



DGC REFRACTORIES - A Division of DGC AFRICA

REFRACTORY MATERIALS

ENGINEERED EXCELLENCE FOR INDUSTRIAL HEAT MANAGEMENT



LEADING THE WAY

IN ASSET INTEGRITY MANAGEMENT & INDUSTRIAL SOLUTIONS

www.dgc-africa.com

SOUTH AFRICA ZAMBIA DEMOCRATIC REPUBLIC OF CONGO MADAGASCAR ZIMBABWE SAUDI ARABIA

AT DGC REFRACTORIES, WE BRING TOGETHER OVER A CENTURY OF INDUSTRIAL HERITAGE & DEEP MATERIALS EXPERTISE

TO PROVIDE PREMIUM REFRACTORY SOLUTIONS FOR HIGH-TEMPERATURE APPLICATIONS ACROSS AFRICA & BEYOND.

As part of the **Dickinson Group of Companies**, established in 1910, we have built a reputation for excellence in thermal process industries, combining technical knowledge with practical field experience to serve sectors such as non-ferrous metallurgy, cement, iron and steel, petrochemicals, power generation, and glass production.

Our offering goes beyond material supply. We deliver value through end-to-end technical collaboration, helping clients solve complex thermal challenges and optimise furnace performance, reliability, and lifespan. **DGC Refractories** partners with globally recognised refractory manufacturers, enabling us to offer access to an extensive portfolio of shaped and monolithic products, engineered for efficiency, safety, and longevity in the harshest of environments.



OUR COMMITMENT **TO EXCELLENCE**

Uncompromising Quality. Trusted Performance. Global Capability.

At **DGC Refractories**, we are uncompromising in our commitment to quality, consistency, and performance. Our reputation has been earned through decades of reliable delivery, technical excellence, and deep understanding of our clients' thermal processing requirements.

We believe that supplying refractory materials is not just about product – it's about partnership. From the moment of engagement, we work alongside clients to define the right solution for their specific application, ensuring performance across extreme temperatures, chemical exposures, and mechanical stress. Each product we supply meets stringent international quality standards and is supported by comprehensive technical specifications, traceability documentation, and, when required, third-party testing. Our quality assurance processes extend beyond the lab and into practical, results-driven performance in the field.

By aligning with select global manufacturing partners operating at world-class scale, we are able to offer:

- **High-purity raw materials**, consistently processed and tested
- **Precision manufacturing**, using automated and energy-efficient kiln systems
- **Batch-level quality control**, including chemical, physical, and thermal testing
- **Environmental stewardship**, with sustainable production practices embedded in the value chain

In short, our clients receive the technical backing and scale of a global supply chain, delivered through the accountable, relationship-driven ethos of a proudly African industrial company.

FACILITIES & QUALITY CONTROL

ADVANCED MANUFACTURING. RIGOROUS TESTING. RELIABLE DELIVERY.

DGC Refractories supplies its extensive product range through a network of internationally accredited refractory production facilities. These plants employ advanced manufacturing processes, including high-efficiency tunnel kilns, automated batching systems, and environmentally optimised operations that meet or exceed ISO 9001 standards.

Every batch of refractory product is subject to rigorous in-process and final-stage testing. This ensures that the materials not only meet technical specifications on paper, but also perform under the extreme operating conditions of industrial furnaces, kilns, reactors, and vessels.

Our Quality Control Protocols Include:

- **X-ray fluorescence (XRF) and ICP-AES** for high-precision chemical analysis
- **Large-scale image analysis microscopes** for structural evaluation
- **Thermal dilatometry** to measure thermal expansion and contraction properties
- **High-temperature load testing and creep resistance** under simulated service conditions



- **Thermal shock resistance** testing using calibrated cyclic heating and quenching
- **Microscopy at elevated temperatures**, to monitor integrity and phase change behavior

We also offer inspection flexibility using independent third-party quality assurance agencies, such as Bureau Veritas, SGS, China Steel Test Group, and China Testing & Certification Group, depending on client preference and project requirements.

**THIS COMPREHENSIVE QUALITY ECOSYSTEM
ENSURES DGC REFRACTORIES CAN
CONSISTENTLY DELIVER HIGH-PERFORMANCE
MATERIALS WITH TRACEABLE DATA
& PEACE OF MIND.**



STRATEGIC SUPPLY PARTNERSHIPS

GLOBAL CAPABILITIES. LOCAL COMMITMENT.

