

INDIA

FOUNDRA REFRACTORY SOLUTIONS



 calderys

CALDERYS

Picture © Olivier Lattuga - Duyck

160+ years of combined experience

4,500 employees in over 30 countries

50+ plants on the 5 continents

One of the world's largest suppliers 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, (now HWI, a member of Calderys), one of the largest suppliers 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 160 years of combined experience, we support our customers in their energy transition needs. We count 4,500 employees 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.

CALDERYS IN INDIA

FOUNDRY



Calderys in India stands as one of the nation's premier refractory solutions providers, combining global expertise with deep local market knowledge. Our extensive infrastructure and dedicated team deliver innovative, cost-effective solutions tailored to India's diverse industrial landscape.

- 6 manufacturing plants strategically located across India
- 3 brick merchandise units for comprehensive product availability
- Over 50 distributors ensuring nationwide reach and service
- Serving over 5,000 customers across the country
- More than 1,500 formulations developed for Indian market needs
- A world leader in acidic monolithic refractories
- First refractory company in India to launch an e-commerce platform



Industries We Serve



Iron and steel: Our product portfolio ranges from acidic monolithics to basics and bricks, while our services include everything from ironmaking and continuous casting to the supply of equipment for the full steel process.



Foundry: As expert in ferrous foundries, we offer an array of turnkey solutions for foundry refractories, as well as core and molding sand additives.



Thermal: We offer a wide range of end-to-end refractory solutions for industrial furnaces, including projects for aluminum, cement, glass, energy and environment industries, and many others.



WHAT WE BRING 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. As one of India's leading foundry refractory providers, we offer a complete range of solutions: refractory castables and bricks, melt shop additives, slag coagulants, coatings materials, and molding sand additives.

Our market leadership in foundry spans from three core pillars:

- **R&D focus:** Continuously bringing new products to support energy and cost-efficiency gains
- **Expert network:** Foundry industry "insiders" combining local knowledge with global expertise
- **Quarry to furnace:** Mining asset ownership ensures process control, consistent quality and competitive pricing

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



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 efficiency of our products and reduce the need for on-site maintenance.

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 contribute to:

- Decrease manpower needs
- Increase production volume, quality, and reliability
- Extend product life, thereby cutting pollution
- Make manufacturing safer

OUR SERVICES



Engineering & Design

Our engineers work closely with you to optimize 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.



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 CALDE® 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 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 Caldeys foundry networks.



