

CASTHOUSE FLOOR



 calderys



CALDERYS

150+ years of combined experience

6,500+ people and contractors in over 30 countries

50 plants in the 5 continents

One of the world's largest supplier in high temperature solutions

Enlarged portfolio of solutions from refractory bricks and monolithics to steel casting fluxes and green molding sand solutions

Calderys is a leading global provider for industries operating in high temperature conditions. We specialize in thermal protection for industrial equipment with a wide range of refractory products, and advanced solutions to enhance steel casting, metallurgical fluxes and molding processes.

In 2023, Calderys joined forces with HarbisonWalker International, the largest supplier of refractory products and services in the United States.

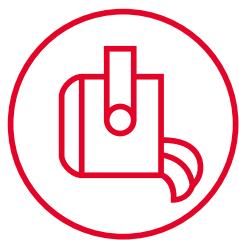
Together, we form a high-growth, customer-centric provider with a comprehensive offering and a truly global reach. Drawing on over 150 years of combined experience, we support our customers in their energy transition needs. We count more than 6,500 people and contractors, in over 30 countries.

Our international network of experts ensures an end-to-end offer with tailored services.

We are constantly developing innovative products and techniques in order to **optimize costs and performance**, combining world-class Research & Development and technical experts, as well as responsive supply chain and sales departments.

Our global structure allows us to design the customized solutions of today while **anticipating the industries' needs of tomorrow**. Calderys pays particular attention to the industry's impact on the environment and has a sustainability program articulated around three pillars: supporting our customers in their energy transition needs, improving our environmental footprint and being committed to people and local communities.

Health and safety is an integral part of how we do business. The same attention to detail that helps us provide personalized products and solutions is also applied to our rigorous health and safety criteria. Our activities require the highest level of professionalism to carry out our projects. To guarantee the strictest standards, Calderys employs a number of safety, occupational health and environmental protocols across all its entities worldwide — applicable to both our own employees as well as subcontractors and temporary workers.



OUR VALUE TO THE IRON & STEEL INDUSTRY

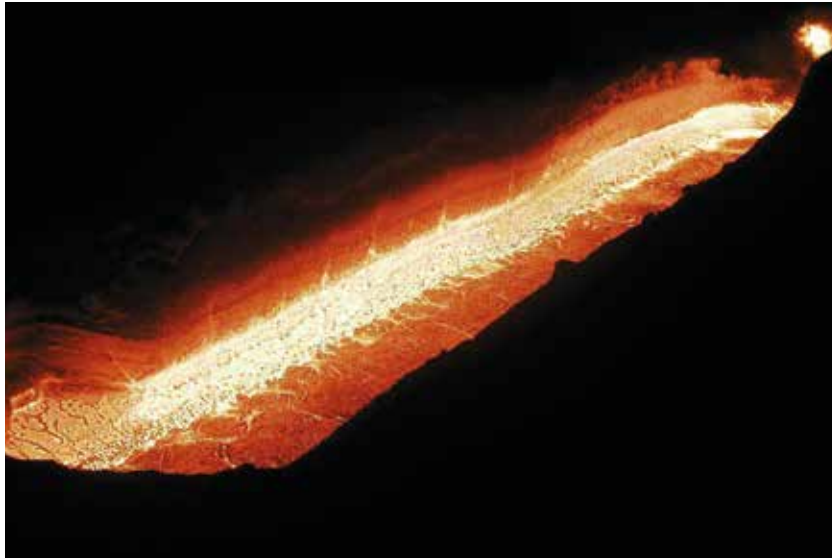
As a prominent ally to the Iron & Steel industry, Caldeyrs has steadily enlarged its service solutions from ironmaking, liquid steel processing, continuous casting, reheat furnaces and other equipments. With innovation and sustainability as fundamental parts of our DNA, we have pioneered a tremendous number of new applications, such as pitch-free tap-hole clay for blast furnaces and our cutting-edge mold fluxes. Through the combination of HarbisonWalker International and Caldeyrs' expertise, the company is offering complementary product portfolios and total care services, bringing a vast array of solutions to support customer needs in all refractory and casting fluxes applications.

What we bring to the Iron & Steel industry

- Close watch over ESG topics, such as product CO2 footprint calculation, proposing a large range of refractory products resistant to H2; as well as Environment, Health and Safety (EHS) concerns like the reduction of respirable crystalline silica (RCS) and Phenol (PaH).
- Complete portfolio of customized solutions from ironmaking, liquid steel processing, continuous casting, reheat furnaces and other equipment.
- Full set of refractory services: from engineering & design, installation, project management, dry-out & commissioning, to maintenance and refractory assessments.
- Process analysis including fluid flow and numerical simulations.
- Technical support from trial to after sales.



OUR VALUES FOR **CASTHOUSE FLOOR**



TECHNICAL INSTALLATIONS



- Casting/pumping/vibrating/rodding behind formwork
- Self-flowing
- Bricking
- Precast ready shape
- Dry gunning
(Conventional and high density)
- Wet gunning/spraycasting
- Ramming
- Dry vibratable mixing

At Calderlys, our mission is to deliver value to our customers.

