

UNIFRAX APPLICATION STORY



Product Solutions: Rigiform® Shapes
Industry: Ferrous
Applications: Hot tops for ingot casting
Location: Europe

NOVEMBER 2018

Business Challenge

Steel producers employ various methods for the production of steel ingots (large slabs). For large volume, high output, the modern production method employs the use of a continuous casting process. There are also a large number of steel producers that provide special grades of steel. These plants use the traditional method of ingot moulds for their production. This uphill casting technique involves the pouring of molten steel into the base of the mould (using a refractory lined transfer system). As the liquid steel fills the mould it cools and solidifies. The aim is to maintain metal temperature as high as possible during casting to avoid surface and structural defects of the ingot. Lining the upper section of the mould using a 'hot top' system achieves this.

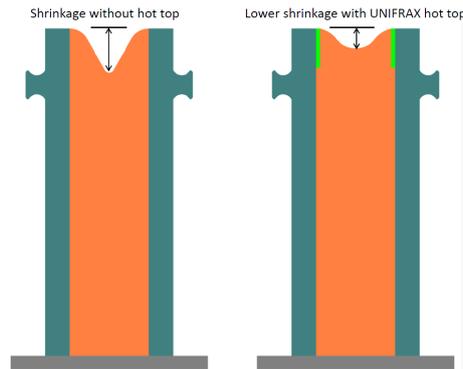
Application

Unifrax manufacture Rigiform hot top preformed shapes using a vacuum forming process. These hot tops are used in steel ingot casting applications to keep the top of the ingot mould hot during the cooling down stage of the casting process. The use of these hot tops helps to lower shrinkage of the metal during casting, the steel quality and ingot surface finish are improved, as well as the casting yield .

Unifrax has successfully supplied Rigiform shapes in the following grades - Fiberfrax, Isofrax and Fibermax.

During manufacture, Refractory Ceramic Fibres or Alkaline Earth Silicate Wools (non-classified fibres, under EU health and safety regulations) are combined with specially selected inorganic and organic binders to produce rigid shapes with exceptional insulating characteristics.

“Their unique characteristics achieve much better insulation than any of the competitive hot tops currently available.”



Solution

Fiberfrax, Isofrax and Fibermax hot tops are proven in this demanding application. End users enjoy several benefits provided by the vacuum formed shapes including the production of high quality steel.

Rigiform hot tops are a unique product offering from Unifrax. They are specifically designed to offer the best insulating properties for the demands of this application.

Their unique characteristics achieve much better insulation than any of the competitive hot tops currently available.

Unifrax has an extensive range of vacuum forming manufacturing sites strategically located across Europe. Utilising the very latest production techniques. Unifrax has gained a wealth of experience in the development and supply of a variety of shapes and grades to meet the demands of the ferrous industry, and this application, in particular.

The vacuum forming production process permits considerable freedom to vary shape, thickness and hardness. This allows us to offer an extensive product range based around chemical, physical and mechanical properties. The choice available to customers allows the freedom of choice to source the ideal solution for their needs.

Customer Advantages

- Reduced shrinkage
- Improved yield
- Adhesive not required
- Self supporting
- Easy to install
- No requirement for drying



About Unifrax

Unifrax is a global leader in high-performance specialty products used by many industries in a diverse group of industrial applications. Our products provide substantial improvement in thermal performance, save thousands of dollars in energy costs and can help reduce your operations environmental footprint.

Contact Us

To learn more about Unifrax Thermal Management Solutions, contact your Unifrax sales representative or the Unifrax Application Engineering Group in your region:

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