SEEIF Ceramic, a.s.

IZOCAST

TWO-LAYERED INSULATION MATERIAL FOR INSULATION OF FOUNDRY CASTINGS

basic informations

Two-layer insulating shapes of the “sandwich” design are used in foundries, where it is necessary to increase the metal feeding distance of certain casting place or to extend the solidification time. The blocks are primarily placed on areas where it is necessary to extend solidification time without compromising quality of the surface - we are speaking about the areas that will not be machined any more or that require only a small allowance for machining.

MAIN ADVANTAGES

EXTENSION OF SOLIDIFICATION TIME
lincrease of the metal feeding distance in the necessary points of the casting.

WITHOUT ADDITIONAL MACHINING
Thanks to a special working layer the places, where the IZOCAST products are applied, do not neet to be machined any more and cleaned after removal.

EASY WORKABILITY
The blocks can be cut easily and shaped directly on the spot to particular requested dimensions.

SOPHISTICATED LAYERS

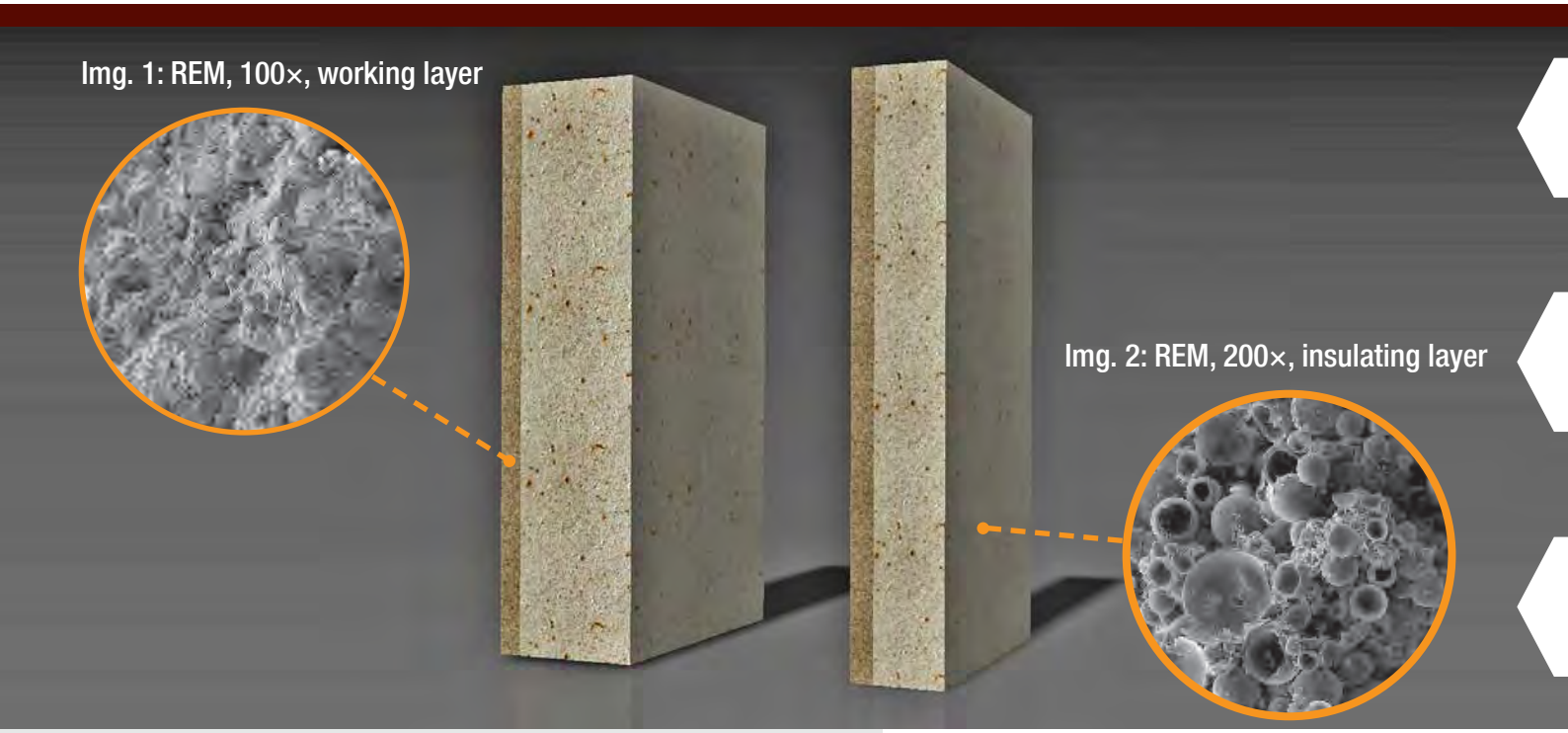
The IZOCAST block consists of two specially designed layers, and each layer is subject to totally different requirements.