DGC Refractories operates through exclusive international supply agreements with world-class manufacturing partners who share our dedication to quality, consistency, and technical innovation.

These partnerships enable us to offer a wide range of shaped refractory bricks that meet the highest global standards for thermal performance, corrosion resistance, and mechanical durability. Our supply chain is structured to ensure:

- **Product consistency and traceability**, supported by full technical documentation
- **Customisation options** tailored to client-specific operating conditions
- **Reliable lead times** for both routine replenishment and major shutdown projects
- **Access to advanced materials R&D** through ongoing technical collaboration

**BY COMBINING GLOBAL SOURCING STRENGTH
WITH REGIONAL SERVICE & ACCOUNTABILITY,
DGC REFRACTORIES DELIVERS NOT JUST
MATERIALS, BUT SOLUTIONS THAT WORK IN
THE REAL WORLD, WHERE DOWNTIME,
PROCESS INTEGRITY, AND COST EFFICIENCY
MATTER MOST.**

INDUSTRY APPLICATIONS

PRECISION-ENGINEERED REFRACTORIES FOR DEMANDING INDUSTRIAL PROCESSES

NON-FERROUS METALS INDUSTRY

Copper • Zinc • Aluminium • Nickel • Lead

CEMENT INDUSTRY

Rotary Kilns • Calciners • Preheaters • Coolers • Tertiary Air Ducts

IRON & STEEL INDUSTRY

Blast Furnaces • Ladles • Converters • Stoves • Tundishes • Coke Ovens

GLASS INDUSTRY

Container Glass • Float Glass • Fibre Glass Furnaces • Regenerators

THERMAL POWER, ELECTRICAL, PETROCHEMICAL & COAL CHEMICAL INDUSTRIES

Rotary Kilns • Incineration Units • Gasifiers • Boilers • Sulphur Recovery Plants

FOUNDRY INDUSTRY

Iron • Steel • Aluminium • Copper • Zinc Casting Operations





RELIABLE REFRACTORY SOLUTIONS



HIGH-PURITY REFRACTORY MATERIALS MANUFACTURING EXCELLENCE



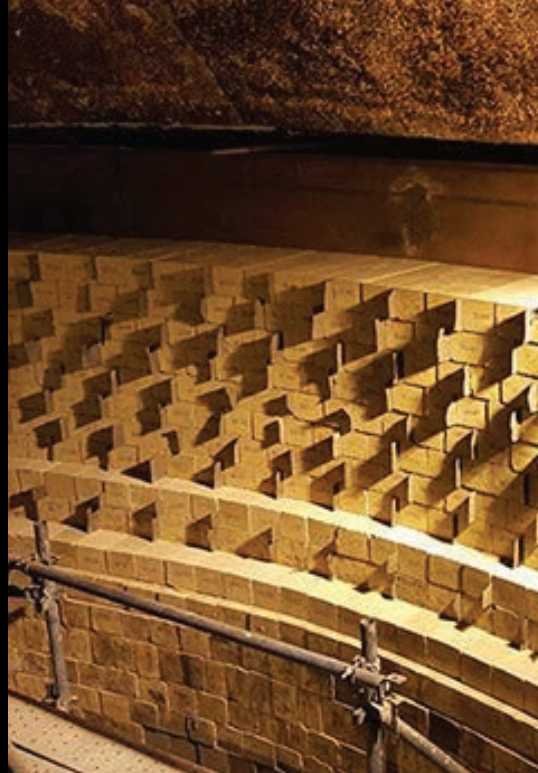
WE WORK DIRECTLY WITH PLANT ENGINEERS & MAINTENANCE TEAMS TO ENSURE EVERY LINING MEETS PROCESS REQUIREMENTS & PRODUCTION GOALS

DGC REFRACTORIES
– **TRUSTED**
REFRACTORY
SYSTEMS FOR
A HIGH-PRECISION
CASTING
ENVIRONMENT





DGC REFRACTORIES
– ENGINEERED
MATERIALS FOR
RELIABILITY
UNDER
EXTREME
CONDITIONS



**ALL MATERIALS ARE TESTED TO INTERNATIONAL
SPECIFICATIONS, ENSURING CONSISTENCY & TRACEABILITY**

LET US HELP YOU
STRENGTHEN
PERFORMANCE,
REDUCE RISK, &
OPTIMISE
OPERATIONS,
BRICK BY BRICK



**HIGH-PURITY
REFRACTORY
MATERIALS
MANUFACTURING
EXCELLENCE**



NON-FERROUS METALS INDUSTRY

Copper • Zinc • Aluminium • Nickel • Lead

The smelting and refining of non-ferrous metals demands refractory materials capable of withstanding aggressive chemical attack, high thermal loads, and frequent thermal cycling.



