Wind Energy Component (Rotor)

NETCore®

Hegerguss is Europe's leading foundry in the field of serial castings for the wind energy sector. Heger castings are up to 30 tons in weight and are delivered to customers in Germany and throughout the entire world.

NET-Technology®?

The larger the feeder neck diameter the more reliable is the feeding of the casting, however, when riser contact exceed a certain size the effort required to remove the remaining riser rest increases significantly. With ever more complex casting shapes, and the requirement for feeding in harder to reach areas, removal of risers becomes even more time consuming.

A significant proportion of costs incurred during the production of castings, occurs in the cleaning department, with excessive cutting and grinding for the removal of risers and gating systems. The NET-Technology® range of solutions from GTP Schäfer were specifically designed to optimise riser removal and reduce costs.

The standard NET-Technology® product range from GTP Schäfer enables the easy removal of risers with contacts up to 150 mm, with regular tools, within the normal process flow eliminating costly and time consuming post casting processing.

Within the NET-Technology® product range the NETCore® Technology, furthermore, addresses the issues associated with the use of large risers and traditional breaker cores, where there is a high risk of the breaker core sintering to the casting further increasing the effort required for riser removal.

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

Product range

NETCore®

Breaker core technology which can be applied with highly exothermic -Thermo Risers, cylindrical or cylindrical reduced EXO-ISO fiber sleeves, consisting of a high temperature resistant ceramic media to prevent sintering, in combination with a refractory mesh placed directly at the casting surface ensures 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 into the riser neck adjacent to the casting surface where the refractory mesh ensures a defined and predetermined fracture point ensuring easy removal of the riser.

NETSleeve®

Specifically designed for use in hand moulding. The elimination of the traditional breaker ensures optimised, and reliable feeding of the casting due to the increased contact of the riser at the casting. Easy riser removal is ensured due to the addition of the refractory mesh and the predetermined fracture point within the riser neck.

NETCore®

For feeder neck diameters > 80 mm, the knocking-off of the The remains of food are usually made considerably more difficult. In addition, with larger the risk that the remaining part of the riser may be incorporated into the casting. which may result in committee. In addition most launcher devices with a feeder neck diameter of > 150 mm to their limits. For these applications the crushing core technology NETCore®. The breaker core is equipped with a high temperature resistant Fabric at the level of the crushing core constriction, which improves the material structure in the intended crushing plane and thus clearly weakens the reduced use of force when knocking off the remaining riser.

