

ENERGY-EFFICIENT REFRACTORY FOR THERMAL INSULATION AND MECHANICAL STABILITY

The **Low Thermal Conductivity Mullite Composite Brick** is engineered for applications where thermal insulation, mechanical strength, and structural integrity at elevated temperatures are critical. Its composition, based on high-purity mullite and micro-porous technology, provides excellent insulation performance while maintaining the load-bearing capacity needed in industrial kilns and furnaces.

TECHNICAL SPECIFICATIONS

PROPERTY	VALUE
Al ₂ O ₃ (%)	≥ 60
SiO ₂ (%)	≤ 35
Apparent Porosity (%)	≤ 28
Bulk Density (g/cm ³)	1.8 – 2.2
Cold Crushing Strength (MPa)	≥ 40
Modulus of Rupture at 1400°C (MPa)	≥ 6
Refractoriness Under Load (0.2 MPa, °C)	≥ 1450
Thermal Conductivity at 800°C (W/m-K)	≤ 1.5
Maximum Service Temperature (°C)	1600
Bond Type	Ceramic Bond

KEY APPLICATIONS

- Preheater and Calciners in Cement Plants
- Hot Blast Stove Insulation Layers
- Flue Gas Channels
- Furnace Linings with Energy Conservation Requirements
- Secondary Layer in High-Temperature Reactors

PERFORMANCE CHARACTERISTICS

- **Superior thermal insulation** with reduced heat loss
- **Enhanced energy efficiency** in process kilns and reactors
- **Stable under cyclic heating** conditions
- **Lightweight with adequate structural strength**
- **Minimizes outer shell temperature**, reducing cooling requirements

PACKAGING & SUPPLY

- Supplied in precision-pressed standard or customized shapes
- Export-grade palletised packaging with protective wrapping
- Batch-certified with quality assurance documentation

INSTALLATION NOTES

- Use high-alumina or mullite-based mortars for optimal joint sealing
- Avoid high thermal gradients during initial heat-up
- Ensure proper anchoring or backup insulation where required

ENVIRONMENTAL & SAFETY NOTES

- Manufactured with **low-dust processing methods**
- **Asbestos-free**, non-toxic raw materials
- Contributes to **energy-saving design standards** in refractory linings



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