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**
Increase 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 need 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 is 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**

<table>
<thead>
<tr>
<th>Brick</th>
<th>Insulating Layer</th>
<th>Working Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BRICK</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulk density [kg/m³]</td>
<td>Cold crushing strength [MPa]</td>
<td>Temperature of application max.</td>
</tr>
<tr>
<td>1 000</td>
<td>8</td>
<td>1 600 °C</td>
</tr>
<tr>
<td><strong>INSULATING LAYER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASTM C 155-97</td>
<td>Class ČSN EN 1094-2 (ISO 2245)</td>
<td>Insulation coefficient (fₐ)</td>
</tr>
<tr>
<td>group no. 26</td>
<td>140 - 0.75 - L</td>
<td>1.4</td>
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<tr>
<td><strong>WORKING LAYER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal conductivity [W/mK] 20 – 1 600 °C</td>
<td>Content of Al₂O₃</td>
<td>Content of Fe₂O₃</td>
</tr>
<tr>
<td>20 °C</td>
<td>400 °C</td>
<td>800 °C</td>
</tr>
<tr>
<td>0.271</td>
<td>0.342</td>
<td>0.400</td>
</tr>
</tbody>
</table>

• 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 | IZOCAST 40 |
| IZOCAST 65 | NFZ 250 x 124 x 65 mm |
| IZOCAST 40 | NFZ 250 x 124 x 40 mm |

**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.

**EXAMPLES OF USE**

- Example of use of the IZOCAST blocks in a foundry: moulding the Francis turbine rotor rim.
- 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.
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- Graphite and corundum stoppers and nozzles for ladle closing systems
- Thermal insulating shapes
- Refractory masses

August 2017
IZOCAST

SEEIF Ceramic, a.s.
Spešovská 243
679 02 Rájec-Jeřěbí
Czech Republic
phone/tel.: +420 516 526 111
fax: +420 516 432 241
e-mail: info@ceramic.cz

www.ceramic.cz