Heat Loss Calculation

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



TAILORED SOLUTIONS FOR ALL FOUNDRIES EQUIPMENT

LININGLESS LONG CAMPAIGN CUPOLAS

Monolithic concept solution for Ferrous Industry

Hearth

Castable

CALDE® CAST G7 P

CALDE® CAST G UC 65S25

Rammed Lining

CALDE® RAM G B 68S15

CALDE® RAM G C 65S20

Runner

Castable

CALDE® CAST G 7 P

Rammed Lining

CALDE® RAM G B 68S15

Manhole /Tuyere protection

Rammed Lining

CALDE® PLAST G C 65S20

Syphon Box

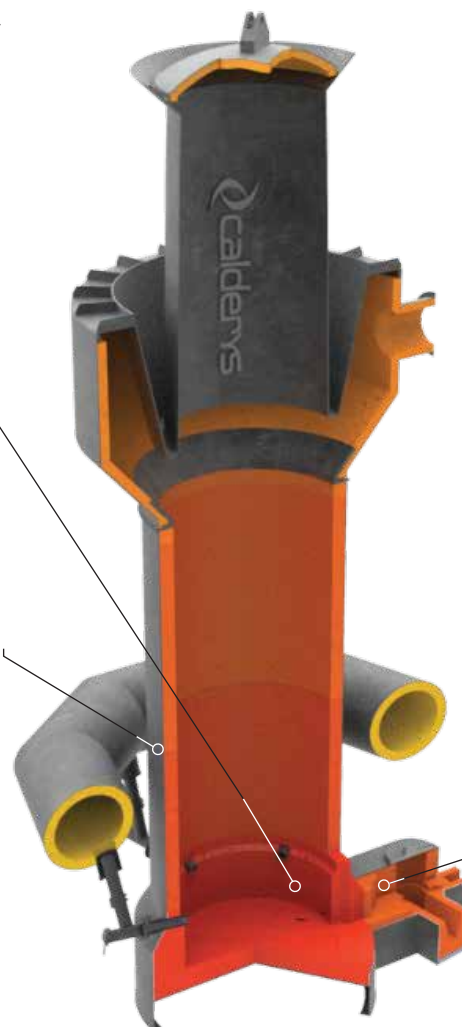
Castable

CALDE® CAST G7 P

CALDE® CAST G UC 65S25

Rammed Lining

CALDE® RAM G B 68S15



CORELESS INDUCTION FURNACES IRON & STEEL

Monolithic concept solution for Ferrous Industry

Spout

Castable

CALDE® CAST M32
CALDE® CAST MB 80
CALDE® FLOW AZ I

Ramming

CALDE® PLAST 85 S

Prefab.

Alternatively:
prefabricated shape

Top Cap

Patching Material

CALDE® PATCH PB 82 U

Cover

CALDE® CAST F 65

Hot Face Lining

Iron - DVM

CALDE® SILICA MIX 5
CALDE® SILICA MIX 7
CALDE® SILICA MIX Q | CALDE® SILICA MIX BF E15
CALDE® SILICA MIX Z | CALDE® SILICA MIX V

Steel - DVM

CALDE® CAMP CHAMP ST
ACC MIX FF SF 12 G3 | ACC MIX FF SF 12
ACC MIX FF SF 16 G3 | ACC MIX FFSF 16

Safety Lining

Insulation

MICA SHEET 0.5 MM
MICA COMBI 2.5 MM / 3.5 MM

Safety Lining

Castable

CALDE® FLOW MC 1750
(0-2 mm)

Hot Face Repair

Iron

CALDE® PATCH HQ 30 U
CALDE® PATCH PB 82 U | ACCPLAST 55

Steel

CALDE® PATCH PB 82 U
ACC PATCH FF SF 12 | ACCPLAST FF CR 5

Upper & Lower Support Rings

Castable

CALDE® CAST I560 | ACCMON 90
CALDE® CAST UB | ACCMON 59 LX MA

Coil Grout

Grouting

COIL COAT SUPER
COIL COAT A
COIL COAT IFG

Pusher Block

Castable

CALDE® CAST I560
CALDE® CAST UB | ACCMON 59 LX MA

CORELESS INDUCTION FURNACES ALUMINUM & COPPER

Monolithic concept solution for Non-ferrous industries

Spout

Aluminum - Castable

ACCMON 80 AL
ACCMON 85 SF AL
ALKON® CAST 204

Copper - Castable

ACCPLAST FF CR
ACCMON 50 ASZ
SUPRAMON AZS

Top Cap

Aluminum

ACCMON 80 AL

Copper

ACCPLAST FF CR
ACCMON 59 LX MA

Cover

CALDE® CAST F 65

Hot Face Lining

Aluminum

ALKON® DRY BC 90 (IN)

Copper

CALDE® SILICA MIX B CU 7
CALDE® SILICA MIX MS B 1.2
ACCMIX A85 S5

Safety Lining

Insulation

MICA SHEET 0.5MM /
MICA COMBI 2.5MM / 3.5 MM

Safety Lining

Castable

CALDE® FLOW MC 1750
(0-2 mm)

