Furnace door and roof | |

## 6. PACKAGING & STORAGE

| Item | Description |
|---|---|
| **Packaging** | 25 kg per bag (moisture-resistant bag with inner liner) |
| **Storage Life** | 6 months from date of production |
| **Storage Condition** | Store in a dry, covered area, clear of the ground and protected from moisture |

## DISCLAIMER

The values shown in this data sheet are typical properties obtained under controlled laboratory and production conditions and are provided for reference only. They do not constitute a specification or a guarantee of performance. Actual results may vary depending on installation practice, water addition, curing, dry-out schedule, furnace atmosphere, and service conditions. For assistance with product selection or installation, please contact CV Richo Refractory.


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