DGC Refractories supplies specialised shaped refractories that deliver high corrosion resistance, excellent thermal stability, and mechanical strength across a range of process units including:

- Flash Furnaces
- Anode Furnaces
- Rotary Furnaces
- Slag Cleaning Units
- Electric Holding and Casting Furnaces



TYPICAL MATERIALS USED IN THIS SECTOR INCLUDE:

- Fused-Rebonded Magnesite Chrome Bricks
- Semi-Rebonded and Direct-Bonded Magnesite Chrome Bricks
- Magnesite-Alumina and Magnesite Ferrum Spinel Bricks
- High Alumina Bricks and Silicon Carbide Series
- Fused-Cast and Corundum-Based Bricks for high-temperature and chemically aggressive zones



OUR APPLICATION EXPERTISE ENSURES THE CORRECT SELECTION & CONFIGURATION OF REFRACTORY LININGS FOR OPTIMAL PROCESS EFFICIENCY, REDUCED MAINTENANCE FREQUENCY, & EXTENDED SERVICE LIFE





CEMENT INDUSTRY

***Rotary Kilns • Calciners Preheaters • Coolers •
Tertiary Air Ducts***

The cement production process imposes some of the most extreme conditions on refractory linings, exposing them to abrasion, alkali attack, thermal shock, and mechanical stress. **DGC Refractories** provides a comprehensive selection of shaped refractory bricks engineered to extend campaign life and reduce downtime across all zones of the cement kiln line.

**OUR TAILORED
MATERIAL SELECTION
ENSURES DURABILITY
ACROSS EACH
EQUIPMENT ZONE,
OPTIMISING THERMAL
PERFORMANCE,
REDUCING HEAT LOSS,
& SUPPORTING STABLE
KILN OPERATION.**

Our solutions are specifically formulated for:

- High Thermal Load Zones (Burning Zone, Transition Zone)
- Alkali and Sulphate-Rich Areas (Preheater, Calciner)
- Abrasion-Prone Equipment (Cooler, Kiln Hood, Tertiary Ducts)

RECOMMENDED MATERIALS INCLUDE:

- Magnesia-Hercynite and Magnesia-Spinel Bricks – Chrome-free alternatives with excellent thermal shock and chemical resistance
- Alkali-Resistant Bricks – For preheaters and calciners exposed to volatile salts
- Silicon Carbide-Mullite Bricks – For erosion resistance and low thermal conductivity
- Multi-Layer Mullite and Low Thermal Conductivity Bricks – Energy-efficient linings for outer shell protection
- High-Alumina and Andalusite Bricks – Suitable for cycling temperature areas requiring structural integrity



IRON & STEEL INDUSTRY

***Blast Furnaces • Ladles •
Converters • Stoves •
Tundishes • Coke Ovens***

Steelmaking involves extreme thermal, mechanical, and chemical loads, each requiring precisely matched refractory materials to ensure reliability, safety, and extended campaign life.



TYPICAL MATERIALS USED IN THIS SECTOR INCLUDE:

- Magnesia Bricks and Magnesia-Carbon Bricks
- Silica Bricks and Andalusite Bricks
- Mullite Cordierite and Alumina-Zirconia Series
- Nitride and Sialon Bonded SiC Bricks
- Alumina-SiC-C and Alumina Spinel Series

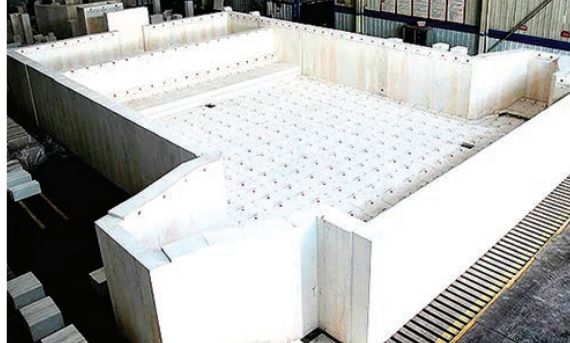


We offer specialist solutions for:

