

Innovative solutions for foundries

Green Moulding Sand Additives



The brand IMERYS Metalcasting Solutions has emerged from the IKO brand after S&B's strategic combination with IMERYS. Since the establishment of the company "IKO Industriekohle" in Germany in 1964 we have been a key supplier of green moulding sand additives to the European foundry industry. We combine the strengths of IMERYS, the world leader in mineral-based specialty solutions for industry, with our deep know-how, our customised services, quality and innovation in this field.

Innovation & Sustainability

Our leading technology has been instrumental in the development of a range of innovative products and solutions for many segments within the foundry industry, addressing not only the environmental concerns but also improving foundry processes and efficiency.

From ENVIBOND® enabling the foundry to operate with fewer emissions and the processed carbon technology to RIKO®, which utilises waste streams from the green sand process, we are constantly searching for and developing new and sustainable solutions to the industry's ever-evolving challenges.



Wide range
of high quality
bentonite binders
for all your formative
requirements

Moulding sand binders

Modern foundry technology is focused on the production of high quality castings with complex geometries and near net shape. The increasing technical demands for thin walled castings exert a high thermal and mechanical loading to the mould during production. High quality bentonite bonded moulding sands are able to offer the requisite solution for mould stability and the necessary flexibility for the production of castings that comply with the ever stringent demands. The ability to reclaim these sands and additives in an increasingly environmentally conscious society makes the application of this technology attractive economically and ecologically.

Our moulding sand binders represent state of the art technology. High thermal durability of our bentonite binders enable the production of castings having a low rejection, low consumption and minimum refreshment of the moulding sand, offering strong ecological compatibility. Our range of binders ensures our ability to provide the right technical solution for every application.

With this technology, you are guaranteed a consistent and high quality product through our constant drive for effective resource management of our raw materials, the acquisition of new reserves ensuring long term availability of materials and future partnerships with our current and prospective clients.

Lustrous Carbon Formers

A Lustrous Carbon Former is added to bentonite-bonded moulding sands in order to reduce oxidation, minimize sand adhesion, enhance casting surfaces and combat the occurrence of casting defects.

In the field of Lustrous Carbon Formers, we offer a full range of proven, sophisticated products that have been continuously improved and developed, based on many years of experience in combination with a program of careful, multi-faceted research. Our additives produce brilliant results and have long delighted our customers around the world.

With the use of our Lustrous Carbon Formers enhanced casting surface quality is achieved through:

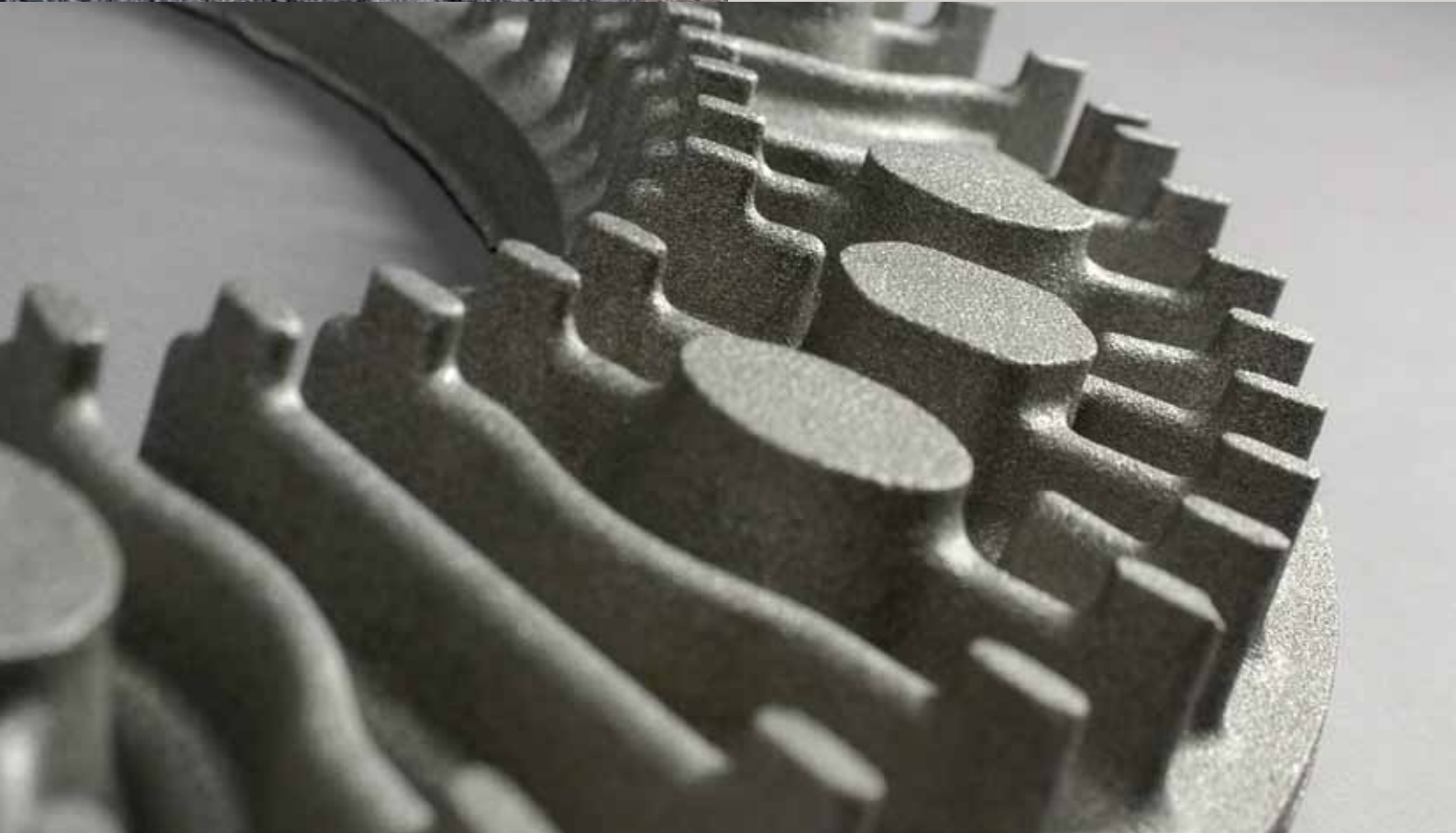
- Reduction in the wettability of the mould surface through the formation of a reducing gaseous hydro-carbon atmosphere
- Absorption of compressive stresses produced within the mould during casting
- Effective separation of sand and casting at shakeout

