



PRODUCTS FOR METALLURGIC INDUSTRY

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Where casting begins.

ISO 45001
ISO 9001
BUREAU VERITAS
Certification





EXOTHERMIC INSULATING COVERING - LUNKERIT

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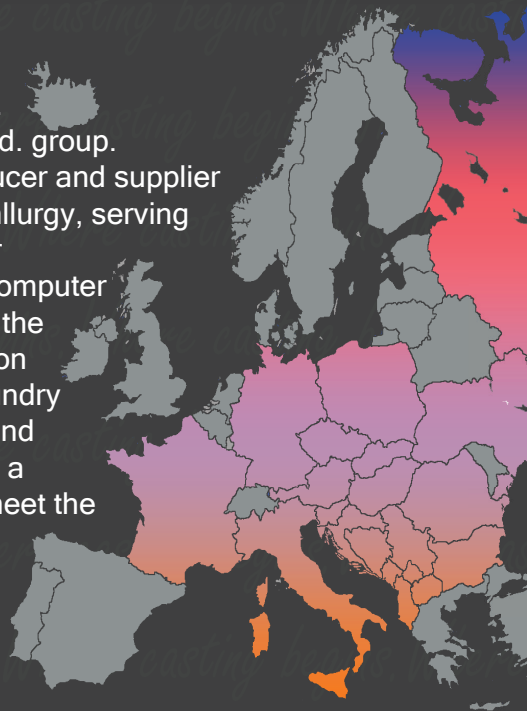




HOT TOPS FOR INGOT CASTINGS

ABOUT THE COMPANY

Established in 2002, EXOTERM-IT d.o.o. is a member of the EXOTERM holding d.d. group. EXOTERM-IT d.o.o. is a prominent producer and supplier of auxiliary materials in foundry and metallurgy, serving Central and South-East Europe. We offer technical support to customers through computer simulations of the casting process using the MAGMASOFT software kit. Our focus is on delivering high-quality metallurgy and foundry products through professional research and creative work. With optimal solutions and a commitment to excellence, we strive to meet the needs of our clients.



FOUNDRY COATINGS

Refractory coatings play a crucial role in foundries, where they are applied to sand moulds and cores. Foundries work with various materials, including steel castings, grey cast iron, ductile iron, and non-ferrous metals. These coatings serve as a high-temperature barrier between the casting and the substrate (mould or core), effectively reducing thermal shock caused by the sand substrate.

The primary purpose of refractory coatings is to create a smooth and uniform surface on the mould. This smooth surface improves the strength of the mould and minimizes reactions between the substrate and the molten metal. By providing a homogeneous surface, these coatings ensure better casting quality.

Applying refractory coatings also helps prevent specific casting defects. For instance, they can prevent segregations, which are non-uniformities in the metal composition that can lead to weak spots in the casting. These coatings also help avoid issues such as burnt-in sand, bulges, recesses, and other casting irregularities.

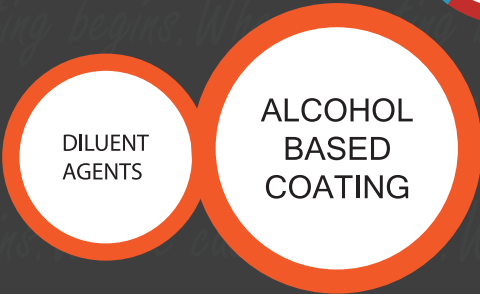
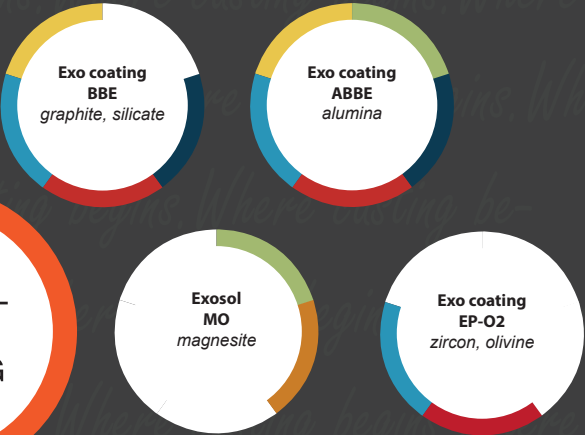
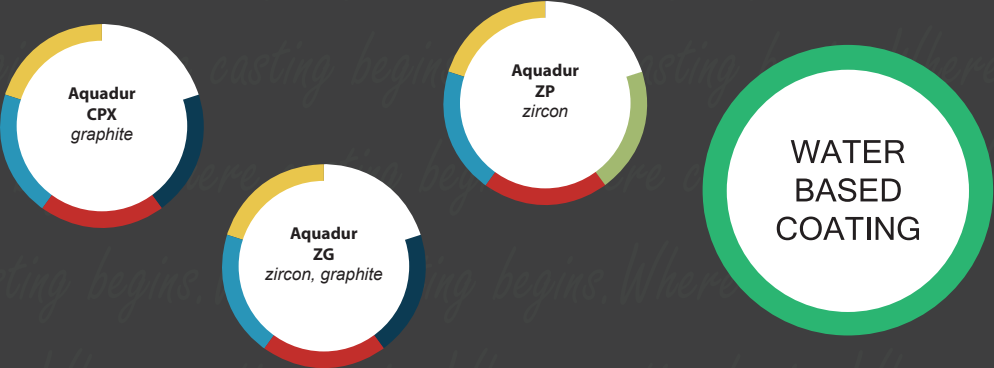
Foundries employ various methods to apply refractory coatings based on their specific production processes. Some common application processes include dipping, spraying, pouring, and using brushes. These different methods offer flexibility in meeting the unique requirements of individual foundries.