WORKING LAYER
This thin, dense, working layer iis in contact with the metal. The product is thus conferred excellent resistance to high temperatures, high bulk density and high strength. When the block is taken out, the casting obtains a smooth surface, which no longer requires any cleaning.

INSULATING LAYER
The insulating layer is characterized by excellent thermal insulation properties: low coefficient of thermal conductivity and low density. When used, it insulates the requested casting zones perfectly.

Both layers are interconnected as early as during production and the whole block works under the thermal load, i.e. use, as a single item.

IZOCAST basic informations



PARAMETERS

INSULATING LAYER	
Class ASTM C 155-97	group no. 26
Class ČSN EN 1094-2 (ISO 2245)	140 - 0,75 - L
Insulation coefficient (f_{iz})	1,4
Bulk density [kg/m^3]	750
Cold crushing strength [MPa]	6,5
Thermal conductivity 20 °C [W/mK]	0,271
Thermal conductivity 200 - 1400 °C [W/mK]	0,301 (200 °C) 0,342 (400 °C) 0,355 (600 °C) 0,400 (800 °C) 0,422 (1000 C) 0,425 (1200 °C) 0,450 (1400 °C)
Content of Al_2O_3	36 %
Content of TiO_2	0,5 %
Content of Fe_2O_3	2,3 %
WORKING LAYER	
Apparent porosity [%]	20
Bulk density [kg/m^3]	2000
Content of Al_2O_3	min 36 %
Content of Fe_2O_3	2,5 %
Content of TiO_2	1,6 %
Content of SiO_2	56 %

- It is not necessary to provide any casting surface allowance
- Modular expansion under a riser is performed by applying various lining strengths

AVAILABLE SIZES

IZOCAST 65	NF2 250 x 124 x 65 mm
IZOCAST 40	NF2 250 x 124 x 40 mm

It is possible to produce shapes of different heights to the surface dimensions of 300 x 300 mm.

If a specific dimension is requested, do no hesitate to contact our sales specialist.

The IZOCAST blocks can be manufactured in a wide range of rectangular formats.

Example of use of the IZOCAST blocks in a foundry: moulding the Francis turbine rotor rim.

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1

EASY WORKABILITY

Workers can adjust the shape of the product if necessary, directly on site.

2

INCREASE OF THE METAL FEEDING DISTANCE

Thanks to the insulating layer the blocks extend solidification time in appropriate zones. The working layer protects the relevant zone of the casting reliably.

3

WITHOUT ADDITIONAL MACHINING

When used, the blocks can be removed easily from the casting; they leave satisfactory casting surface which does not need any further machining!