Hot Face Repair

Aluminum

WHYTHEAT A AL PATCH

Copper

ACCPLAST FF CR

Coil Grout

Grouting

COIL COAT SUPER
COIL COAT A
COIL COAT IFG

Pusher Block

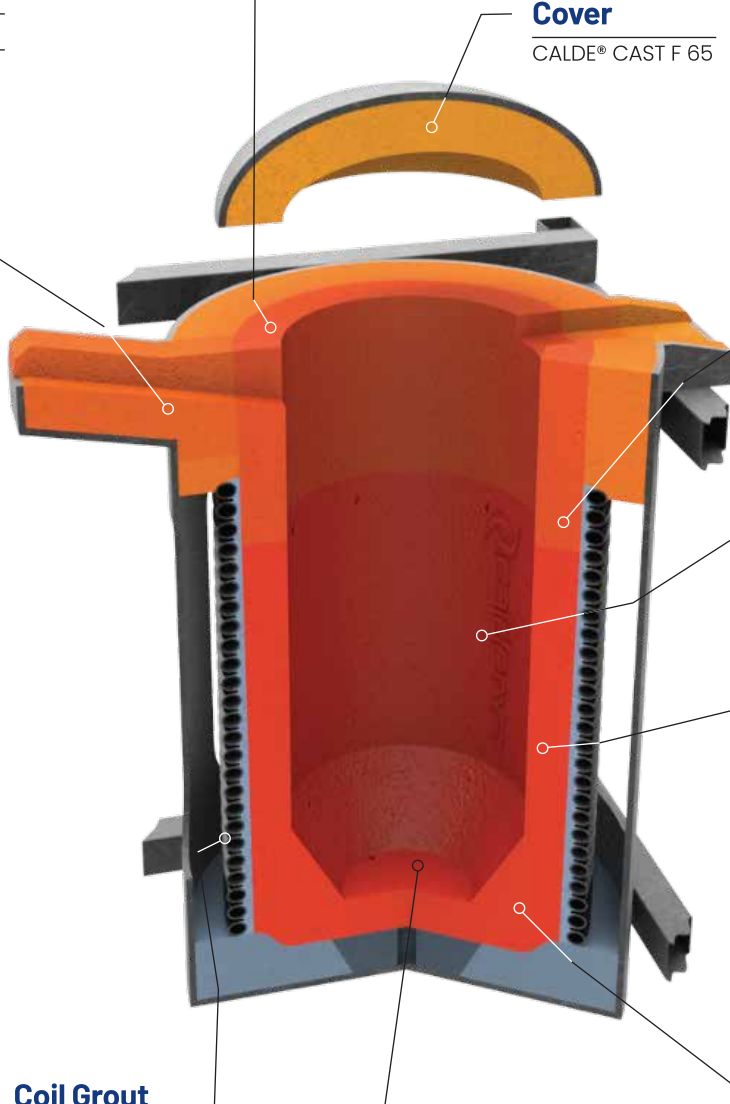
Castable

CALDE® CAST I560
CALDE® CAST UB | ACCMON 59 LX MA

Upper & Lower Support Rings

Castable

CALDE® CAST I560 | ACCMON 90
CALDE® CAST UB | ACCMON 59 LX MA



A SPECIFICALLY DESIGNED RANGE OF VIBRATORS FOR PRECISE REFRACTORY INSTALLATIONS

CALDE® PAC

Application

A range of vibrators used for the installation of refractory materials such as CALDE® SILICA MIX, CALDE® MIX & ALKON® DRY in Coreless Induction Furnaces.

Benefits

- **High efficiency** piston and turbo motors—consistent and correct compaction
- **F.L.R combination unit** (Filter, Lubrication, Regulator) to protect and give long life
- **Pressure Gauge** to provide optimum compaction
- **CALDE® PAC** base plate protection hose
- Comprehensive **Installation Manuals**
- Reusable **Packing Case** for safe storage on site
- **CALDE® PAC LIF** automated computerized lifting frames



A GLOBALLY TRUSTED RANGE WITH PROVEN RESULTS

Calderys MICA Range

Product Description

MICA is available in both roll and sheet forms giving the end-user a choice of workability and waste control.

Application

Primarily designed to be used as lining slip planes in Coreless Induction Furnace but can also be incorporated with earth leakage detection and vapour barrier system.

Benefits

- **Free Lining Movement** - reduced coil and lining stress
- **Excellent Dielectrical Strength** - reduced tracking
- **Initiates a Freeze Point** - metal deflection
- **Glass Weave Addition** - robust to reduce lining inclusion risks
- **Composite Insulation Grades** - optimized performance of energy loss and lining life



CHANNEL HOLDING FURNACES



The need for higher productivity and lower costs has placed increasing demands on the refractory lining. Due to various stresses placed on the refractory lining, new materials and designs had to be developed to offer the best lining solutions to our customers.