Efficient coating must provide the following features:

- Sufficient refractory quality to prevent melt ingress into substrate
- Good adhesiveness to substrate and good covering characteristics
- Do not cause scaling, blistering or cracking in drying process
- Good suspension and mixing characteristics
- Good storage stability
- Good adhesiveness



FOUNDRY COATINGS





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EXO COATING BBE

FOUNDRY COATINGS

BINDERS

Silicate binders for the CO₂ process are formulated using premium water glass. These binders can be customized with or without additives to improve decomposition post-casting. The foundry industry relies on binders with diverse additives, suitable for various sand types and casting applications.

- VEZIVO MX, MXR, MX7, MX11, MX 15 - with the additive for decomposition after casting
- VEZIVO M - no decomposition additive
- BETASIL 10 - the additive for decomposition after casting

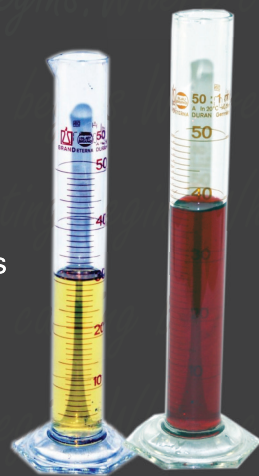
RELEASE AGENTS

Release agents play a crucial role in mould and core production. These agents create a thin film that prevents the product from adhering to the mould or core box. By facilitating the smooth release of moulds or cores, they ensure efficient production processes.

- ALUTIL AMF - for cool tools
- ALUTIL MOP 417 - for hot tools
- ALUTIL MOP 461 - for hot tools
- TEXOL A - for moulds in automated moulding
- LOČILEC GS/C - for warm tools

OTHER PRODUCTS:

- KITEX-C - kit for repairing sand mould and cores
- POPEX - adhesive for moulds and cores



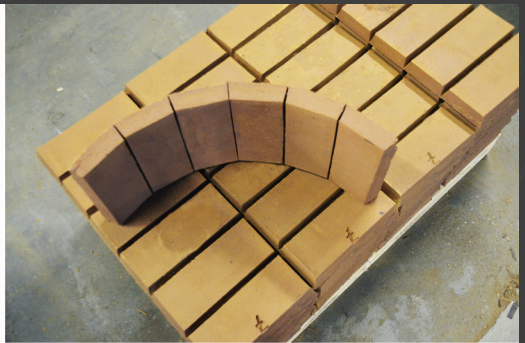


HOT TOPS FOR INGOT CASTINGS

HOT TOPS FOR INGOT CASTINGS

INSULATION COVERINGS:

Thermal insulating coverings are pre-formed models designed to provide thermal insulation for heads in classic ingot casting. These coverings are made using highly refractory fillers, fibers, and binders. We offer insulation coverings in both insulation and exothermic-insulation qualities, tailored to meet specific shape, size, and functional requirements as per our customers' needs.