CASTING TREATMENT

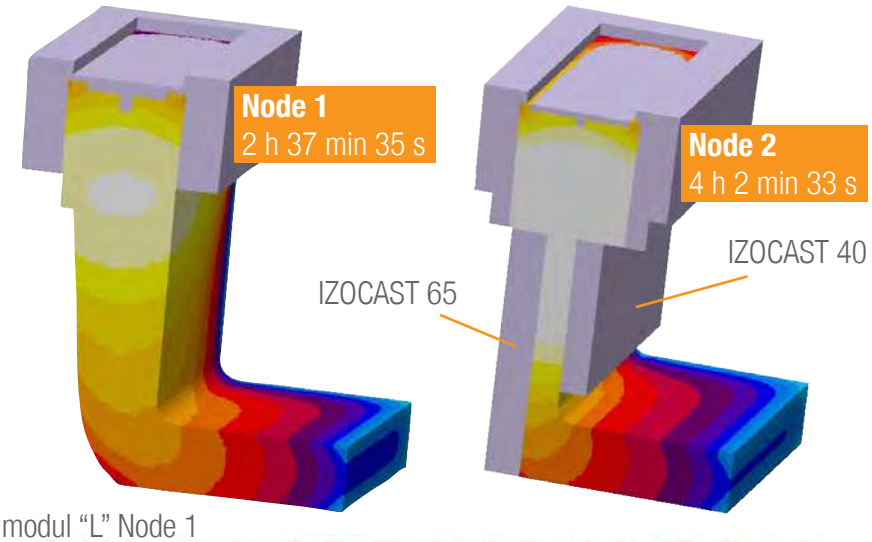
The IZOCAST products can be removed very easily after use; surface of the casting is left smooth and compliant. There is no need of any further machining of exposed zones treated as shown above.

Surface of the casting after removal of conventional insulating blocks and IZOCAST blocks is compared on the Figure above. Examples of use in our customers can be seen on the right. It will be a great pleasure for our sales specialists to present other practical examples.

SIMULATION – SOLIDIFICATION OF "L" NODES

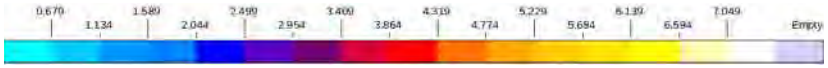
standard metal feeding with gap

metal feeding with gap replaced by IZOCAST insulation



modul "L" Node 1

modul "L" Node 2



This simulation shows comparison of solidification of "L-nodes". Simulation of the same node was used for comparison, where one solution is standard (Node 1) - metal feeding with gap, whilst in the second solution metal feeding with gap is replaced by the IZOCAST insulation (Node 2). Riser tops are insulated by the IZOSPAR 65 mm product. The simulation has been performed by the foundry simulation software Magma.

EXAMPLES OF USE

IZOCAST blocks during moulding. Casting for the shipping industry.

Unit after casting and demoulding, on which the IZOCAST blocks were used in certain zones.

About us

SEEIF Ceramic, a.s. produces and supplies traditional refractory products and ceramic materials, incl. services and consultancy concerning their use in the customers' plants.

DO YOU HAVE FURTHER QUESTIONS?
Do not hesitate to contact us!
Our sales representatives who are in close contact and cooperation with the R+D department will be happy to answer your possible inquiries.

TECHNICAL CERAMICS OF THE 3rd MILLENNIUM

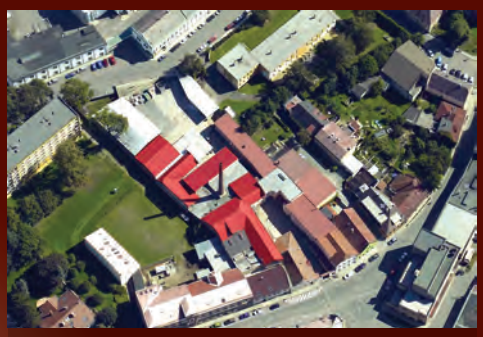
PLANT 1 MKZ FIRECLAY FACTORY
WERK 1 MKZ SCHAMOTTEFABRIK
ЗАВОД 1 МКЗ ШАМОТНЫЙ ЗАВОД
ZÁVOD 1 MKZ ŠAMOTKA

PLANT 2 MKZ REFRACTORY MASSES
WERK 2 MKZ FEUERFESTE MASSEN
ЗАВОД 2 МКЗ ЖАРОСТОЙКИЕ МАТЕРИАЛЫ
ZÁVOD 2 MKZ ŽÁROHMOTY

Spešovská 243
679 02 Rájec-Jestřebí

PLANT 3 KERAVIT
WERK 3 KERAVIT
ЗАВОД 3 КЕРАВИТ
ZÁVOD 3 KERAVIT

Kotěrova 3
706 02 Ostrava-Vítkovice



PLANT 5 MKZ SVITAVY
WERK 5 MKZ SVITAVY
ЗАВОД 5 МКЗ СВИТАВЫ
ZÁVOD 5 MKZ SVITAVY

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