MELTING SOLUTIONS

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 FOUNDRY INDUSTRY

Calderys is a one-stop shop for all aspects of metal processing for both ferrous and non-ferrous foundries, from melting, treating and transferring to the casting process. We offer a wide range of solutions, from refractory castables and bricks, melt shop additives, slag coagulants and coatings materials to a full set of molding sand additives.

What we bring to the foundries

- Close watch over ESG topics, including: energy optimization & CO2 emission, eco-profile, product stewardships, safety culture and innovation
- Complete portfolio of customized solutions from the melting shop to the molding shop
- Full set of refractory services: from engineering & design, installation, project management, dry-out & commissioning, to maintenance and refractory assessments
- Foundry service facilities: off site relining and other refractory related services
- Digital solutions: easier silo management through smart sensors, remote assistance and troubleshooting with CALDE® Smart Lens, molding sand materials analysis
- Casting defect consulting
- Technical support

OUR VALUES TO
THE FOUNDRY INDUSTRY

MATERIAL SELECTION

Our expert engineers have a deep understanding of your local market, industrial process, and the chemical reactions in your equipment.
They work with you to identify the best products in terms of performance, lifetime, and cost.

Through careful product selection, we will:
- Reduce downtime for installation and maintenance
- Decrease manpower needs
- Increase production volume, quality, and reliability
- Extend product life, thereby cutting pollution
- Make manufacturing safer

PROJECT MANAGEMENT

Our highly specialized and skilled teams handle projects of all sizes and complexities. The Calderys project engineers plan and control every aspect of the project lifecycle from concept to definition, installation, dry-out and commissioning.

Our end-to-end project management services include:
- Engineering
- Material selection
- Planning Delivery scheduling
- Site- and sub-contractor management and supervision
- Direct training of your personnel
- Handover to your production team

Additionally, we offer robotics combined with digital equipment designed to enhance the efficacy of our products and reduce the need for on-site maintenance.


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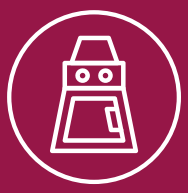
OUR SERVICES

ENGINEERING & DESIGN

Our engineers work closely with you to optimise price and performance based on the needs of your specific operations. They use the latest tools and techniques to custom design your projects from start to finish, including heat-transfer calculations and drawings. Thanks to our familiarity with a wide range of bricks, fibers, anchors and other accessories, and our full portfolio of monolithic products, you can rest assured that your refractory lining is best-in-class.

INSTALLATION

To ensure our products fulfill your needs and deliver optimal performance, our in-house certified engineers will visit your premises to install your refractories quickly and efficiently using our own cutting-edge equipment. Calderys' supervisors and installers are trained to observe the highest safety and quality standards while working on your site. They will minimize downtime during installation while maintaining the high performance and long-term cost-effectiveness you expect from our products.



DRY OUT & COMMISSIONING

Proper dry-out is crucial to the lifetime of a refractory lining. Our experienced engineers will optimize your dry-out schedule, ensuring energy savings and refractory reliability.

MAINTENANCE

Calderys' global project expertise at leading industrial sites means we provide a world-class, wide-ranging, bespoke maintenance service. We offer regular and predictive refractory maintenance, including shutdown maintenance services, as well as rapid round-the-clock response to emergencies. This leaves you free to focus on your core processes and maximize productivity. Our strategically located foundry service centers provide the appropriate machinery and manpower to our clients whenever they are needed. For example:

- mixing
- casting
- gunning
- spraycast
- breaking/Dismantling
- anchor welding

REFRACTORY ASSESSMENTS

Before we start a job, we complete an extensive analysis of your process, equipment, and working conditions in order to provide the best solution for your needs. Our team pair their experience with the latest assessment techniques (from specialized checklists to thermal imaging) to optimize your refractory lining and related processes. Equipment that performs smoothly will deliver the best productivity and cost-efficiency.
Personnel safety is a key element of Calderys' assessments. We also offer safety assessments for subcontractors undertaking refractory installation work at your site.

MACHINERY SERVICE

CALDE® SPRAY MACHINE

Our machine for coating applications in Foundries completes our machinery services for our customers.
Main areas of use include ladles, runners, spouts or CIF furnaces, further reducing the time needed for daily maintenance and additionally improving the ergonomic aspects of this tasks.