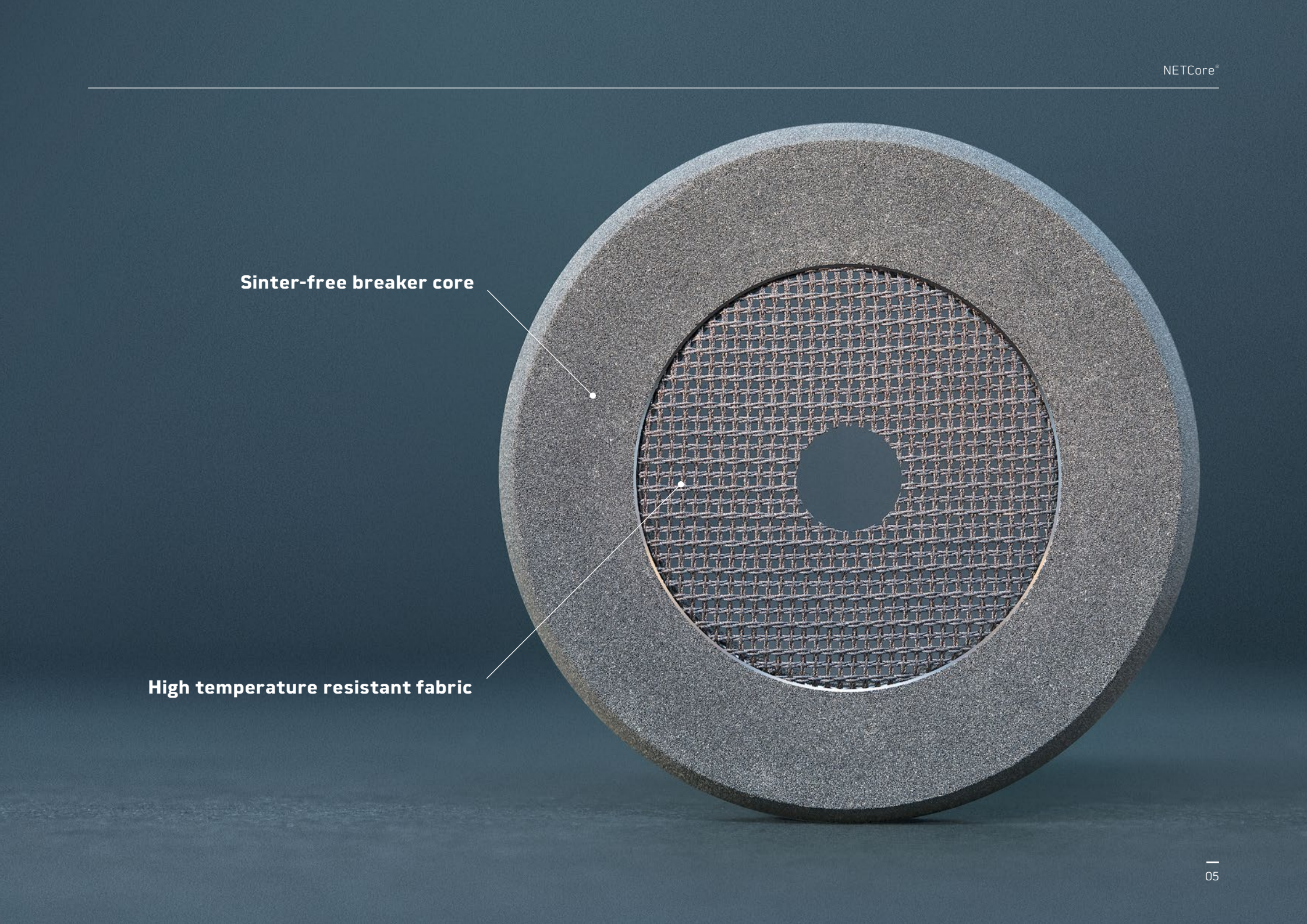
Cleaning costs reduction

Rejects reduction

Teeing up to 450 mm

Clear time savings

Decreased risk of injury


Sinter-free breaker core
High temperature resistant fabric

Customer opinion

Problem: The cleaning times of the component have clearly exceeded the desired processing time. With conventional feeder techniques, no improvement could be achieved on the desired scale.

Challenge: Reduction of cutting time and reduction of throughput time with regard to the entire component. Furthermore, the application technology of the component requires side feeders on the inside, which could only be removed with great effort.

Customer	HegerGuss GmbH
Casting Application	Wind Energy Component (Rotor)
Alloy	EN-GJS- 400-18
Pouring Temperature	1.340°C
Weight	9.800kg (11.200kg liquid)
Feeding	Top feeder and side feeders (see picture)
Solution	Introduction of NETCore breaker core technology for top and side feeders.

Advantages with NETCore®

„With NETCore®, we can reliably feed particularly difficult-to-access feeder positions and also significantly improve cleaning times and results."

Gerd Lorenz

Production Manager from HEGER GUSS

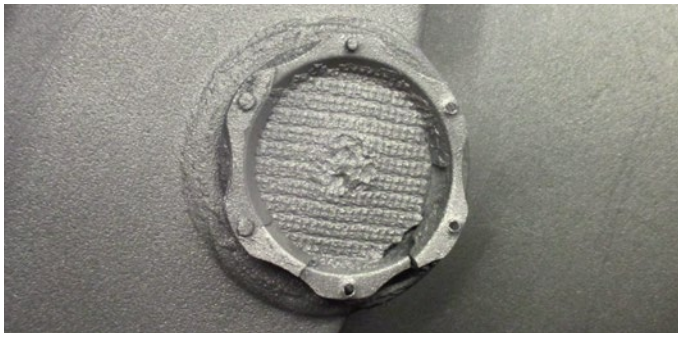
Process steps in comparison

The case study below details the time saved in the processing of castings and removal of risers through the cleaning department with and without NETCore® technology.

Process step	Without NETCore®	With NETCore®
Knock of riser rests	170 min	30 min

Results

The top feeders could be removed with a few hammer strokes and some even fell off at the shake out. For the internal feeders, the gentle use of a hydraulic spreader made it possible to remove the riser rest in a process secure way while significantly reducing the risk of scrap.



Abschlagen mit NETCore® nach dem Ausleeren

Exothermic side feeder with NET-Core® Breaker Core

Conventional top riser with NETCore®

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