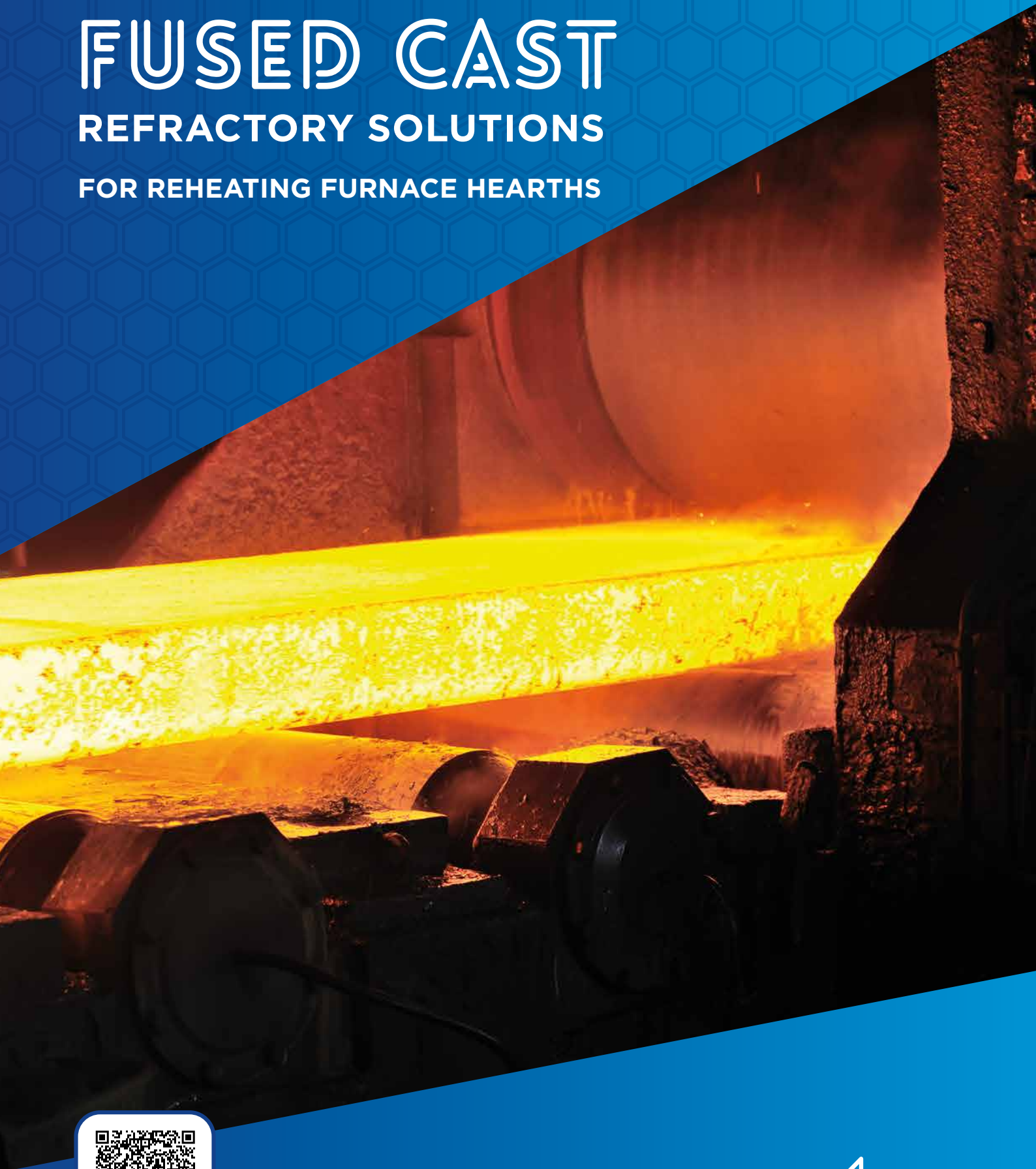


SAINT-GOBAIN PERFORMANCE CERAMICS & REFRACTORIES

# FUSED CAST

## REFRACTORY SOLUTIONS

### FOR REHEATING FURNACE HEARTHS



  
SAINT-GOBAIN

# MAGMALOX® PRODUCTS ARE ENGINEERED TO DELIVER EXCEPTIONAL PERFORMANCE IN DEMANDING INDUSTRIAL ENVIRONMENTS.

These advanced refractory solutions are designed to enhance the efficiency and longevity of furnaces, providing superior resistance to wear, thermal shock, and slag adhesion. With a focus on innovation and quality, Magmalox® products help optimize furnace operations, ensuring consistent and reliable results for steelmakers around the world.