With our Lustrous Carbon Formers maximum recyclability through improved mould collapse and sand/casting separation at shakeout minimizes the consumption of additives thereby reducing the environmental burden of organic crack emissions.

We have the right Lustrous Carbon Former for every application.



Perfect surface finish
makes for a polished
performance



Blends of Bentonite based Binders and Lustrous Carbon Formers

We have more than 50 years' worth of experience in processing, blending and supplying combinations of high quality Bentonite Binders, Lustrous Carbon Formers and other performance enhancing Additives to the global foundry industry.

Blend formulations are individually tailored to suit the specific customer requirements.

Use of blends has several advantages:

- Improves flowability of moulding sand resulting in more uniform compaction of the mould to reduce casting defects
- Facilitates safe transportation and storage of carbon based products
- Enables more accurate dosing of moulding sand additives



Customised mixture from our extensive product portfolio for your specific needs





**Clean & cost effective –
a brighter future**



Unused
filter



Filter after
casting in
ENVIBOND -
green sand



Filter after casting
in green sand based
on traditional
organic binder
system

The ENVIBOND® concept

Foundries are continuously striving to efficiently produce castings of the highest quality, whilst at the same time complying with increasingly stringent emissions regulations relating to both workplace and local atmospheric environment.

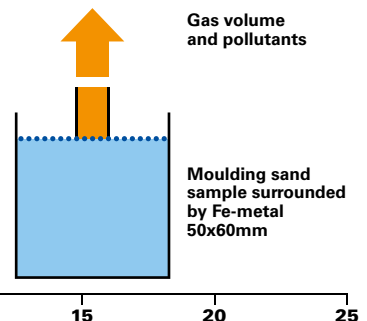
The expert knowledge of the reactions that occur inside the moulding sand during the casting process and the pyrolysis of the sand mixture led us to develop and design innovative products that have enabled the foundry process to operate with fewer emissions improving both work place conditions and employee health. With ENVIBOND, emissions of hazardous air pollutants such as BTEX and CO are reduced.

Gas formation

Operating moulding sand, prepared with Bentonite and Lustrous Carbon Formers (4.5% loss of ignition)

Operating moulding sand, prepared with ENVIBOND® (2% loss of ignition)

Moulding sand, prepared with ENVIBOND® in the laboratory (without decomposed cores)





The preferred partner of choice for your castings

Technical expertise

Our expert technical services provide our valued customers with support and solutions that contribute to the optimization of their moulding and core making processes.

Our support team has many years of “hands on” foundry experience combined with in-depth knowledge of both processes and materials. Through the support of our well-equipped laboratories and technicians we are able to make full analysis of moulding sands and associated materials and, therefore, offer customised solutions.

These services consist of:

- Frequent analyses of a customer's moulding sand and evaluation of the results
- Monitoring and communication of trends regarding customers' moulding sands
- Web based moulding sand data base available for customer access via a login internet portal
- Process analyses including green sand preparation and the mass balance of a sand system
- Metallurgical investigations
- Casting defect analysis

Our experts in problem solving and knowledge of foundry processes make IMERYS Metalcasting Solutions the preferred partner of choice.

Our history

We have a long tradition as a supplier of foundry-grade bentonites, originally using our world renowned reserves on the Greek island of Milos. With the acquisition of IKO-Erbsloeh in 2001, we moved closer to foundry customers in Europe supplying them with bentonite, coal and application technology. We expanded first into the Americas and then to China and India by incorporating the expertise, technology and assets of local foundry suppliers.

For more information visit us at www.imerys.com

Foundry Solutions Worldwide



We are here to serve you

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