Calderlys is a leading provider of refractory solutions and services to the Iron industry. More than 50% of European blast furnaces and their casthouse have been once repaired by Calderlys. Our global network of industry experts ensures that we propose the most suitable products based on your requirements and deliver to you superior refractory performance and reliable services. We are able to do so by combining our innovative product range and pioneering implementation techniques with end-to-end project management services. We deliver the following value proposition to iron makers:

INCREASED PRODUCTIVITY

By extending the service life thanks to increased availability of the production equipment and by reducing maintenance downtime.

IMPROVED COST EFFECTIVENESS

By reducing unit cost of hot metal thanks to continuous optimisation of the refractory solutions by our industry experts.

ENHANCED SAFETY AND COMPLIANCE

By improving the health and safety conditions in your plants thanks to our safe installation practices and our environmentally-friendly refractory products, for example our resin-bonded tap-hole clay.

OUR SERVICES



MATERIAL SELECTION

Calderys will select the optimal solution for you from our full range of shaped, unshaped and precast products that cover all the equipment in your blast furnace casthouse.



QUALITY CONTROL

We comply with strict testing procedures on both raw materials and finished products in all of our production facilities across the globe.



PROJECT MANAGEMENT

We provide complete project management services including consultation, planning, delivery scheduling, supervision, site management and also direct training for customer personnel. Be it large, small or turnkey projects - our end-to-end project management services ensure on-time and on-budget completion.



ANALYSIS

Before we start a job, we perform an extensive analysis of your process, equipment, and working conditions in order to provide the best solution for your needs.



DESIGN

We provide customised solutions including complete refractory lining design, thermal profiling, product selection, job quotation, development of innovative installation techniques, dry-out and start-up / operating instructions.



LOGISTICS

Calderys logistics personnel look after the timely delivery of our products to your sites across the world.



INSTALLATION

We carry out high-quality installation services using in-house equipment and through the use of optimal installation techniques. This ensures best installation and dry-out of the refractory so that the customer gets maximum performance in terms of reduction in time required, reduction in energy requirements, low wastage and optimal performance of our refractory products.



MAINTENANCE

We offer permanent on-site refractory service including regular and predictive maintenance and repair. We also provide rapid round-the-clock response to emergencies as required.

OUR CONCEPT

Calderys concept over the years was always aiming to improve customer performance by ensuring a reliable performance, long campaigns and a minimum of downtime.

TO ENSURE TOTAL RELIABILITY

Our lining is designed based on thermal analysis to ensure no breakthrough. Our solution for safety lining and working lining combine the needed features to ensure stable and long operation.

TO ACHIEVE LONG CAMPAIGNS

Careful product selection based on customer process evaluation along with a proper maintenance pattern and method to extend the lifetime of your installation.

TO REDUCE MAINTENANCE DOWNTIME

Wide offer of products enabling quick repair solutions and lower environmental footprint thanks to solution with shorter or no drying.

OUR PRODUCTS

Our comprehensive product portfolio for the iron industry includes alumina, carbon and silicon carbide based products. It includes dense castables, self-flowing castables, dry gunning and shotcreting materials, ramming and plastic mixes, dry vibrating mixes, injection and grouting products, tap-hole clays and precast ready shapes. It covers every step of the iron making process - from coke oven and sinter plant, to blast furnaces, casthouse floor and finally hot metal transport and treatment.

Dense cast-vibrated castables

- CALDE® CAST
- D-CAST®

Dry gunning mixes

- CALDE® GUN
- NARCOGUN®

Dense self-flowing castables

- CALDE® FLOW

Dry vibratable mixes

- CALDE® DRY

Ramming mixes

- CALDE® RAM
- CALDE® PLAST
- NARCARB®

Wet gunning / shotcreting mixes

- CALDE® SPRAYCAST
- D-CAST®
- SHOTKAST®



INNOVATION

At Calderys, innovation is a key priority keeping us proactive to better anticipate customer needs and market trends. Discover some of the main elements of our innovation philosophy.



BEYOND PRODUCT DEVELOPMENT

Innovation at Calderys goes beyond products: we are pioneering new **installation techniques**, improving **equipment** to deliver higher yields, and creating new **services** to always bring more value to our customers.

GLOBAL NETWORK

Calderys leverages global expertise and resources thanks to our strong and worldwide network of industrial sites.

LOCAL ADAPTABILITY

15 strategically-located Customisation Labs around the globe to meet country-specific demands with fast response time.

ADVANCED PROJECT MANAGEMENT

We use the latest digital tools to ensure the most efficient path from idea generation to product launch.

SAFETY FOCUS

Beyond strict safety protocols in our labs, we deliver safer new products & installation processes (i.e. to reduce air pollution, optimise formulas for higher health standards).

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