FURNACE & INDUSTRIAL SERVICES
Introduction

Dickinson Group of Companies was founded in 1910 as a building construction company, followed by the establishment of its furnace service business in 1928. The company has 90 years experience in providing Specialist Furnace and Industrial Services to the mining, metals smelting, mineral processing, thermal power generation and petrochemical refining industries.

VISION

Dickinson Group of Companies’ Vision is to be a global Leading provider of Furnace and Industrial Services

MISSION

Dickinson Group of Companies’ purpose is to provide an integrated and multidisciplinary “One Personalised Solution”, by offering essential furnace and industrial services, which increase productivity and performance together with reducing costs for our customers.

STRATEGY

The company’s strategy is to develop the Group’s current position as a leading specialized furnace and industrial solutions company, with a global reach and to deliver long-term sustainable growth through the continued expansion of the company’s services and markets.
Dickinson Geographic Footprint

Office Locations

- South Africa
- Zambia
- Mauritius
- Tianjin, China
- Egypt
- Namibia
- Democratic Republic of Congo
- Russia
- Brazil

- Business Operations
- Business Experience
- Business Alliance Locations
 Dickinson Head Office & Workshops

Total land area: 14,000 m²
Total buildings (including offices, workshops & warehouses): 8,500 m²
Industries We Serve

- Aluminium Smelting
- Glass
- Platinum & Nickel
- Iron, Steel & Coke Making
- Copper & Cobalt
- Ferrochrome & Ferromanganese
- Heavy Sands
- Nickel
- Power Generation
- Cement & Lime
- Chemical & Petrochemical
- Ceramic
- Refractory Manufacturing
- Food & Beverage Manufacturing
- Fertilizer Manufacturing
- Water & Municipal Services
- Telecommunications
Safety Policy

- Dickinson Group of Companies operates according to international best practices to achieve the highest practical levels of Safety, Health, Environmental Control and Quality, and adheres to BS OHSAS 18001:2007 accreditation.

- The safety of our employees and contractors is an integral part of our business, with the goal of ZERO HARM.

- The Group strives to:
  - Demonstrate strong leadership and direction in all conceivable SHEQ issues.
  - Ensure a consistent approach to the management of SHEQ in all locations.
  - Consult and communicate with all employees and stakeholders.
  - Educate the workforce in risk management, safety, health and environmental principles.
  - Respect the right of all staff to work in an environment where they know that risks are adequately controlled.
  - Promote the health and wellbeing of all its staff.
  - Measure SHEQ performance.

[Certificate Image]
Turnkey Furnace Rebuild Projects

- Furnace Projects Division has more than 90 years’ experience
- Specialist turnkey furnace rebuild projects services
- Greenfield and Brownfield Projects.

Applications

- Flash furnaces
- Six-in-line furnaces
- Electric furnaces and Combustion stoves
- Isamelt furnaces, Anode Furnaces and Convertors
- Blast Furnaces
- Rotary Kilns and Cement plants
- Glass furnaces
Turnkey Furnace Rebuild Projects

Benefits:
- Integrated project implementation
- Safe project implementation – Zero Harm is the goal
- Rapid response times
- Reduced downtime and higher plant availability
- Project quality and completion guarantees
- Dedicated team with a wide variety of skills and expertise
- Significant production - cost savings
Refractory Installation Services

Installation Techniques
- Bricklaying
- Vibrocasting, Pneumatic gunning
- Ramming Installations
- Specialized formwork
Refractory Installation Services

- **90 years** of experience
- Meeting critical project completion schedules
- Exceeding safety and environment expectations
- Delivering projects within budget and deadlines
- Technical support
- Project management
- Stock management
- Procurement
- Supply of personnel
Furnace Demolition Services

- Dickinson’s Demolition Division has close to 25 years experience
- Specialist Demolition Services
- Mechanised demolition techniques
- Heavy industrial and confined space demolition services.

Advantages

- Faster, safer and efficient
- Compliance with Government Health & Safety Regulations
- Maintenance of machines
- Trained & Experienced Operators
Furnace Demolition Services

Technologies include:
- Remote controlled demolition equipment
- High powered crawler excavators & hydraulic breakers
- Mechanical dismantling & rigging
- Thermal oxygen lancing
- Liquid nitrogen cooling
- Controlled hot blasting

Applications
- Flash furnaces and Six-in-line furnaces
- Electric furnaces and Combustion stoves
- Isamelt furnaces, Anode Furnaces and Convertors
- Blast Furnaces
- Rotary Kilns and Cement plants
- Glass furnaces
Furnace Mechanical Projects

- Anode baking furnaces
- Flash furnaces
- Six-in-line furnaces
- Electric arc furnaces
- Isamelt furnaces
- Blast furnaces
- Combustion stoves
- Holding and melting furnaces
- Roasters
- Sinter plants
- Induction furnaces
- Rotary kilns
- Preheaters and Calciners
- Cement plants
- Glass furnaces
- Reheating furnaces
- Boilers
- Ausmelt furnaces
- Carbon Bake furnaces
Refractory Anchor Systems

- Over 30 years experience
- Manufacturing and installation of anchor systems for all types of:
  - Monolithic, ceramic fibre and brick refractory linings

Full range of Cement plant Anchors

- Anchors
- Hex Mesh & Tabs
- Reinforcing Fibres - Melt Extract
- Studwelding Equipment
- Brick Anchor Clips
- Consignment Stock of Anchors
Anchor Manufacturing Facilities

- State of the Art CNC anchor manufacturing machine
- Diameter range from 4mm to 12mm
- Average of **850 pieces per hour**.

