DGC REFRACTORIES TECHNICAL DATA SHEET

SILICA BRICK (SI-94)

OPTIMISED HIGH-TEMPERATURE PERFORMANCE FOR COKE OVENS, GLASS FURNACES & ACIDIC ENVIRONMENTS

The Silica Brick (SI-94) is a high-purity, acid-resistant refractory brick designed for high-temperature applications where volume stability and thermal conductivity are key. Produced from selected quartzites, this brick develops a robust tridymite-cristobalite microstructure during firing, enabling reliable performance up to 1650°C. It is ideal for structurally demanding environments with minimal load-bearing creep.

TECHNICAL SPECIFICATIONS

PROPERTY	SI-94
SiO_2 (%)	≥ 94
Apparent Porosity (%)	≤ 23
Bulk Density (g/cm³)	≥ 1.80
Cold Crushing Strength (MPa)	≥ 35
Refractoriness Under Load (0.2 MPa, °C)	≥ 1650
Permanent Linear Change (1450°C × 2hr, %)	0 ~ +0.2
Thermal Conductivity at 1000°C (W/m·K)	1.3 – 1.6
Thermal Shock Resistance (ΔT ≥ 300°C)	≥ 15 cycles
Maximum Service Temperature (°C)	1650
Bond Type	Silica Bond

KEY APPLICATIONS

- Coke Oven Walls, Roofs, and Regenerators
- Glass Furnace Crowns and Superstructures
- Hot Blast Stove Checkers
- Acidic Waste Incineration Chambers
- Steel Industry Partition Walls and Roofs

PERFORMANCE CHARACTERISTICS

- Excellent refractoriness under load with minimal deformation
- High-volume stability at elevated temperatures
- Good thermal conductivity supporting uniform heat distribution
- Superior corrosion resistance in acidic atmospheres
- Suitable for long campaign life in static and thermal cycling environments

PACKAGING & SUPPLY

- Supplied on heat-treated, shrink-wrapped pallets
- Available in standard and interlocking shapes
- Certified to ISO-compliant QA/QC standards

INSTALLATION NOTES

- Use appropriate silica mortar with similar expansion characteristics
- Avoid water saturation to preserve dimensional tolerance
- Preheat slowly through quartz inversion range (~573°C)

ENVIRONMENTAL & SAFETY NOTES

- Free from asbestos or hazardous materials
- Designed for durability to reduce waste and environmental impact
- Manufactured in ISO-certified, environmentally compliant facilities

www.dgc-africa.com
REACH OUT TO US
contactus@dgc-africa.com