

HSI scar

NETCore®

Foundry HEUNISCH is a family-run foundry group based in Bad Windsheim. A hand molding shop in Steinach, Thuringia belongs to this group. In 2018, the NETCore® technology was introduced to us, and after testing, we have adopted it as standard in our process.



NET-Technology®?

The larger the feeder neck diameter, the more reliable the feeding of the casting. However, when the riser contact exceeds a certain size, the effort required to remove the remaining riser rest is significantly greater. With increasingly complex casting shapes and the requirement for feeding in harder-to-reach areas, removing the risers becomes even more time-consuming.

A significant proportion of the cost incurred during the production of castings occurs in the cleaning department. This is due to the excessive cutting and grinding required to remove the risers sand gating systems. The NET-Technology® range of solutions, developed by GTP Schäfer, were specifically designed to optimize riser removal and reduce costs.

The standard NET-Technology® product range from GTP Schäfer makes it easy to remove risers with contact size up to 150 mm using regular tools within the normal process flow. This eliminates costly and time-consuming post-casting processing.

Within the NET-Technology® product range, NETCore® technology addresses the issues associated with the use of large risers and traditional breaker cores. With these applications, there is a high risk of the breaker core sintering to the casting and increased effort required to remove the riser.

With the NET-Technology® product range from GTP Schäfer, all risers and associated contacts can be removed easily to reduce costs and increase casting quality.



Product range

NETCore®



Breaker core technology that can be applied with highly exothermic THERMO-Riser®, cylindrical or cylindrical reduced EXO-ISO fiber sleeves, consisting of a highly temperature-resistant ceramic medium to prevent sintering combined with a refractory mesh placed directly at the casting surface. This creates the formation of a clean predetermined breaking point along the entire riser neck cross-section.

NETFrame®



The NETFrame® has been specially designed for the removal of large side risers. It is positioned in the riser neck adjacent to the casting surface. The refractory mesh creates a defined and predetermined fracture point making the riser easy to remove.

NETSleeve®



Specifically designed for use in hand molding. The elimination of the traditional breaker enables optimized and reliable feeding of the casting due to the increased contact of the riser. With the addition of the refractory mesh, easy riser removal is established with a predetermined fracture point within the riser neck.

NETCore®

For feeder neck diameters > 80 mm, riser knock-off becomes increasingly more difficult. In addition, there is a greater risk of contact break-in to the casting while attempting riser knock-off. Contact diameters > 150mm push the limits of most means to knock-off risers. For these applications, NETCore® breaker core technology can be implemented. The NETCore® breaker core is equipped with a highly temperature-resistant fabric directly at the level of the casting contact. This material modifies the metal contact at the target break point to significantly reduce the degree of force required to knock-off the riser.



Reduced
cleaning costs



Less scrap



Knock off
up to 450 mm



Significant
time savings



Reduced
risk of injury

Sinter-free breaker core

Refractory fabric



Customer opinion

Problem: Due to the large number of risers, the separation of the feeder residues is a very expensive process. In addition, there is the risk of breaking into the casting while knocking off. In the current state, it is necessary to partially remove the risers and the remaining riser attachment is subsequently reworked separately.

Challenge: To reduce the work of separation and either reduce or completely avoid riser residues.

Customer	Foundry HEUNISCH
Casting	HSI scar
Material	EN-GJS 500-7
Weight	7.900 kg
Model design	1-hand model
Power supply	2 x ZRF 12 B150 NR40
Solution	Integration of NETCore® Technology at a fiber feeder



Advantages with NETCore®

"The use of NETCore® technology enables us to manufacture demanding and cleaning-intensive components within the regular lead time without having to deviate from the regular production process. Furthermore, the reject rate is clearly reduced."

Markus Wellewill
Production Manager

Cleaning costs in comparison

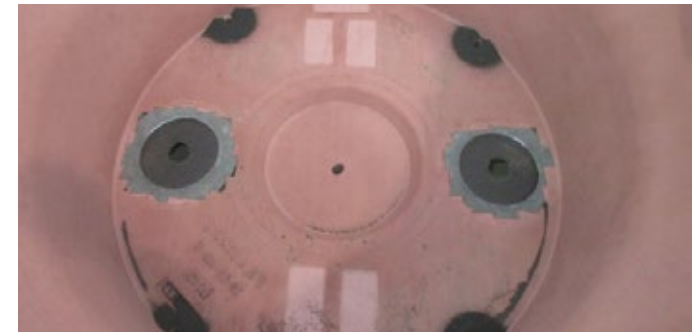
The following case study describes the time saved in producing the castings and removing the riser by the cleaning department with and without NETCore® technology.

Work steps	Without NETCore®	With NETCore®
Knock off feeder	not possible	5 min (oscillation)
Removal from process chain	not applicable	not applicable
Transport to the sawing station	5 min	not applicable
Clamping saw	not applicable	not applicable
Sawing	30 min	not applicable
Return to process	not applicable	not applicable
Total time	35 min	5 min

Result

By using NETCore® technology, the cast part can be produced with less time spent in the cleaning room. This enables the foundry to reduce the processing time by 30 minutes per casting or 98%.

The riser residue can be removed by mechanical means. In addition, the risk of rejects due to break-in is eliminated.



NETCore® molds before casting (top box)



NETCore® casting before cleaning process (riser residue knocked off)



NETCore® separating surface feeder residue



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