



ISOVENTS™ AUXILIARY INNOVATION

# Case Study



## Process improvement via ISOVENTS™

A foundry group located in the Czech Republic experienced the ASK Chemicals value selling approach, which included the use of ISOVENTS™

## >> Background

**A well-known foundry group in Europe with locations in the Czech Republic came to ASK Chemicals looking for a solution to reduce their cleaning times, as well as improve their core quality.**

This particular European-based foundry group provides products and services to several major foundry markets: mining, aggregates, oil & gas sectors and more. In the Czech Republic, specifically, they were producing special castings in manganese steel and likewise targeted these latter sectors.

When the foundry commenced production it required a new core shooter and core boxes. During core production, however, problems began to arise. There was plugging and sticking occurring with their classical style core vents. This was a major problem because it was affecting the quality of the cores. Therefore, the foundry was forced to look at its entire process to figure out what to do.

The first thing they noticed was that their olivine sand was prone to sticking. This, however, is one potential problem with olivine sand, as silica sand is less prone to stick. Nevertheless, olivine sand was their preference. Therefore, changes would have to occur elsewhere.

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## >> Objectives

The issue was fairly straightforward: solve the problem of sticking within the vents without changing the base sand (olivine). Despite the fully transparent object, though, finding a solution would require an innovative approach.

- Determine the cause of the vent sticking
- Without changing the base-sand (olivine) find a solution to reduce the sticking
- Produce consistent high quality cores

## >> Solutions

ASK Chemicals approached this problem using their value adding approach. Specifically, they examined the process to ensure their recommendations were based on a thorough analysis of the situation. Then, once identified, ASK Chemicals determined that the solution came through ASK-innovation: ASK Chemicals ISOVENTS™ are a substantial breakthrough in vent design, as they are maintenance free.

- Remove all of the classical style core box vents
- Replace all classical style vents with ASK Chemicals ISOVENTS™

ISOVENTS™ are a high quality 3-piece core box vents with high open areas. The construction consists of a stainless steel perforated plate mounted between two nickel-plated brass support tubes. These vents are based on stainless steel plates with punched circular holes. One major benefit of this design is that it's far less prone to blockage. Therefore, it will not block with sand grains; rather, the vents will remain clear and effective with minimal cleaning. This construction makes for easy installation and provides substantial technical advantages producing extraordinary economical returns.



### What is the ASK Chemicals Value Selling Approach?

“ It's a truly collaborative effort, first-and-foremost. The ASK value-adding model leverages our extensive knowledge-base and foundry experience in order to enhance process efficiencies. Sometimes it's also referred to as "solution selling". Here, the supplier works hand-in-hand with the customer to address their specific needs. The eventual outcome is the efficient and successful completion of our customer's stated goals/requirements. ”

## >> Results

**ASK Chemicals implemented their ISOVENTS™ into the Czech-based foundry production process. The result was immediate. There was no longer considerable plugging and sticking inside the vents. This ultimately led to higher quality cores with no imperfections, as shown in the images below.**

The customer was able to see the benefits of using ISOVENTS™, as opposed to the classical style, right away. Below are some of the features and benefits the customer was able to realize:

- Maximum venting efficiency
- Smooth sand surfaces
- Virtually self-cleaning vents
- Total deformation resistance
- Easy installation

### Comparison of vents after shooting olivine mixture

**Left:** Standard Vents

**Right:** ISOVENTS™



### Core Quality Comparison:

**Left:** Core shot in a core box with standard vents

**Right:** Core shot in a core box with ISOVENTS™



# >> About ASK CHEMICALS

**ASK Chemicals is one of the largest suppliers of complete solutions and tailor-made consultation services for the foundry industry. The core of our company's activity involves manufacturing all foundry consumables required for the production chain as well as providing optimum technical services in order to perfectly adapt our products to the processes on the customer's premises.**

Our wide product range contains binders for all core manufacturing processes, coatings, additives, feeders, filters, release agents, metallurgical products including inoculants, Mg treatment wires, inoculation wires and pre-alloys for iron casting. Core production and prototype development as well as a wide range of simulation services round off what the company has to offer.



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