Main stresses in a holding furnaces are:

Erosion

Mainly in the inlet spout where the iron flows with a very high speed especially if the melt is fed into the furnace by using big transfer ladles. Design solutions and refractories with high abrasion resistance are needed.

Corrosion

Corrosion occurs in the slag line of the vessel and in the lower part of the inlet spout if aggressive slag is transferred into the channel holder or if too much oxygen is entering the furnace.

An aggressive slag can be formed by certain desulphurization methods or by galvanized steel scrap used in the primary

melting unit. Highly corrosion resistant refractories have to be selected together with intelligent design solutions for the inlet spout area.

Gas Penetration

The unwanted movement of gasses through the refractory lining such as carbon monoxide, zinc vapour and steam can be greatly reduced by our patent pending CALDE® SHIELD concept.

Overheating

Of the inductor throat lining is the result of slag build-up in the upper part of the inductor throughout. The heat exchange between the inductor and the upper vessel can be significantly reduced. Refractories with a high slag sticking resistance are needed. You will find in the following pages of this brochure the products that can be considered for each area of a channel holding or pouring furnace. The best refractory solution for your application has to be discussed with our technical sales team.

CHANNEL HOLDING & POURING FURNACES

LINING WITH CASTABLE / DVM

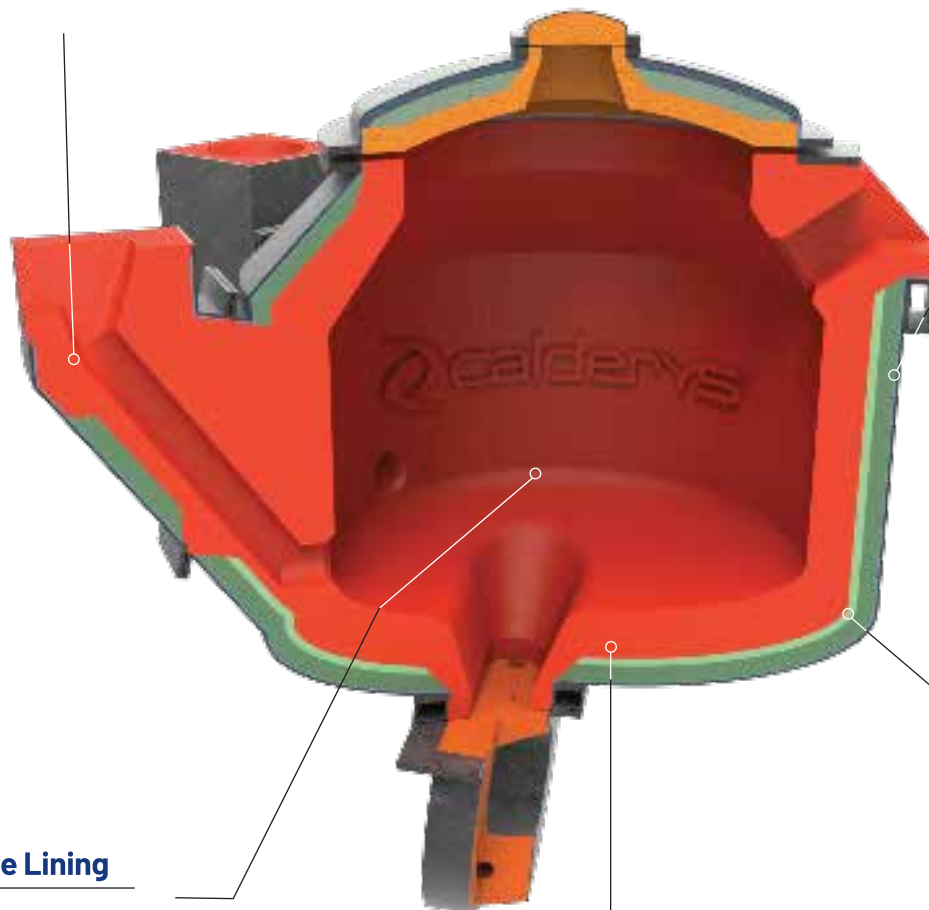
Monolithic concept solution for Ferrous Industry