## BENEFITS



Significantly Increased  
**FURNACE  
LIFE**

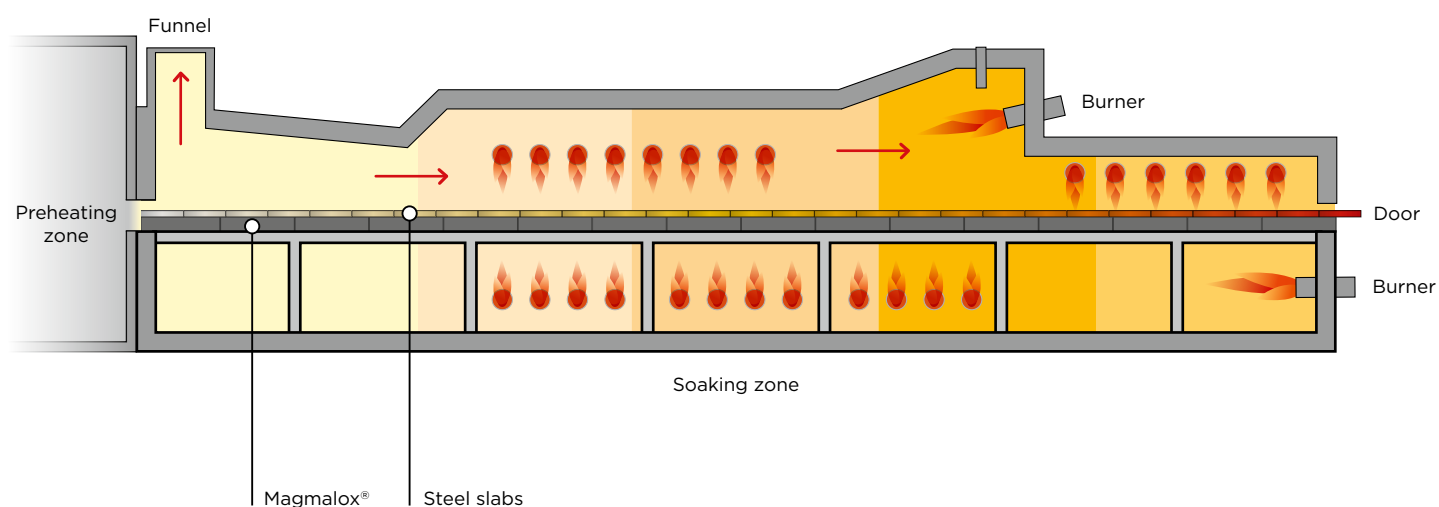


Superior Surface Quality of  
**REHEATED  
PRODUCTS**



Reduced  
**MAINTENANCE  
COSTS**

## REHEATING FURNACE (EXAMPLE)





## THE RANGE OF MAGMALOX® PRODUCTS



Discover our premium standard product, renowned for its exceptional quality and outstanding value. Versatile for use in all furnace areas, it effectively prevents slag adhesion.

### MAGMALOX® RN

#### Description

Alumina-zirconia-silica fused cast refractory

- Prevents slag adhesion
- Easily cleaned, hot or cold

#### Applications

It can be applied in all areas of the furnace hearth.

Magmalox® RN is our standard product, which is the most used by our furnace hearth customers.

### MAGMALOX® DR

#### Description

Alumina-zirconia-silica fused cast refractory with a homogeneous structure.

- Homogeneous structure
- Resistance to thermal shock

#### Applications

Ideal for areas requiring high thermal stability and for managing conflicts between cold and hot air masses, particularly at the furnace entrance and exit.



#### Two solutions:

1. Rails with concrete in the middle
2. Hearth filled with Magmalox®



### MAGMALOX® 550

#### Description

Alumina-zirconia-silica fused cast refractory with high wear resistance

- High wear resistance
- Weak adherence of slag
- Easily cleaned, hot or cold

#### Applications

Can be applied in all areas of the furnace. Ideal for areas with high abrasion and thermal variation.



