



FURNACE INSPECTION SERVICES



LEADING THE WAY
IN ASSET INTEGRITY MANAGEMENT & INDUSTRIAL SOLUTIONS

www.dgc-africa.com

SOUTH AFRICA

ZAMBIA

DEMOCRATIC REPUBLIC OF CONGO

MADAGASCAR

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BRAZIL

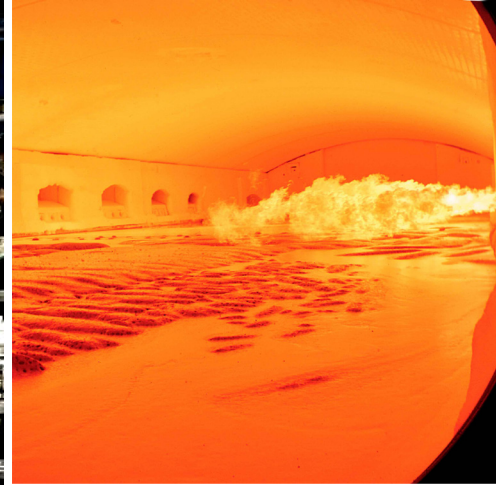
CHINA

PROACTIVE FURNACE INSPECTION SOLUTIONS

FOR SMELTING, MINERAL PROCESSING
& INDUSTRIAL OPERATIONS



At **DGC AFRICA**, we understand that furnace integrity is critical to ensuring safety, efficiency, and uninterrupted production in high-temperature industries. Our advanced furnace inspection services provide real-time insights, helping plant operators detect early warning signs, prevent costly failures, and optimize maintenance planning. With cutting-edge High-Temperature Endoscopy and Infrared Thermography, we offer a proactive approach to minimizing unplanned downtime, reducing operating costs, and extending furnace lifespan.



SEE BEYOND THE SURFACE

WITH HIGH-TEMPERATURE FURNACE ENDOSCOPY

Traditional furnace inspections rely on scheduled downtime, leaving operators blind to hidden issues developing between shut-downs.

OUR HIGH-TEMPERATURE
ENDOSCOPY
PROVIDES A REAL-TIME,
INTERNAL VIEW
OF FURNACE CONDITIONS
DURING NORMAL OPERATIONS
- WITHOUT REQUIRING
SHUTDOWNS

HOW IT WORKS

Using purpose-built HD digital endoscopy systems, we conduct remote, real-time visualization of furnace interiors, assessing refractory conditions, hot spots, and potential weaknesses without disrupting production.

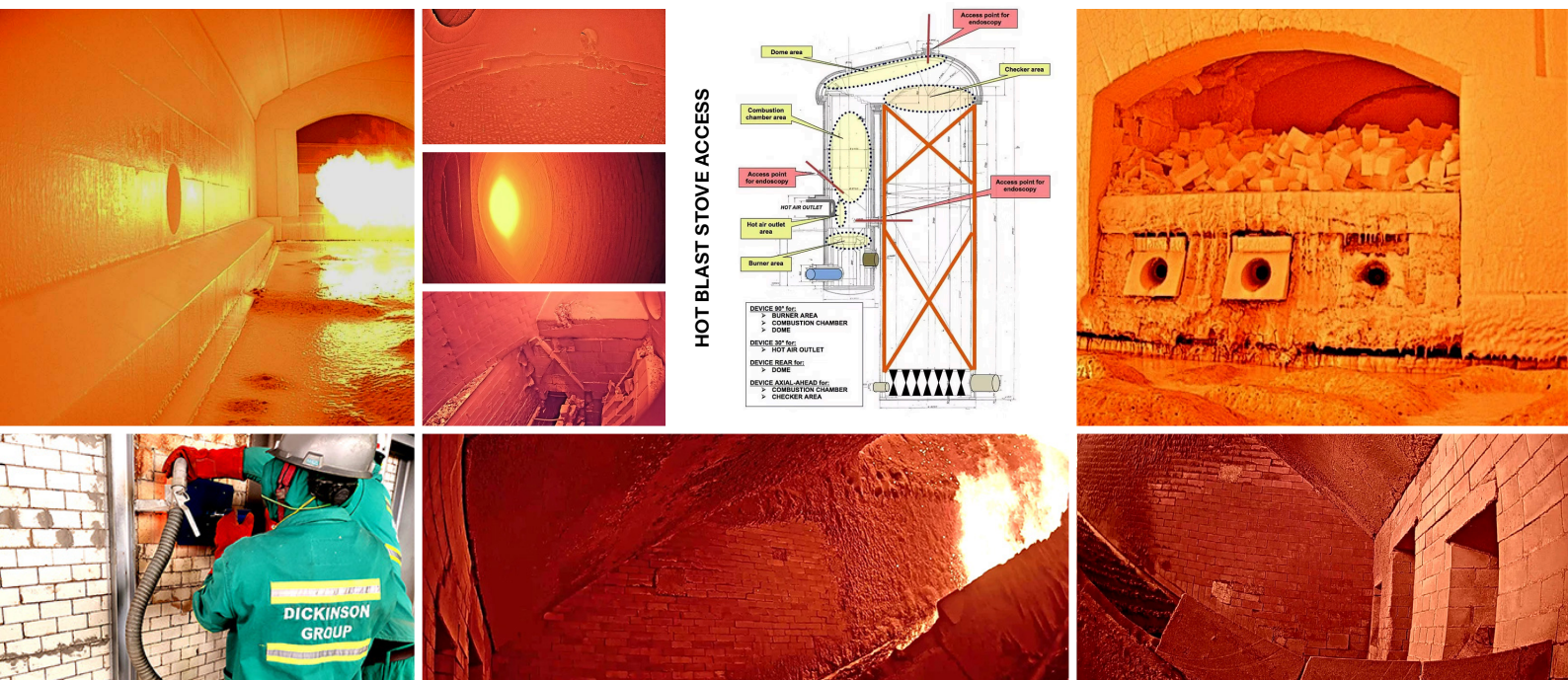
KEY FEATURES & ADVANTAGES

- **Real-time visualization** enables remote viewing of furnace interiors without production interruptions.
- **High-quality imaging** using Full HD video cameras integrated into cooling jackets ensures clear visuals.
- **Small-diameter probes** (as small as 45mm) require only minimal openings for inspection.
- **Temperature tolerance of up to 1600°C**, allowing operation in extreme environments.
- **Digital accessibility** enables live video feeds to be viewed on a computer or tablet for real-time analysis.