HOT TOPS FOR INGOT CASTINGS

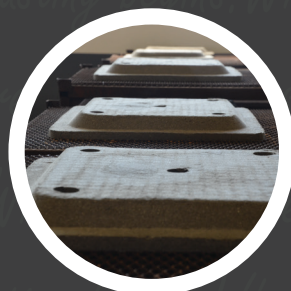
PROTECTION OF OPEN HEAD INGOT SURFACE:

The exothermic insulation agent used in feeders or ingot heads exhibits a highly exothermic reaction upon contact with the melt. This reaction releases heat, dissipating it to the inner side of the feeder or head. The residual material after burning is highly porous, providing excellent insulation properties. Our exothermic insulation agents are available in various forms, such as covers or powders.

EXOTHERMIC POWDER - LUNKERIT



EXOTHERMIC INSULATING COVER - EXIPP



PROTECTION OF OPEN HEAD INGOT SURFACE:

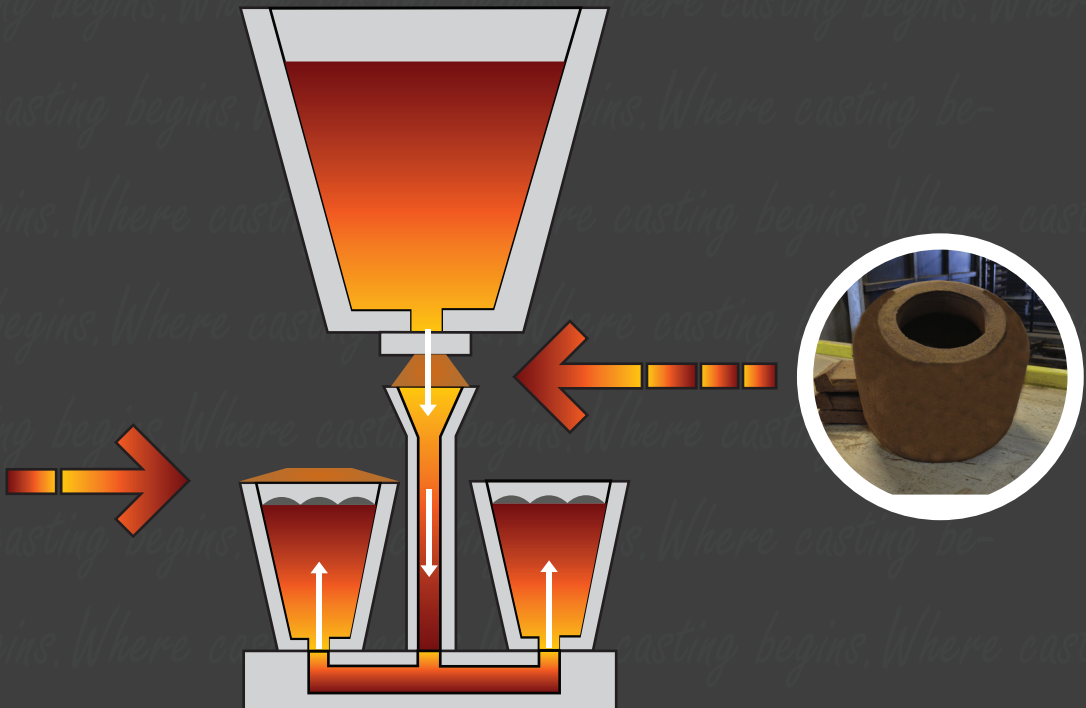
EXOTHERMIC INSULATING AGENTS (powders) - LUNKERIT:

- LUNKERIT powders facilitate optimal solidification of ingots
- Different types of LUNKERIT are available for various purposes.
- LUNKERIT is applied to the top of the ingot after casting.

LUNKERIT - A range of high-quality powder toppings with exothermic, exothermic-insulating, and insulating qualities. It enables optimum solidification.

EXOTHERMIC INSULATING COVERS - EXIPP:

- EXIPP is an exothermic-insulating covering plate.
- These pre-set covering plates offer improved performance compared to anti-piping powder compounds.
- They provide environmental and cost benefits.
- Designed to maintain the molten state of the ingot head, enabling optimum solidification of the ingot.