CALDE® PAC

We offer a range of arm and base vibrators and automatic lifters for the hassle-free installation of our dry refractory materials such as SILICA MIX and CALDE® MIX in Coreless Induction Furnaces.
These devices allow a highly efficient, consistent and correct compaction with low-maintenance components, independent from the operator. Easy-to-read installation manuals in all European languages and reusable packing cases for safe storage on site highlight our understanding of our customer's processes.

DIGITAL SOLUTIONS

Remote assistance and troubleshooting with CALDE® SMART LENS
Remote technical service via smart glasses linked to a secure web-based platform, as well as quick access to the Calderys foundry networks.

HEAT LOSS CALCULATION

Get an optimized refractory lining for your furnace and improve your energy savings

SERVICE FACILITIES

Foundry equipment, from ladles to pouring furnaces, can be relined off-site at one of our Service centers. We handle the entire process, from pick-up to delivery of your fully refurbished equipment when you need it.
Our safe and hassle-free service helps you reduce downtime, get back on line faster and free up resources.

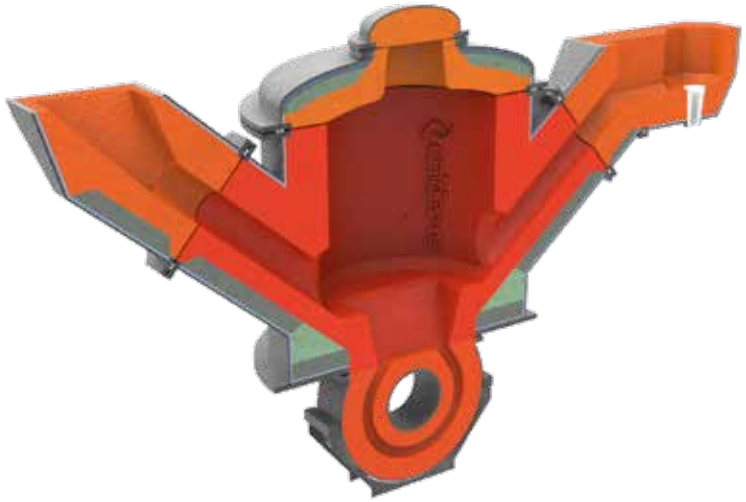
TAILORED SOLUTIONS FOR ALL FOUNDRIES EQUIPMENT

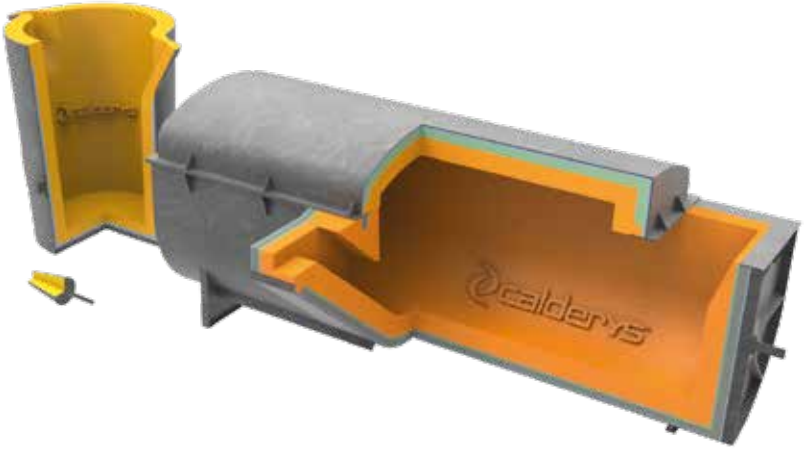
HOLDING FURNACE

Calderys offers a wide product range for all sizes of holding furnaces for steel, iron, and non-ferrous alloys, including the lining of the commonly used channel inductor. Our main focus lies on the castable and dry vibrating technologies that both allow you to significantly reduce the energy needed per tonne of metal.

POURING FURNACE

Calderys offers solutions for all sizes of pressurised and unpressurised pouring furnaces, including the lining of channel inductors or coreless inductors as well as completely coreless automated pouring furnaces.





LADLES & RECEIVERS

Calderys offers a variety of refractory solutions for all kind of ladles, receivers, and converters as well as unheated pouring units which usually are all exposed to extreme temperature changes as well as aggressive slag build-up. Versatile products reduce the amount of work needed to keep those vessels clean and ready for their job.

