RICHO Refractory
FIRE BRICK & INSULATING BRICK PRODUCT

TECHNICAL DATA SHEET

RCH 70 LC | HIGH ALUMINA LOW CEMENT CASTABLE

PRODUCT CODE	PRODUCT TYPE	REFRACTORINESS
RCH 70 LC	Low Cement Castable	1650 °C

1. PRODUCT DESCRIPTION

RCH 70 LC is a high-alumina, bauxite-based low cement castable with a reduced calcium oxide content, formulated for continuous service up to 1600 °C. Its higher alumina and lower silica content give improved refractoriness and better resistance to slag and alkali attack than standard 60-grade castables, while the low cement matrix provides high cold crushing strength, low porosity and good abrasion resistance under thermal load. The product is installed by casting with vibration and is not a self-flow castable.

2. CHEMICAL ANALYSIS (TYPICAL)

Chemical Composition	Typical Value (%)
Al_2O_3 — Alumina	76 - 80
SiO_2 — Silica	13 - 15
Fe_2O_3 — Iron Oxide	1 - 2
CaO — Calcium Oxide	1.8 - 2.3
TiO_2 — Titanium Dioxide	≤ 3.0

Indicative chemical values for product reference; not contractual or batch-specific limits.

3. PHYSICAL PROPERTIES (TYPICAL)

Property	Test Condition	Typical Value
Refractoriness	—	1650 °C
Recommended Service Temperature	—	1600 °C *
Classification	—	High Alumina Low Cement Castable
Maximum Grain Size	—	5 mm
Recommended Water Addition	—	6 - 7 %
Bulk Density	110 °C x 24 h	2.60 - 2.70 g/cm³
Material Required (approx.)	—	2,650 kg/m³
Cold Crushing Strength (CCS)	110 °C x 24 h	400 - 480 kgf/cm²
Cold Crushing Strength (CCS)	815 °C x 5 h	450 - 540 kgf/cm²
Modulus of Rupture (MOR)	110 °C x 24 h	95 - 130 kgf/cm²
Modulus of Rupture (MOR)	815 °C x 5 h	110 - 145 kgf/cm²

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** 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. Cold crushing strength and modulus of rupture values for this grade are preliminary design values; production batch test data is available on request.

4. INSTALLATION GUIDELINE

- Add clean, cool water at 6 - 7 % 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 hot face lining	• Incinerator hot face
• Burner block and burner lip	• Boiler combustion chamber
• Kiln hot zone lining	• Abrasion-exposed high-temperature areas

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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