Spout & Upper Door

Castable
CALDE® CAST T 96
CALDE® CAST UB
CALDE® CAST UT 86 S 1N

Insulating Lining

CERAMIC FIBER BOARD



Hot Face Lining

Castable
CALDE® CAST LT 98 L
CALDE® CAST T 96
CALDE® CAST UB
CALDE® CAST UT 86 S 1N

DVM
CALDE® MIX BC 90 Z R
CALDE® MIX SA 68 S
CALDE® MIX SC 88 S R
ACCMIX FF AG

Safety Lining

Gunning
CALDE® GUN M 32
Brick
SUPER DUTY FIRE BRICKS
AC-70 AC-62D

Wall & Bottom Insulating Lining

Gunning
CALDE® CAST MW 140 C/G
Brick
LIGHT WEIGHT INSULATION BRICKS
AC-INS-140

CHANNEL HOLDING
FURNACE COVERS

Monolithic concept solution for Ferrous Industry

Anchors

CERAMIC HANGER BRICKS
STEEL ANCHORS

Hot Face Lining

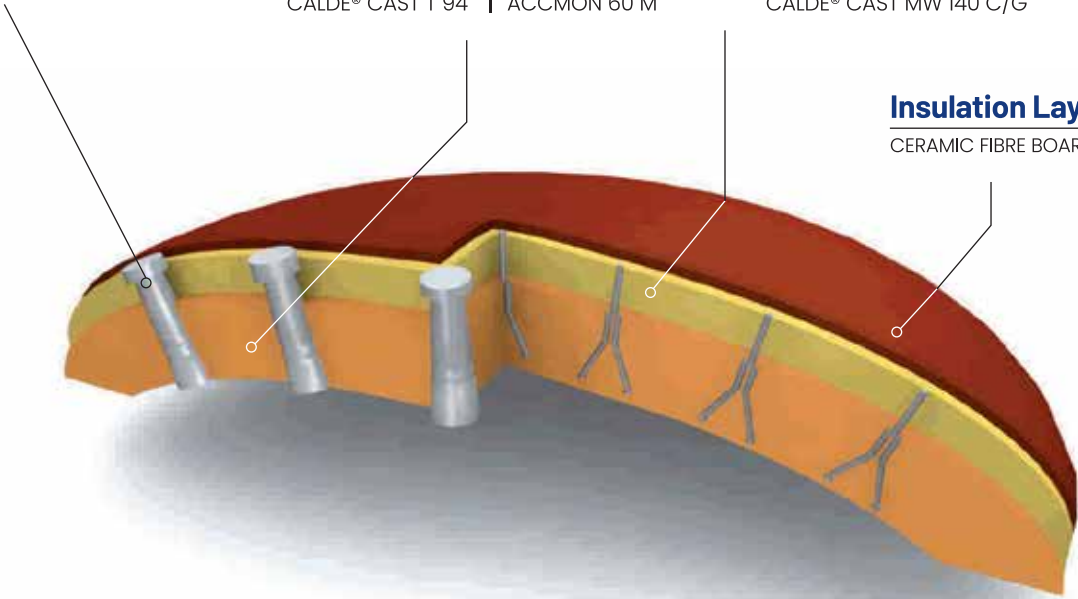
Castable
CALDE® CAST F 65 | WHYTHEAT M
CALDE® CAST T 94 | ACCMON 60 M