CORELESS INDUCTION FURNACE (CIF)

Calderys offers refractory solutions for all parts of Coreless Induction Furnaces, whether you are melting non-ferrous alloys with melting points below 1000°C, to highly alloyed steels above 1800 °C. Dinosaur-state rotary furnaces are also covered by these product ranges. We deliver products that allow you to securely operate your furnaces over a designated period and keep maintenance on schedule.

LONG CAMPAIGN CUPOLA

Calderys offers a profound product range for use in long campaign cupolas of any size and melting rate. Our products perfectly match all those different refractory demands from the different parts in the king of foundry furnaces, from syphon box over melting zone to shaft and further up to gas-offtake and recuperator. We also cover every application method, from ramming to casting to shotcreting.

PRODUCT RANGE DEDICATED TO FOUNDRIES

SILICA MIX

Silica-based dry vibratable mixes have been well known for many decades as linings for Coreless Induction Furnaces for melting and holding iron, non-ferrous alloys and partly steel alloys. Calderys' SILICA MIX is produced from Swedish Dalsland quartzite that is processed in our Åmål plant. Due to exceptional conditions during the metamorphic overprint of (underwater) volcanic siliceous sediments it has the highest grade of raw material in the world and very unique properties.

The Calderys SILICA MIX range is very well suited for most applications, regardless of the alloys, melting temperatures, operating conditions and installation techniques in use. It is sold worldwide in over 60 countries.

A boron-free version of our SILICA MIX range is also available.This range is dedicated to a typical iron foundry melting base for grey and ductile cast iron.It is tailored to the lining of the Coreless Induction Furnace.Its featured product, SILICA MIX E15 BF fits to tapping temperatures in the range of 1480°C to 1550°C.

THE CALDE® RANGE

Our product range, consisting of over thousand active formulas fulfilling all of our customer requirements, is the result of decades of intensive R&D work and interaction with our customers in the field. Our comprehensive product line for Foundry includes:

CALDE® CAST can be mixed with water and poured like concrete, with internal or external vibration (e.g. CALDE® CAST LX 58 for casthouse applications, CALDE® CAST G 7 P for cupola). CALDE® SOL CAST products are 100% cement-free castables that are mixed on-site with sol-gel binder instead of water.

CALDE® FLOW self-flowing castables (e.g. CALDE® FLOW AZ for casthouse applications) are used to fill thin sections or areas that are difficult to reach with internal vibration tools.

CALDE® RAM summarizes all semi-wet mixtures consisting of moistened aggregates that can be rammed into place with an air or electric hammer (e.g. CALDE® RAM G C 68S20 for cupola).

CALDE® GUN products are wetted with water (or liquid chemical binder) at the nozzle. They are well suited for large volumes with minimum installation time (e.g. CALDE® GUN LA 50 SZ for cupola shaft). They can also be applied by patching (e.g. CALDE® GUN B 55 M G3 for ladle repairs).

CALDE® MIX and **DRY** products are composed of dry refractory material that can be installed without addition of liquids, similar to our SILICA MIX range (e.g. CALDE® MIX SC 4010 for Coreless Induction Furnaces, CALDE® MAG DRY K 85 for Electric Arc Furnace hearth or CALDE® MIX FLASH A 55 for ladles).