- **Blast Furnace Linings** – High-performance magnesia-carbon bricks with enhanced resistance to alkali and thermal cycling
- **Ladle & Converter Zones** – Alumina-carbon and alumina-spinel-carbon bricks designed for steel purity and structural durability
- **Hot Blast Stoves & Tundishes** – Silica and mullite series bricks for thermal storage and temperature uniformity
- **Coke Ovens** – Silica and high-alumina bricks tailored to high-volume carbonisation cycles

**BY ALIGNING REFRACTORY
PERFORMANCE WITH THE THERMAL
& MECHANICAL LOAD PROFILE OF
EACH PROCESS ZONE,
DGC REFRACTORIES ENABLES
GREATER THROUGHPUT, LONGER
CAMPAIGN INTERVALS, & ENHANCED
SAFETY FOR STEEL PRODUCERS.**

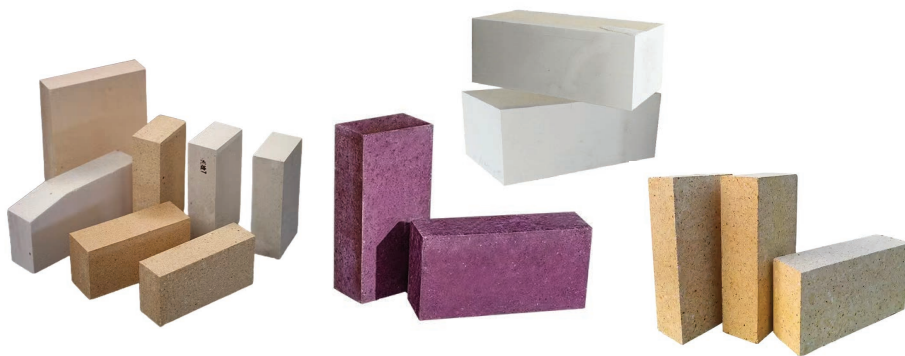




GLASS INDUSTRY

***Container Glass • Float Glass • Fibre Glass Furnaces
• Regenerators***

Glass melting processes operate under continuous high-temperature loads with strong chemical aggression, demanding refractory materials that offer corrosion resistance, structural stability, and consistent insulation over extended periods.



DGC Refractories provides high-specification shaped refractories engineered to perform across every critical area of the glass furnace and supporting systems, including:

- Melting Tanks & Throats
- Forehearth & Working Ends
- Checker Chambers & Regenerators
- Tin Bath Bottoms (Float Lines)

TYPICAL MATERIALS

SUPPLIED FOR THESE APPLICATIONS INCLUDE:

- Fused Cast AZS and Corundum Bricks – Ideal for glass contact zones and sidewalls
- Silica Bricks – High thermal shock resistance and excellent creep resistance at high temperatures
- Zircon and Zircon-Mullite Bricks – Low contamination and high corrosion resistance
- Sillimanite and Mullite Bricks – Suitable for crown and insulation layers
- Low-Porosity Fireclay Bricks – For superstructures and backup insulation

**EACH SOLUTION IS
SELECTED BASED
ON THE SPECIFIC
THERMAL PROFILE
& GLASS TYPE,
ENSURING LONG-
LASTING REFRACTORY
INTEGRITY, MINIMAL
GLASS DEFECT RATES,
& EXTENDED
CAMPAIGN LIFE.**



**OUR SOLUTIONS DELIVER
STABLE, LONG-LIFE
PERFORMANCE ACROSS
CRITICAL THERMAL
ZONES, HELPING
OPERATORS MAINTAIN
UPTIME, IMPROVE FUEL
EFFICIENCY, AND MEET
ENVIRONMENTAL
COMPLIANCE TARGETS.**



THERMAL POWER, ELECTRICAL, PETROCHEMICAL & COAL CHEMICAL INDUSTRIES

***Rotary Kilns • Incineration Units
• Gasifiers • Boilers •
Sulphur Recovery Plants***

Industrial processes in the energy and chemical sectors expose refractory linings to aggressive environments, high thermal gradients, corrosive slags, and rapid cycling, all of which demand materials with high mechanical strength, chemical inertness, and thermal shock resistance.