PROACTIVE BENEFITS

- Detect cracks, wear, and hot spots before they escalate into costly failures.
- Prevent catastrophic runouts by continuously monitoring furnace walls and refractory linings.
- Improve maintenance scheduling, allowing operators to plan shutdowns and refractory material supplies efficiently.
- Guide strategic decision-making on production operations based on furnace condition.
- Extend furnace lifespan by identifying operational risks before they impact performance.



THERMAL INSIGHTS

WITH INFRARED THERMOGRAPHY

Your furnace exterior provides valuable clues about its condition.

INFRARED THERMOGRAPHY OFFERS
**NON-CONTACT, REAL-TIME
THERMAL IMAGING,**
ALLOWING OPERATORS TO DETECT
HOT SPOTS, TEMPERATURE VARIATIONS,
& REFRACTORY WEAR
WITHOUT STOPPING PRODUCTION

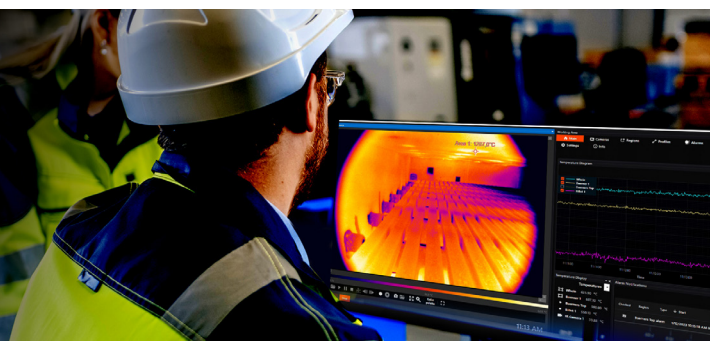
HOW IT WORKS

By capturing and analysing thermal patterns, infrared thermography identifies internal damage and assesses refractory thickness - critical for predicting when maintenance is required.



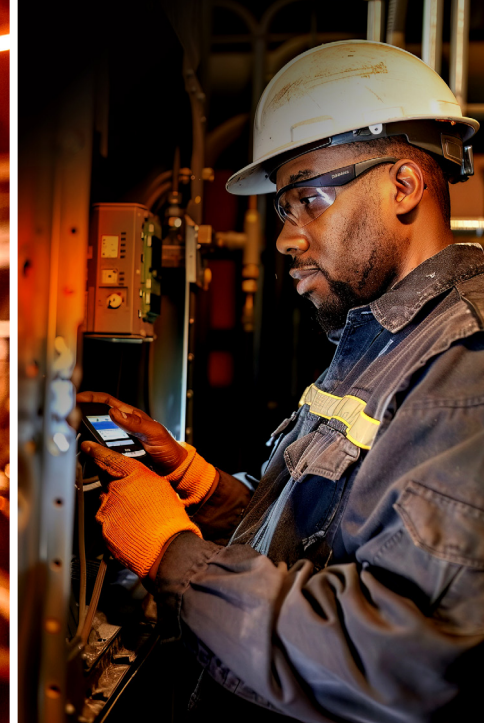
KEY FEATURES & ADVANTAGES

- **Non-contact thermal imaging** enables **remote visualization** of the furnace's thermal status from the outside.
- **Early detection of hot spots** allows for immediate intervention, preventing damage.
- **Continuous shell monitoring** helps track wear progression and localize damaged areas.
- **Improved energy efficiency** reduces heat loss and optimizes fuel consumption.
- **Predictive maintenance** enables proactive refractory replacement before failure occurs.



PROACTIVE BENEFITS

- **Detect hot spots** that could pose safety risks to staff.
- **Prevent major furnace damage** by identifying deteriorating refractory linings early.
- **Reduce production losses** by addressing issues before they lead to downtime.
- **Optimize cost management**, minimizing expensive emergency repairs and improving energy efficiency.



CHALLENGES

& HOW DGC AFRICA SOLVES THEM

COMPLEX MONITORING REQUIREMENTS

Advanced endoscopy and infrared thermography provide high-precision, real-time analysis.

HIGH TEMPERATURES & HARSH CONDITIONS

Our robust, purpose-designed equipment operates in extreme environments.

DATA MANAGEMENT

Comprehensive digital records support proactive maintenance and long-term decision-making.

SAFETY RISKS

Early detection of hot spots ensures immediate intervention and risk mitigation.

UNPLANNED DOWNTIME

Predictive diagnostics allow for efficient maintenance scheduling to minimize disruptions.

A SMARTER, SAFER APPROACH

TO FURNACE HEALTH

At **DGC AFRICA**, we partner with leading global technology providers to deliver industry-leading inspection solutions tailored to the challenges of high-temperature operations. By combining advanced diagnostics, expert analysis, and real-time monitoring, we help our clients move from reactive repairs to proactive maintenance strategies - ensuring reliability, efficiency, and cost savings.

READY TO TAKE CONTROL OF YOUR FURNACE PERFORMANCE?

Let's work together to enhance safety, minimize downtime, and maximize operational efficiency.



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

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