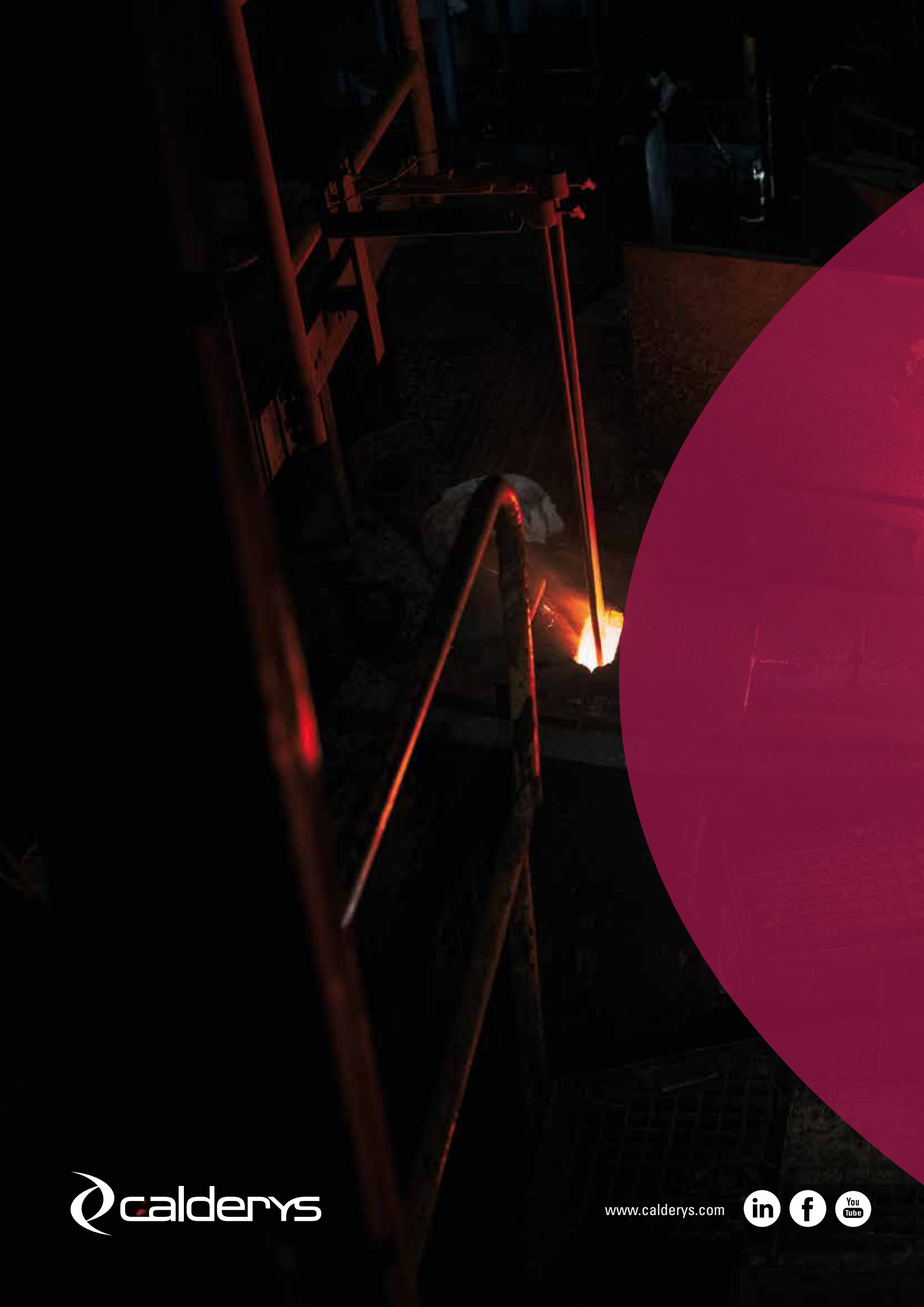
CALDE® PATCH, CALDE® TROWEL, CALDE® STIX and **CALDE® PLAST** are our product ranges for all types of repairing jobs. They can be delivered dry to be mixed with water on-site (e.g. CALDE® STIX 151 for casthouse applications) or ready-to use in PE bags (CALDE® PATCH PB 82 U for all kinds of hot or cold repairs), boxes (CALDE® PLAST G C 65S20 for cupola) or buckets (CALDE® PATCH HQ 26 U for Coreless Induction Furnace repairs or CALDE® TROWEL HQ 82 U for brick trowelling).

TIME SAVING SOLUTIONS

Apart from gunning products, our time saving solutions include the product ranges CALDE® CAST QD.

QUICK DRY - (e.g. CALDE® CAST G NC 66S24 QD for use in cupolas), our CALDE® SOL CAST range (e.g. the versatile and mechanical highly resistant CALDEv SOL CAST M 60 for use in ladles, runners, receivers or even Coreless Induction Furnace tops), and last but not least the CALDE® MIX FLASH range (e.g. CALDE® MIX FLASH A 55) as ultra-fast exothermic hardening (blowtorch required) dry vibratable mix for same-day re-use of ladles.Extended product range and installation machinesCALDE® SHIELD.

CALDE® SHIELD is an advanced coating that forms an impervious layer during the sintering phase with coreless or channel induction techniques to repel vapour ingress, allowing the correct formation of the ceramic bonding necessary to withstand the conditions during melting operation.
The operators of Coreless Induction Furnaces as well as furnaces heated by Inductors benefit from an increased robustness of the hot face lining from the first charge on.



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