DGC Refractories supplies a range of high-performance shaped refractories for:

- Sulphur Combustion & Waste Incineration Units
- High-Temperature Gasification Chambers
- Rotary Kilns & Cyclones in Power Plants
- Furnace Linings in Petrochemical Processing

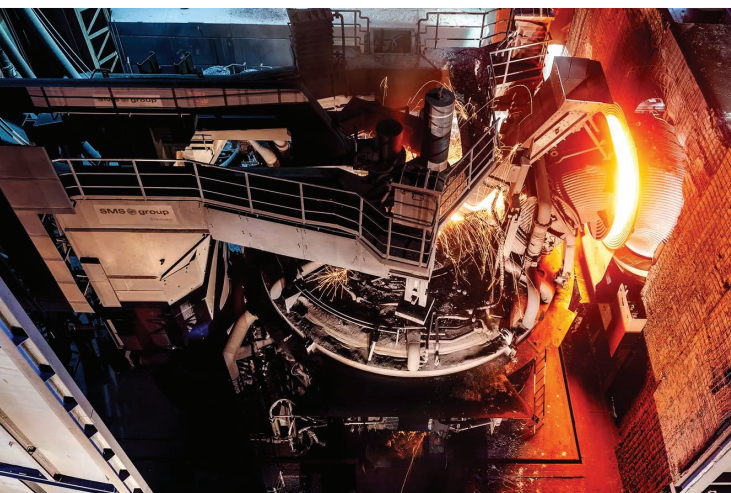
RECOMMENDED MATERIALS INCLUDE:

- Fused and Semi-Rebonded Magnesite-Chrome Bricks – For zones exposed to corrosive slags and thermal cycling
- Direct-Bonded Magnesite-Chrome Bricks – Excellent refractoriness and volume stability at high temperatures
- High-Alumina and Silicon Carbide Bricks – For abrasion-prone and chemically aggressive areas
- Dry Impervious and Abrasion-Resistant Refractories – For thermal shields and erosion zones
- Vacuum-Formed and Ceramic Filter Elements – For sealing, filtration, and shaped insulation

FOUNDRIY INDUSTRY

*Iron • Steel • Aluminium •
Copper • Zinc Casting
Operations*

The foundry environment requires flexible, heat-resistant, and abrasion-tolerant materials for use in furnaces, ladles, and ancillary components exposed to repetitive thermal cycling, mechanical stress, and chemical attack.



DGC Refractories offers a well-proven range of shaped refractories and insulating products tailored to:

- Electric Arc Furnaces (EAFs)
- Induction Furnaces
- Holding & Pouring Ladles
- Tundishes and Launderers

KEY REFRACTORY MATERIALS INCLUDE:

- **High-Alumina and Mullite-Based Bricks**
– Withstand high thermal loads and mechanical wear
- **Silicon Carbide Bricks** – Excellent abrasion and oxidation resistance
- **Zircon-Based Products** – For non-wetting properties in non-ferrous casting
- **Insulation Bricks & Backup Linings** – Enhancing thermal control and energy savings



We also supply:

- **Ceramic Fiber Products** – Including blankets, boards, modules, and paper for lining flexibility and insulation
- **Slip Plane Materials and Coil Cements** – Ensuring stability and safety in induction furnace applications
- **Capping & Sprout Solutions** – Designed to improve flow control and minimize heat loss during pouring

DGC'S MATERIALS ARE SELECTED FOR THEIR OPERATIONAL RESILIENCE, COST-EFFECTIVENESS, & EASE OF INSTALLATION, ENSURING FOUNDRIES CAN OPERATE AT PEAK EFFICIENCY WHILE MAINTAINING CONSISTENT CASTING QUALITY.

YOUR STRATEGIC PARTNER IN REFRACTORY EXCELLENCE



With over a century of industrial service heritage and deep materials expertise, **DGC Refractories** is positioned to support your most demanding high-temperature applications with confidence.

We offer:

- **Reliable Supply** – Backed by strong international manufacturing partnerships and logistics support
- **Engineering Support** – Application-specific material selection and performance-driven solutions
- **Technical Consistency** – Every product batch is rigorously tested to international quality standards
- **Client Focus** – Responsive service, tailored recommendations, and long-term operational value

**FROM METALS & MINERALS TO ENERGY & ENGINEERED MATERIALS,
OUR REFRACTORIES HELP DRIVE PERFORMANCE
ACROSS AFRICA & BEYOND.**



OUR OFFICES

CONTACT US to learn how DGC can help transform your operations and deliver sustainable competitive advantage.

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OVER A CENTURY OF SERVICE. A FUTURE BUILT ON ENGINEERED RESILIENCE.



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