Insulation

Castable
CALDE® CAST LW 134 CO C/G | INSULYTE II LI
CALDE® CAST MW 140 C/G

Insulation Layer

CERAMIC FIBRE BOARD



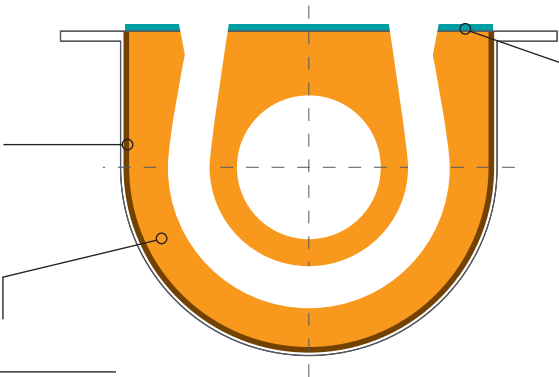
CHANNEL HOLDING
FURNACES INDUCTORS

Insulation Layer

CERAMIC FIBRE PAPER

Lining

DVM
CALDE® MIX MS 86 BTI
CALDE® MIX SC 86 NTI



Topping

1. Layer
CALDE® MAG COAT G 93
CALDE® MAG PATCH P 80
2. Layer
CALDE® TROWEL SC 85
CALDE® PATCH SC 90
3. Layer
CALDE® PATCH OZ 96
CALDE® TROWEL SD 99

TREATMENT VESSELS (GF CONVERTER)

Monolithic concept solution for Ferrous Industry

Vessel Insulating Lining

PREFABRICATED SHAPE

Segment

PREFABRICATED SHAPE

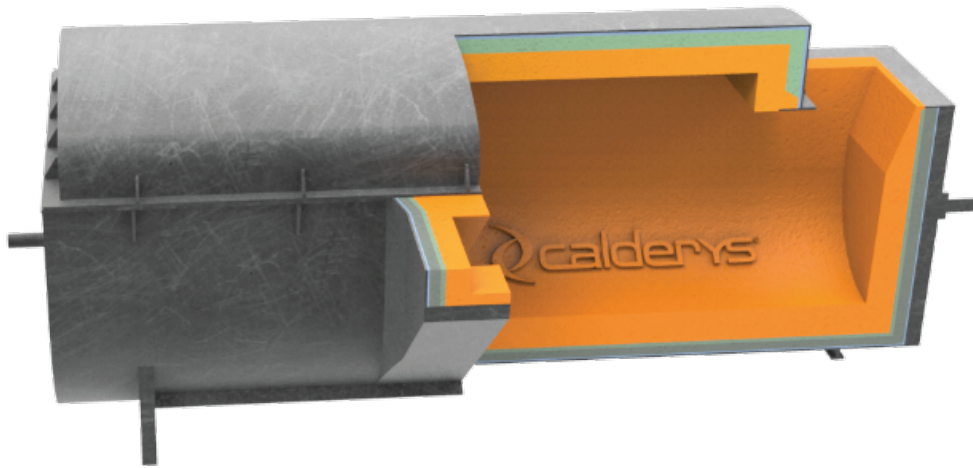
Hot Face Lining

Castable

CALDE® CAST UT 86 S IN | ACCMON 59 LX MA

Ramming

CALDE® RAM PF 55 | ACCMIX FF TLF EB



IRON & STEEL TRANSPORT, POURING & TREATMENT LADLES

Repair/Maintenance

Patching/Coating

CALDE® PATCH PB 82 U

ACC PLAST 80

ACC PLAST 55

SILICA PATCH HQ 26 UC

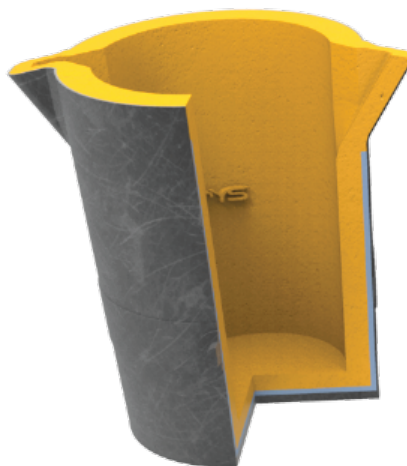
CALDE® STIX M65 G3 /

CALDE® STIX I51 G3

ACC COAT CQ

Insulation

CERAMIC PAPER/ BOARD



Hot Face Lining - Iron

Castable

CALDE® CAST LX 58 | ACCMON 59 LX MA

CALDE® CAST UB | CALDE SOL CAST M56 S7 (IN)