Preferably used to reinforce hearths in Magmalox® RN.

### MAGMALOX® 555\*

#### Description

High alumina fused cast refractory.

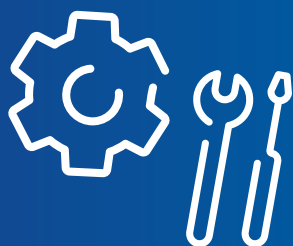
- High wear resistance
- Exceptional temperature resistance

#### Applications

When building the furnace hearth, using only this product may lead to increased slag adhesion, which can make cleaning the hearth more challenging. Therefore, if such a situation arises, we recommend using this product primarily to reinforce the hearth in Magmalox® RN.



\*Also available as Monofrax M RC.



We offer on-site inspections, ensuring that every project meets the highest standards of quality and performance.

Our teams are highly skilled and experienced, equipped with the latest tools and techniques to deliver exceptional results. Whether it's a routine inspection or a complex installation, you can trust our experts to handle it with precision and professionalism.

## APPLICATION

# REHEATING FURNACE HEARTHS

Saint-Gobain Performance Ceramics & Refractories offer steelmakers a comprehensive range of products for reheating furnaces. Magmalox® products are used in both pusher and walking-hearth furnaces. This range is based on over 70 years' experience in minimizing costs and soak-zone repairs while raising productivity. Magmalox® products help steelmakers to optimize the behavior of each area of the furnace, to balance wear and to substantially increase campaign life.

### BENEFITS INCLUDE:

- Record tonnage of reheated slab or billet per campaign
- Improved surface quality of reheated products
- Easy to install, rapid heat-up, no (or very light) intermediate repairs, hence reduced downtime

## OTHER APPLICATIONS

Magmalox® products are recommended for a range of furnace applications calling for outstanding resistance to erosion and corrosion, including:

- Waste incinerators: Stoker upper walls
- Steelworks: Crash deck for sinter plants

## CHARACTERISTICS

	Hot Erosion / Abrasion Resistance	Slag Build Up Resistance	Thermal Variation Resistance
MAGMALOX® RN	+	++	+
MAGMALOX® DR	-	++	++
MAGMALOX® 550	++	++	+
MAGMALOX® 555	++	-	+
Other Alumina Based Fused Cast Refractories	++	--	-
Other Alumina-Zirconia-Silica Fused Cast Refractories	-	+	-

# PRINCIPAL CHARACTERISTICS

## TYPICAL CHEMICAL ANALYSIS (%)

	MAGMALOX®			
	RN	DR	550	555
Al <sub>2</sub> O <sub>3</sub>	73	73	73	95
SiO <sub>2</sub>	19	19	6	0.5
ZrO <sub>2</sub>	5.5	5.5	20.5	-
Na <sub>2</sub> O	1.05	1.05	0.5	4.1
Fe <sub>2</sub> O <sub>3</sub>	0.7	0.7	<0.3	<1
CaO	0.5	0.5	<0.3	<1
TiO <sub>2</sub>	0.25	0.25	<0.3	<1

## TYPICAL CRYSTALLOGRAPHIC ANALYSIS (%)

	MAGMALOX®			
	RN	DR	550	555
Corundum	39	39	71	45
Mullite	41	41	-	-
Zirconium Oxide	5	5	20	
B Alumina	-	-	-	53
Vitreous Phase	15	15	9	2

## TYPICAL PHYSICAL PROPERTIES

	Units	Tempera- ture	MAGMALOX®			
			RN	DR	550	555
Density in Block Form	g/cm <sup>3</sup>	-	3	2.9	3.55	3.17
Expansion	%	1150°C	0.8	0.8	0.9	0.95
Thermal Conductivity	W/m.K	1250°C	4.6	3.1	9.2	6.5
Hot Crushing Strength	MPa	1350°C	45	-	120	156

## TAILOR-MADE MATERIALS & SOLUTIONS

# HIGH PERFORMANCE REFRACTORIES

Saint-Gobain Performance Ceramics & Refractories (PCR) has been designing and manufacturing high performance refractories for demanding reheating furnaces for over 70 years. Our team of application engineers, material scientists and design engineers understand the conditions in reheating furnaces and can help you choose the correct material for your application.

