

TECHNICAL DATA SHEET

INSULATING CASTABLE SIC 1300 | LIGHTWEIGHT INSULATING CASTABLE

PRODUCT CODE SIC 1300	PRODUCT TYPE Insulating Castable (Lightweight)	CLASSIFICATION TEMP. 1300 °C
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1. PRODUCT DESCRIPTION

Insulating Castable SIC 1300 is a lightweight, calcium aluminate cement bonded insulating castable for backup insulation in furnaces, kilns and heating equipment operating at higher temperatures. Its low density reduces heat loss through the lining and the weight of the structure. It is used behind a dense refractory lining, not as a hot-face material.

2. CHEMICAL ANALYSIS (TYPICAL)

Chemical Composition	Typical Value (%)
Al₂O₃ — Alumina	32 - 36
SiO₂ — Silica	48 - 54
Fe₂O₃ — Iron Oxide	≤ 2.0
CaO — Calcium Oxide	10 - 12

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

3. PHYSICAL PROPERTIES (TYPICAL)

Property	Test Condition	Typical Value
Classification Temperature	—	1300 °C
Recommended Service Temperature	—	1200 °C *
Classification	—	Lightweight Insulating Castable
Recommended Water Addition	—	22 - 28 %
Bulk Density	110 °C x 24 h	1.05 - 1.25 g/cm ³
Cold Crushing Strength (CCS)	110 °C x 24 h	20 - 40 kgf/cm ²
Cold Crushing Strength (CCS)	815 °C x 5 h	15 - 30 kgf/cm ²
Thermal Conductivity	mean 800 °C	0.40 - 0.55 W/m·K

* Classification temperature is the maximum temperature the material can withstand on its exposed face for a short period; it is not a continuous service rating. Recommended service temperature is application-dependent and can be lower depending on atmosphere, thermal cycling, chemical attack and lining design.

Indicative values for product reference; not contractual or batch-specific limits. CCS is a cold-strength property measured on laboratory specimens (5 x 5 x 5 cm). This is an insulating material and is not intended for hot-face, abrasion, slag-contact or load-bearing service.

4. INSTALLATION GUIDELINE

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SUPER REFRACTORIES ENGINEERING CONSTRUCTION

- Add clean, cool water at 22 - 28 % of the dry material weight. Do not exceed the recommended dosage.
- Mix in a paddle or forced-action mixer only until uniform; over-mixing breaks down the lightweight aggregate.
- Place into tight, leak-proof formwork. Use light rodding or light vibration only; over-vibration causes segregation.
- Keep the surface moist and cure for a minimum of 24 hours before stripping the formwork.
- Dry out slowly: hold at 110 °C until moisture release stops, then heat at no more than 1 °C/min up to 600 °C with a 2 - 4 hour hold before further heating.

5. TYPICAL APPLICATIONS

• Furnace backup insulation	• Kiln wall insulation
• Oven and dryer lining	• Insulating layer behind dense lining
• Duct and casing insulation	

6. PACKAGING & STORAGE

Item	Description
Packaging	10 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 Super Refractories.