CALDE® FLOW AZI

Ramming

CALDE® RAM PF 55 | ACCMIX FF TLF EB

Hot Face Lining - Steel

Castable

CALDE® CAST T 94 | TAB CAST 94

CALDE® FLOW MA 92

SUPRAMON FF L

CHANNEL FURNACES

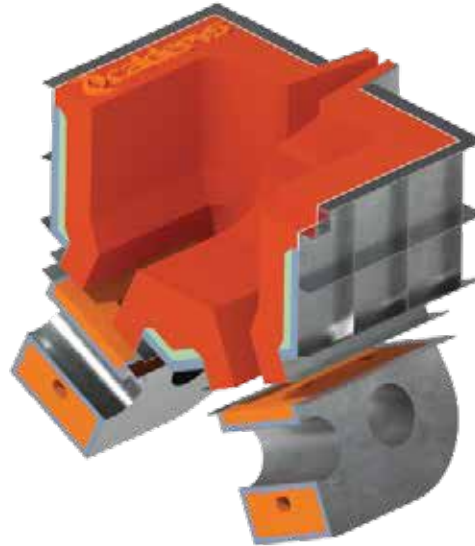
MELTING

Monolithic concept solutions for Non-Ferrous Industry

Insulation Gunning 1

Insulation Gunning 2

Insulation



Hot Face Lining

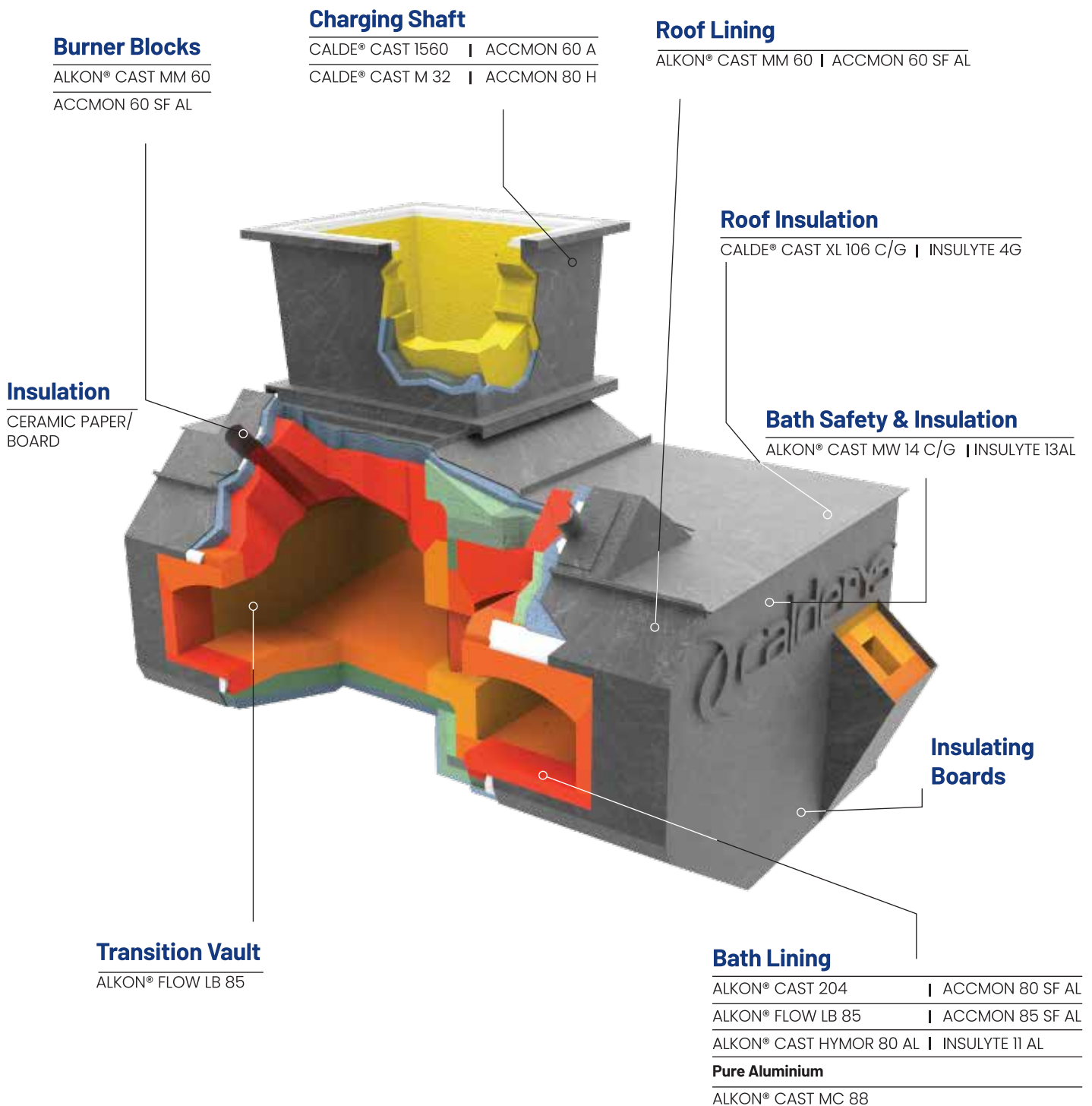
Inductor

First Choice					Alternatives			
	Alloy	Insulation density/ temp.	Insulation gunning 1	Insulation gunning 2	Hot face lining	Inductor	Hot face lining	Inductor
Pure Copper	Oxygen Free Copper / DHP	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST UB 75 S	CALDE® SILICA MIX MS B 1.2 CALDE® SILICA MIX I/Cu B 1.6	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® MIX BM 70 S 1 layer of Insulation bricks
	ETP Copper	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST UB 75 S	CALDE® MIX BC 85 S ACCMIX A85 S5 1 layer of Insulation bricks	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® MIX BM 70 S 1 layer of Insulation bricks
Brass	Yellow Brass	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® SILICA MIX MS B 1.2 CALDE® SILICA MIX I/Cu B 1.6	CALDE® CAST UB 75 S	CALDE® MIX BM 70 S 1 layer of Insulation bricks
	Nordic Gold	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® MIX BC 85 S ACCMIX A85 S5 1 layer of Insulation bricks	CALDE® CAST UB 75 S	CALDE® MIX BM 70 S 1 layer of Insulation bricks
