STEULER Refractory | Linings

# SmartCast™
# THE INGOT CASTING REVOLUTION

FOCUS ON PERFORMANCE

# EFFICIENCY AND SAFETY
# **STEULER** Smart**CAST**™

As the most innovative and high-performance refractory suppliers in the ingot casting sector, Steuler significantly optimizes ingot production with its SmartCast™ spider brick. With this development, Steuler offers its customers the decisive step towards better casting quality and a higher output rate.

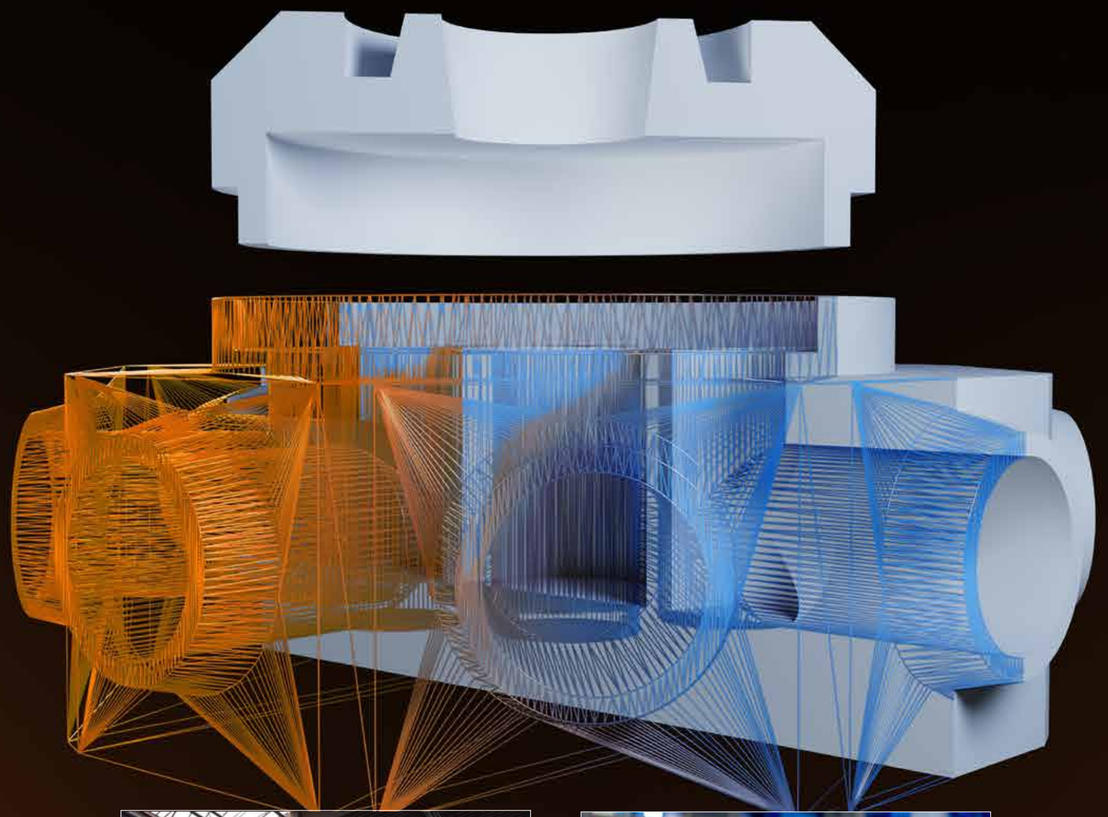
- **Less material loss and reworking costs**
- **Complex control of the casting speed at the ladle is no longer necessary - smooth flow and no pulsing of the steel in the runners**
- **Casting powder consumption can be reduced**
- **Breaking of the steel level (filling level in the mold) during the casting process is reduced**
- **Even with open molds, optimized flow behavior is achieved. As a consequence, the ingot surface and the ingot foot are subject to fewer defects**

Due to the special design of the SmartCast™ spider brick, the flow velocity is already reduced before entering the runner system what avoids turbulences as well as pulsation inside the runners and molds.

There is no straight discharge horizontally into the runner system. Instead, a central chamber fills first, overflows, and indirectly fills the runner system smoothly via an inverted siphon. The inside diameters of the various system components must be carefully aligned.

**USE OF CAREFULLY SELECTED RAW MATERIALS AND ADDITIVES**

Only high-quality corundum-based raw materials are used in the production of the Steuler SmartCast™ spider brick. Combined with a very high firing temperature and Steuler's manufacturing expertise, this ensures that even the most demanding requirements are met.



