DGC REFRACTORIES TECHNICAL DATA SHEET

DIRECT-BONDED MAGNESIA-CHROME BRICK (DMC-88)

OPTIMISED REFRACTORY BRICKS FOR CORROSIVE HIGH-TEMPERATURE ENVIRONMENTS

The Fused Magnesia-Chrome Brick (FMGe-94) is a premium-quality refractory product made from **electro-fused magnesia and fused chromite.** This brick provides **exceptional resistance to chemical attack, thermal spalling, and slag infiltration**, making it ideal for high-stress environments in **copper, nickel, lead, and ferroalloy operations.** It offers **outstanding structural stability** and **excellent corrosion resistance** even under prolonged high-temperature service conditions, especially in atmospheres containing iron oxides, alkalis, and acidic vapours.

TECHNICAL SPECIFICATIONS

PROPERTY	FMGe-94
MgO (%)	≥ 68
Cr_2O_3 (%)	≥ 16
Apparent Porosity (%)	≤ 18
Bulk Density (g/cm³)	≥ 3.10
Cold Crushing Strength (MPa)	≥ 60
Modulus of Rupture at 1400°C (MPa)	≥ 10
Refractoriness Under Load (0.2 MPa, °C)	≥ 1700
Thermal Conductivity at 1000°C (W/m·K)	2.7 – 3.1
Maximum Service Temperature (°C)	1800
Standard Brick Size	230×114×65 mm or per client request
Bond Type	Direct-fused grain bonding

PACKAGING & SUPPLY

- Export-grade wooden pallets, shrink-wrapped with moisture protection
- Batch-labelled with full traceability and test certification
- Optional pre-assembly for custom shapes and arch sets

INSTALLATION NOTES

- Install with chromia-compatible mortar or dry-fit system
- Maintain recommended joint widths and expansion gaps
- Suitable for use with air-set mortars or phosphate-bonded formulations

ENVIRONMENTAL & SAFETY NOTES

- Produced in ISO-certified facilities with advanced dust filtration
- Product contains Cr_2O_3 – handle and dispose in accordance with local environmental regulations
- Designed for maximum service life, reducing total waste generation

KEY APPLICATIONS

- Flash and Electric Smelting Furnaces
- Slag Cleaning Furnaces
- Rotary Kilns and Anode Furnaces
- Settling Zones and Furnace Roofs
- Converters and Tap Channels

PERFORMANCE CHARACTERISTICS

- **High resistance to slag corrosion,** particularly under reducing conditions
- **Superior refractoriness under load,** ideal for structurally sensitive areas
- **Low porosity** minimises gas penetration and thermal degradation
- Designed for **extended campaign life** and reduced reline frequency
- Excellent **dimensional stability** under prolonged thermal cycling

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