	Red Brass	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® SILICA MIX MS B 1.2 CALDE® SILICA MIX I/Cu B 1.6	CALDE® CAST UB 75 S	CALDE® MIX BM 70 S 1 layer of Insulation bricks
Bronze	Bronze	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST UB 75 S	CALDE® SILICA MIX MS B 1.2 CALDE® SILICA MIX I/Cu B 1.6	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® MIX BC 85 S ACCMIX A85 S5 1 layer of Insulation bricks
	Cu Sn Ni	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST UB 75 S	CALDE® SILICA MIX MS B 1.2 CALDE® SILICA MIX I/Cu B 1.6	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® SILICA MIX Cu B
	Cu Sn Ni Si	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® SILICA MIX Cu B 1 layer of Insulation bricks	CALDE® CAST UB 75 S	CALDE® SILICA MIX Ms B 1.2 CALDE® SILICA MIX I/Cu B 1.8
Cu Ni	Cu Ni 5-30	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® MIX BC 85 S ACCMIX A85 S5 1 layer of Insulation bricks	CALDE® CAST UB 75 S	CALDE® MIX BM 70 S 1 layer of Insulation bricks
Cu Fe	Cu Fe	Cer. Fibre Board 08/1100	CALDE® GUN MW 118	CALDE® CAST MW 140 C/G	CALDE® CAST LA 50 SZ ACCMON 50 ASZ	CALDE® MIX BC 85 S ACCMIX A85 S5 1 layer of Insulation bricks	CALDE® CAST UB 75 S	CALDE® MIX BM 70 S 1 layer of Insulation bricks

BI CHAMBER

SHAFT MELTING FURNACES

Monolithic concept solution for Aluminum





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