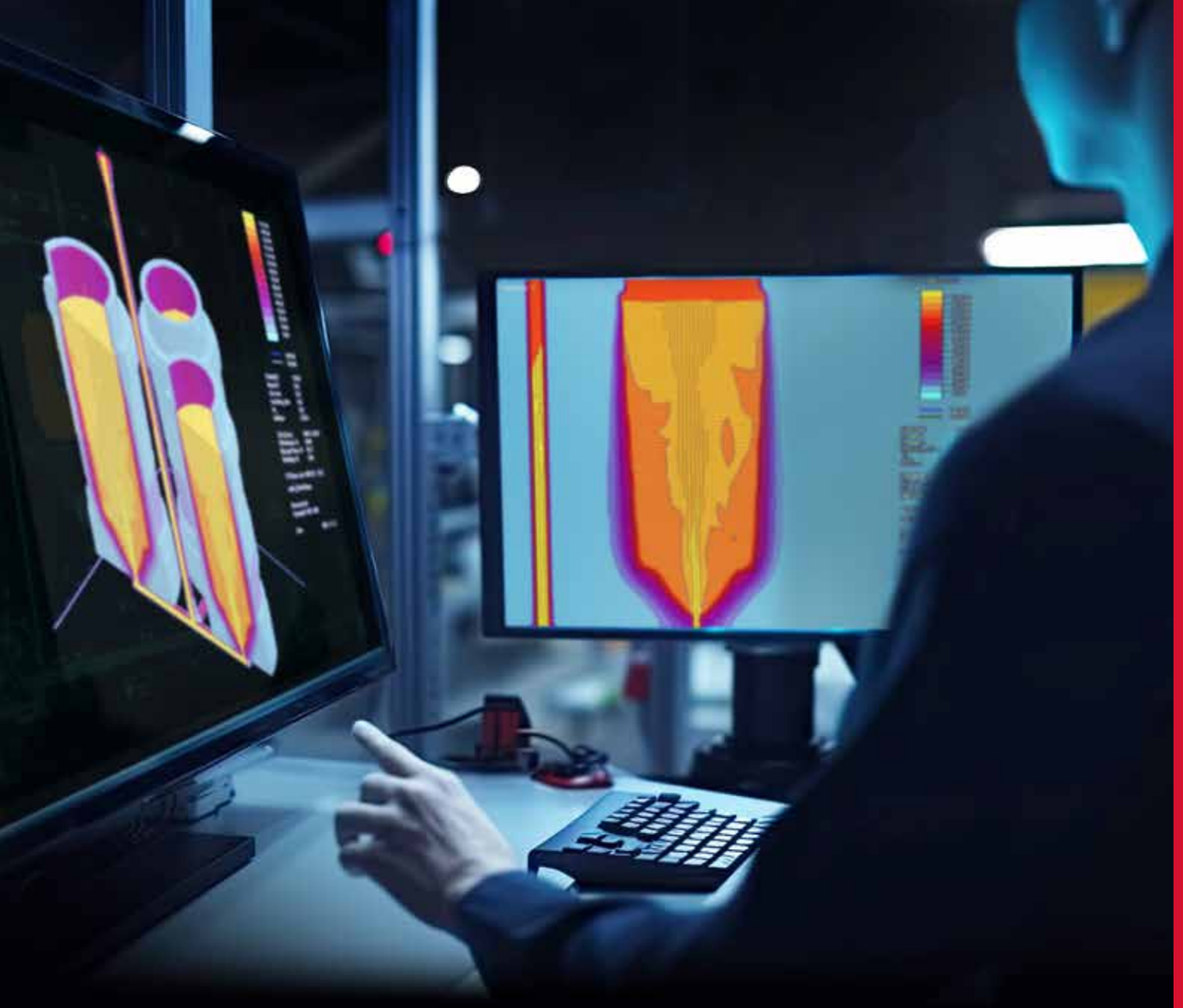
## SPOTLIGHT ON IMPROVED INGOT SURFACE

*Surface of the ingot with standard spider brick*

An example of how we achieve significant improvements in our customers ingot surface, through the use of SmartCast™. The benefits are:

- **Smooth surface**
- **Better casting quality**
- **Higher output rate**
- **Less grinding and reworking costs**

*Surface of the ingot with **SmartCast™** spider brick*



## SIMULATION

The development work for the optimum set-up design is analyzed and evaluated in advance with the support of our simulation software with regard to design measures on the casting process.
For example, the inflow conditions into the mold are visualized by the constructive modification of the bottom pour set-up.

## ADVANTAGES OF SIMULATION

- **Safe way to test and investigate changes to the bottom pour set-up**
- **Complex and cost-intensive test series in the steel mill can be avoided**
- **Evaluation and visualization of the casting and solidification process**
- **Possible omparison between different bottom pour set-up designs**

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