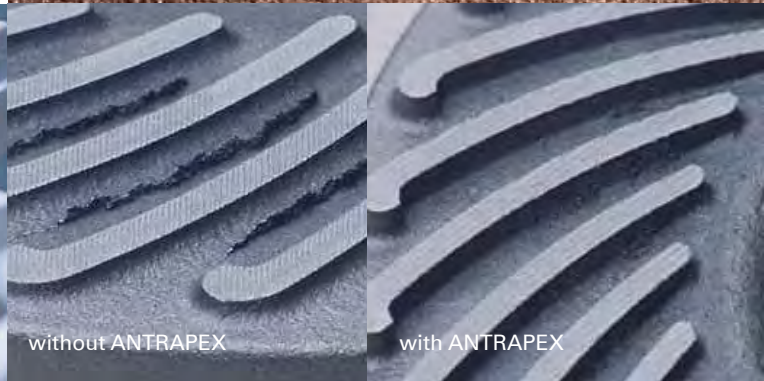


Innovative solutions for foundries

Core 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.



ANTRAPEX®

an anti-veining additive for cold box core sand

Veining or finning on casting surfaces, in contact with the mould or core, constitutes a very frequent type of defect that is often associated with the use of cold box chemically bonded sand systems. Veining formation is a result of molten metal penetrating into cracks generated at the mould or core surface. Crack formation is due to the thermal stressing and progressive expansion of quartz sand at elevated temperatures, known as quartz inversion, and the subsequent cooling and contraction associated with the casting and solidification process.

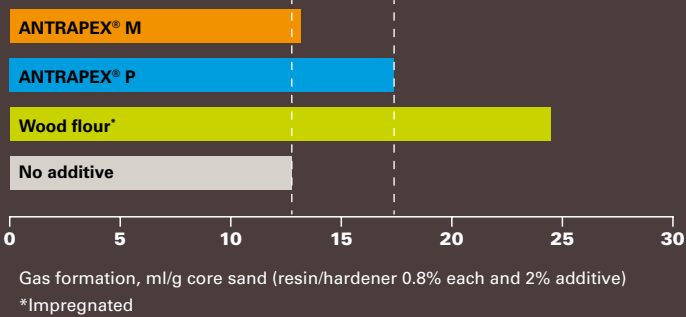
ANTRAPEX is a blend of synthetic organic and inorganic components. The core sand additive has been developed specifically for the PUR Cold Box process.

Service includes customer-specific product variations of ANTRAPEX. This means that we offer modified additives individually aligned to the core making requirements of the foundry concerned. ANTRAPEX is a proven core sand additive that positively influences both the core and the bentonite-bonded moulding material. The additive is mixed with the core sand and thus contributes to reducing expansion and penetration defects. After core breakdown, ANTRAPEX passes into the moulding material where it has a positive effect on the casting surface and sand stability. The amount of adhering moulding sand is also minimised.

Minimal gas formation

Compared with other organic additives, the proportion of volatile components in ANTRAPEX is minimal. The degree of gas formation is much less – with maximum gas release postponed to a later point in the process. Gas defects in the core are thus appreciably reduced.

Gas formation

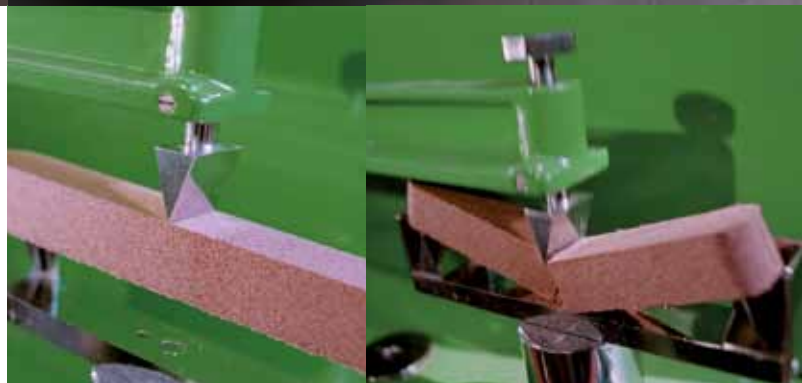


ANTRAPEX®

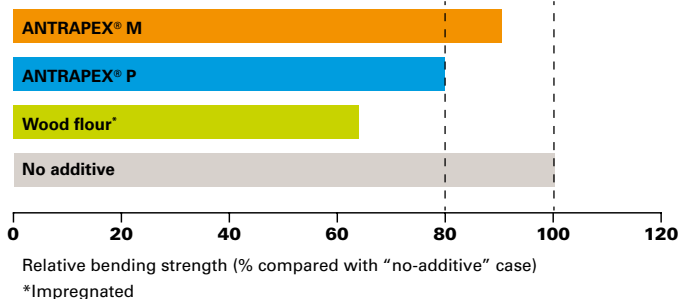
with double benefits in the core and in the moulding material

Properties:

- ANTRAPEX is non-porous and usually coarse-grained, thereby minimising core strength reductions.
- Following casting, compressive stresses generated in the core due to the thermal expansion of silica are reduced, the result of which is that expansion defects such as finning and veining are significantly fewer or eliminated completely.
- Organic components of ANTRAPEX enhance the surface finish of the casting during combustion. Your benefit: smoother surfaces and an appreciable reduction in penetration defects.
- The working time (bench-life) of core sand mixtures containing ANTRAPEX is very high guaranteeing a consistent process and quality of core produced.
- The flowability of core sand remains consistent or partially improves due to the addition of ANTRAPEX
- The need for coating is reduced and may even be completely eliminated.
- ANTRAPEX has an unlimited shelf life.
- ANTRAPEX is not classified as a hazardous substance or dangerous goods.
- After core breakdown, ANTRAPEX P in the moulding sand acts as carbonaceous material.



Relative bending strength 24 hours after core making



Individual product specifications

With the existence of different core binders, core sands, core geometries, metal types and grades and other boundary conditions, standard solutions are hardly likely to be satisfactory. We therefore develop ideal product modifications of ANTRAPEX with the aid of laboratory trials and application engineering tests in the foundry for each customer and each application. The production of ANTRAPEX is similarly customer-specific.

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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