**Benefits**
- Short lead times
- Competitive pricing
- Customised designs
- Stock availability
- In-house installation capability
Precast Refractory Shapes

- Over 25 years experience
- State-of-the-art Production Facilities
- Stringent Quality Control Measures
- Latest Polystyrene Cutting & Mould Design Technology
- Overhead Cranage to Lift Large Precast Shapes
- High Intensity Paddle Mixers
- Reliable & Efficient Service
- Ensuring Enhanced Service Life
Precast Refractory Shapes

- Launders
- Ladles
- Burners
- Feed Chutes
- Bull Nose
- Cement Burner Lance
- Coke Oven Bricks & Modules

Benefits
- Modular Design
- Stringent Quality
- Faster Installation
- Ease of Repair
- Controlled Dry Out
Bricking Solutions Equipment

1. Bricking Machines
2. Kiln Access Ramps
3. Safety Cages
4. Muck-it Bucket
5. Radialign
6. Burner Alignment
7. Hydraulic Conveyor systems
8. Inclined Conveyor
9. Port A Track
10. Suspended Platforms
11. BBS Services
Waste Heat Recovery Technology

Africa Energy Sector Issues

- Insufficient capacity.
- Poor reliability.
- High costs
- WHR in the Cement Process

- Benefits of WHR
- WHR is a proven technology

Project Financing

- Structured Financing
- Capital Projects
- Power Purchase Agreements
**Endoscopy and Infrared Thermography**

**BENEFITS**
- Compilation of a comprehensive records of wear
- Reduced unplanned stoppage
- Maximum kiln availability
- Efficient planning
- Confident budget planning
- Immediate payback time
- Knowledge sharing

More than 25 years of experience
- Reliable technology (Non Destructive)
- Expertise in image analysis; objective reporting
- Assistance during decision; making process for repair
- In line with continuous improvement and operational excellence concepts
- Cost / Benefit ratio always positive
FIVES FCB Technologies

**Products**

- Tyre and floating shims including supporting shell replacement
- Kiln Shell Portion, Ball Mill Section
- Kiln Upstream Seal Replacement
- Kiln Downstream Seal Replacement
- Kiln and / or Ball Mill Driving Unit
- Kiln Roller Stations Replacement
- Tertiary Air Duct Dumper Replacement
- Hydraulic Thrust Replacement

**Services**

- Global Kiln or Mill Refurbishment
- Fives FCB Nova-Gear Ball Mill and Kiln Girth Gear On Site Machining
- Hot Kiln Alignment + Kiln Shell Deformation Audit and Bricks fall Prediction Model
- Mechanical Expertise - Ball Mills
- **EMU** for slag pots vitrifies the slag pot in order to:
  - Prevents slag/steel sticking in the pot
  - Facilitate tipping to the slag field
- **EMU** avoids vicious cycle
  - Sticking → tapping → deforming → more sticking

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**EMUREF Technical Coatings**

**EMU**
- Facilitate slag removal for slag pot extended life

**StopOxy**
- Reduce decarburization depth
  - (High Carbon Steel)

**Descalizer**
- Reduce scale formation
  - (low carbon steel)

**Typically for high carbon steel**
- Spring Steel
- Wire Rod
- (High Speed train) rails
- Working temperatures (max):
  - 1100°C → 1250°C

**HT** is an anti-sticking agent for:
- Reducing the formation of steel block
- Facilitating removal of sticking steel on equipment
- Based on Silicate (SiO₂) with water + concentrate Emuref

**High scale formations conditions**
- **low carbon steel**
- older furnaces (pusher)
- Grade dependent
- Working temperatures (max):
  - 1150°C → 1250°C (+?)
Metallurgical Advisory Services

- Dickinson Group provides a wide range of consulting services in the base metal pyrometallurgical industry.

- The specialised range of niche services include:
  - Plant Audits
  - Specific Metallurgical Solutions
  - Metallurgical Accounting Improvements
  - Smelter Projects
  - Productivity Improvements
  - Various other plant analysis required to improve process controls
Heavy Industrial Demolition

- Heavy Industrial Demolition
- Industrial focus on mining & heavy industrial sectors
- Dismantling Services
- Specialised Attachments & Equipment
Heavy Industrial Demolition
Industrial Vacuum Services

Dickinson Group of Companies provides industrial vacuum services to:

- Industrial plants
- Mining applications
- Smelting plants
- Mineral processing plants

Advantages

- Mechanised
- Fast and Safe
- Most efficient
- Quality priority service
- Cost Reduction

Applications

- Wet material
- Dry material
Industrial Vacuum Services
Silo Cleaning Services

- Safety
- Hygiene
- Economical
- Speed
Catalyst Services

- Supply of a Vast Range of Catalysts
- Catalyst Stock Holding
- Catalyst Un-loading
- Catalyst Screening
- Catalyst Reloading
- Catalyst Support Services
Acid Resistant Brick Linings

- Dickinson Group of Companies is the appointed agent and representative of CUMI-Prodorite throughout sub-Saharan Africa.
- CUMI-Prodorite is a pioneer and market leader in the manufacture of acid proof cement and FRP fabrication systems.
Industrial Corrosion Protection Services

- Specialised Coating Applications
- Abrasive & Shot Blasting
- High & Ultra-High Pressure Water Jetting
- Storage Tank Cleaning
- Tank Refurbishment & Lining
- Acid & Fire Proofing
- Sheetling Removal & Replacement
- Plant-Wide Refurbishment
Specialist and experienced personnel + Global Footprint + Global Alliances = “One Personalised Solution”

Inherent Innovative Culture + Certification: OSHAS 18001 + State of the Art Equipment
Dickinson Group of Companies provides a “One Personalised Solution” and strives to be your preferred business partner.

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