### BENEFIT FROM THESE ADVANTAGES:

Tailor-made engineering to customer specifications

Robust export compliance

Consistently high-quality manufacturing

Manufacturing locations on multiple continents

Extensive worldwide capacity

Global R&D resources

## OUR SERVICES



### INNOVATION

Research & development team stationed at our leading-edge R&D centers in Europe, North America and Asia; specialize in ceramic & refractory technology and constantly interact with customers & industry experts while using the most progressive and multidisciplinary technologies.



### DESIGN & ENGINEERING

Customized solutions including refractory drawings, adjusted design and modeling capabilities to help minimize maintenance/relining frequency.



### PARTNERSHIP

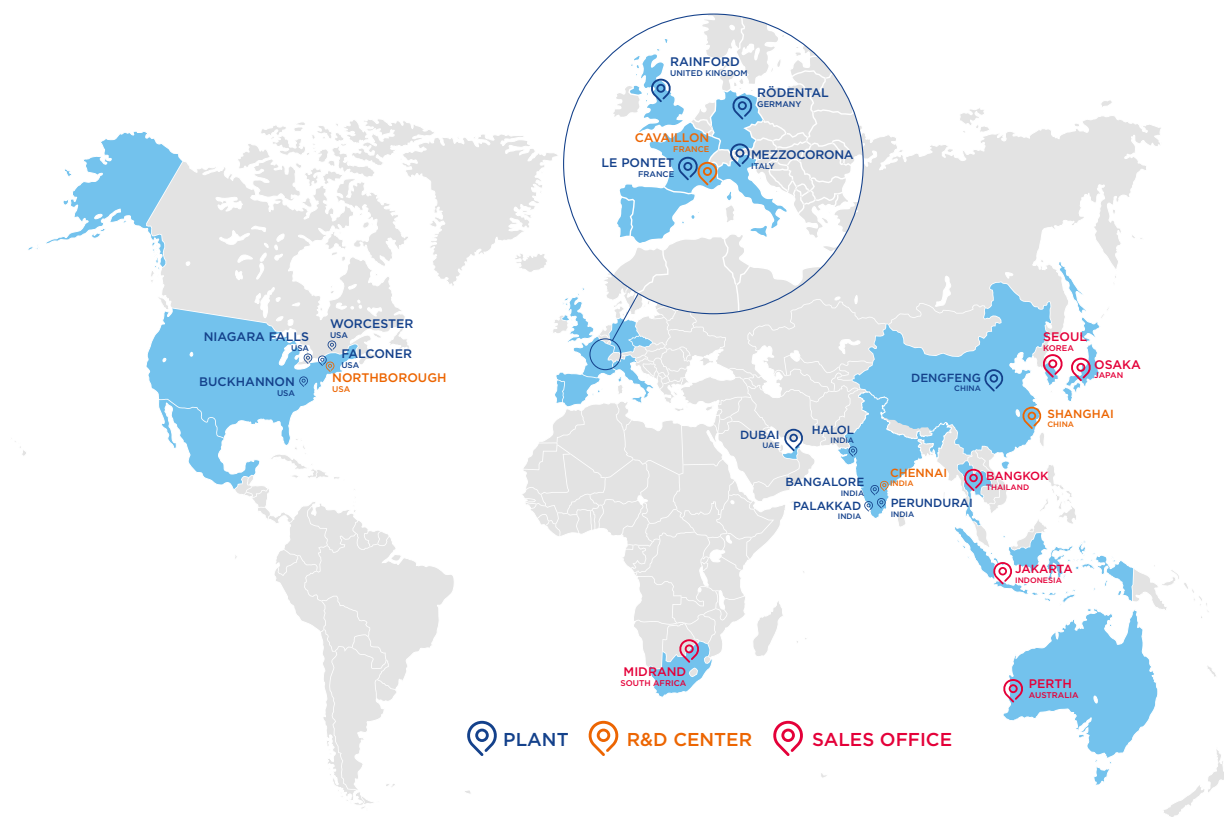
Experienced application teams offer assessments, working in partnership with customers to explore material science and shape capability available from a world leading refractory manufacturer.



### CUSTOMER SUPPORT

Experienced, dedicated teams work closely with customers, either in person or remotely via the most advanced digital platforms.

# OUR GLOBAL PRESENCE



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