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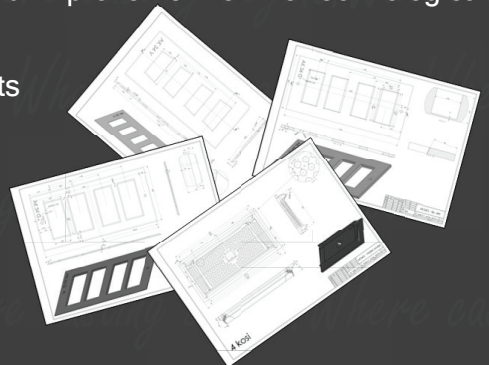
ARGON STREAM PROTECTION

Insulation protective caps are pre-formed refractory coverings designed to provide thermal insulation and protect the casting stream in traditional ingot mould casting. These caps offer insulation properties and safeguard the casting stream during the casting process.

- Simple cost-effective argon shroud system.
- Enabling argon injection into the casting system through the pipe inserted into the cone.
- Protection of melt casting jet

RESEARCH AND DEVELOPMENT

- Quick response within 48 hours
- Team of metallurgy, mechanical and chemical engineers
- New improved materials
- Individual and inovative approach
- Quality, environmental and health standards and guidelines
- Development of completly new products and casting technologies
- Optimizing existing products and improvement of the technological process
- Development of generic products



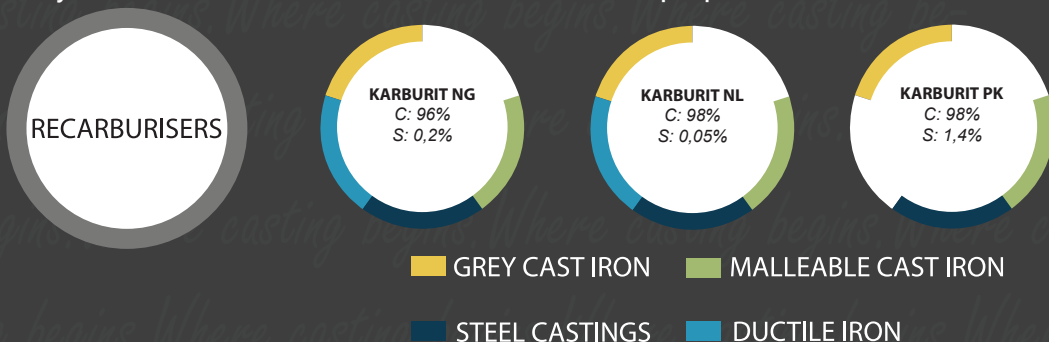


RECARBURISER

AUXILIARY MATERIALS

RECARBURISERS

KARBURITs are recarburizers specifically designed to increase the carbon content in molten iron alloys and steel. These recarburizers dissolve in the melt and facilitate the carburization process. They play a crucial role in adjusting the carbon composition of the metal, enabling the production of alloys and steel with desired carbon content and properties.



KARBOSIL SiC

KARBOSIL is a substance utilized to introduce silicon and carburize the melt in induction furnaces. It is particularly valuable in the production of synthetic alloys, where there is a need for reduced levels of sulphur and nitrogen. By incorporating KARBOSIL, manufacturers can achieve the desired silicon content and enhance the properties of the resulting alloys.

INOCULANTS - MODIFIKATOR

The inoculation of grey cast iron is a process that involves adding an agent to the melt, inducing changes in crystallization during the solidification process. These changes are greater than what would normally occur due to the altered chemical composition caused by the additive. Efficient inoculants typically contain elements known for their desulfurization and deoxidization properties, such as aluminium, calcium, barium, magnesium, strontium, or zirconium. The products resulting from melt deoxidization with these elements act as new nuclei for graphite deposition, influencing the formation of the desired crystalline structure.



SUSTAINABILITY

In the EXOTERM group, we focus on the use of renewable energy sources and the optimal use of resources. We already obtain the majority of electricity from our own solar power plants and cogeneration, which allows us to reduce the consumption of fossil fuels and thereby reduce negative impacts on the environment. In addition, we have established electricity storage facilities in which we store excess electricity, which enables us to use energy optimally.

We monitor the use of energy and water using monitoring, which allows us to take measures for the optimal use of resources and reduce their consumption. Our goal is to achieve the greatest possible energy efficiency and sustainable use of resources.

Environmental Benefits - 2022



CO₂ Emission Saved
730.000 kg



waste recycled instead of landfilled
245.000 kg

CIRCULAR ECONOMY

We are geared towards a circular economy, where the use of secondary raw materials is key. In the future, we want to emphasize the use of secondary resources even more, as we are aware that Europe is relatively weak in terms of basic raw materials. In this way, we reduce the negative impact on the environment and contribute to the preservation of natural resources.



