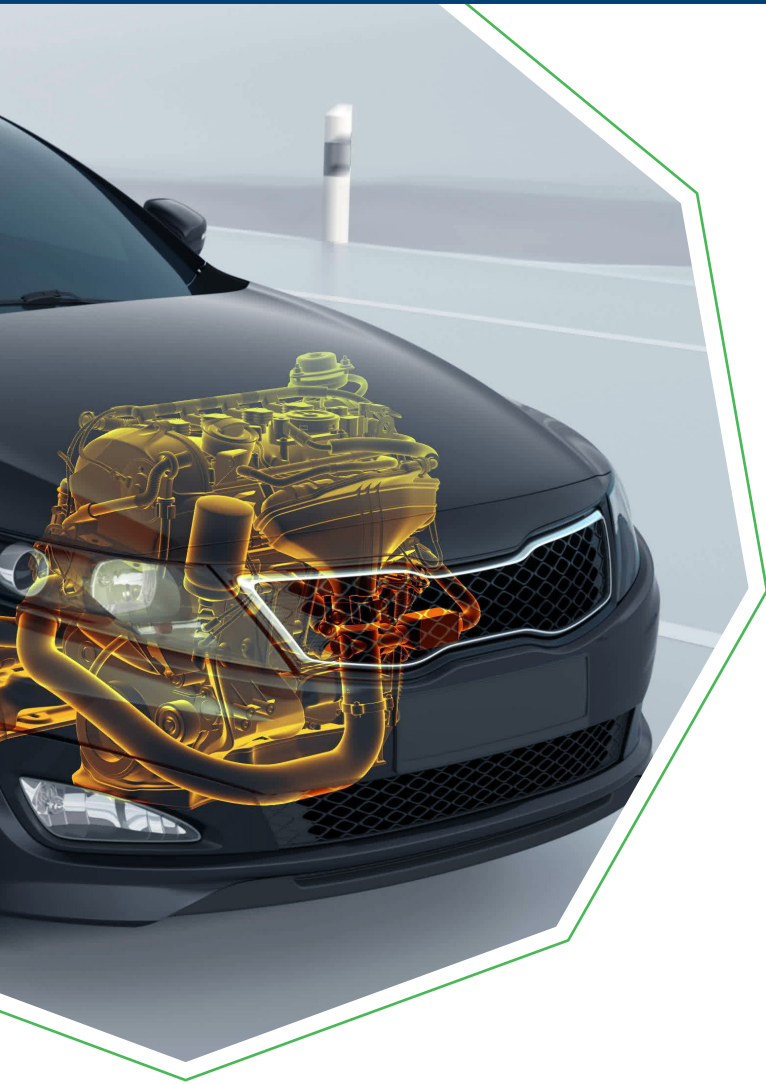


# MIRATEC™ TS



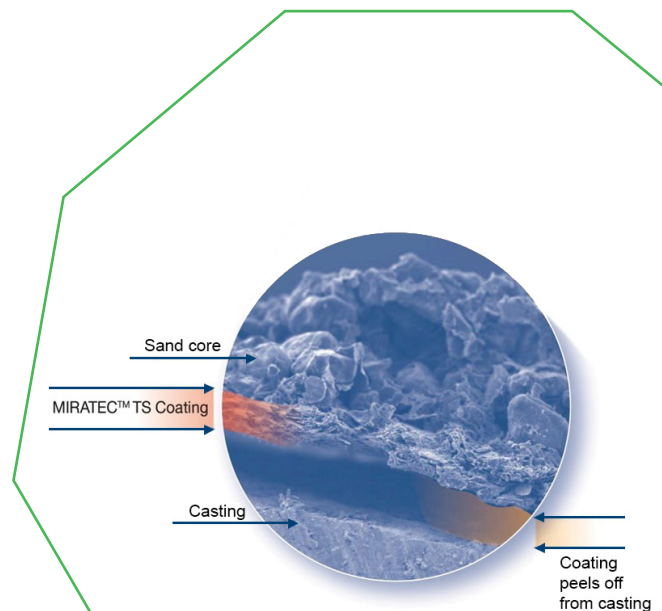
## WATER-BASED TOP SURFACE COATING FOR HIGHLY PRODUCTIVE AUTOMOTIVE CASTING

The production of complex castings is essential to the modern automotive industry. The demands on the components are becoming more and more specific: lighter, stronger, or even bionic structures. Bionic structures, in particular, offer the advantages of using less material, reducing weight, and thus saving process energy while maintaining structural strength. Since it is impossible to treat filigree geometries with a blasting process, the use of coatings is subject to high requirements to produce absolutely flawless castings with minimum coating residue. In particularly complex cases, investing in a special washing machine to meet OEM requirements may even be necessary, which reduces productivity and entails investment costs.

The MIRATEC™ TS coating series is the solution to these challenges faced by iron casters. Specifically, MIRATEC™ Top Surface Technology provides excellent protective properties against casting defects and contains special peel-off additives that promote the detachment of the coating.

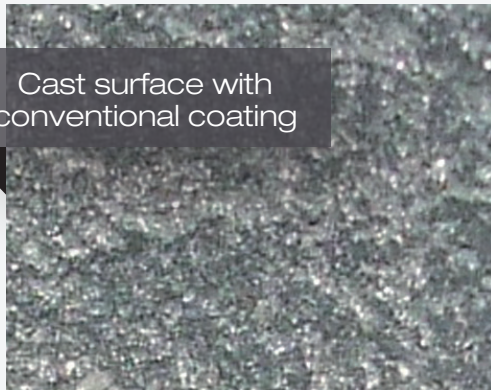
### TECHNOLOGICAL ADVANTAGES

- Reduced residual dirt in the component
- Avoidance of veining, penetration, and gas-related casting defects
- Short handling time
- Improved microstructure with vermicular graphite
- Quick drying with built-in color change





Cast surface with conventional coating



Good casting surface with MIRATEC™ TS



Figure 1: Comparison of the cast surfaces with conventional coating and with MIRATEC™ TS

### MIRATEC™ Top Surface Technology

Top Surface Technology has been specially developed for automotive foundries. The formulation has a special peel-off effect, which causes the coating to peel off the cast part by itself after casting, solidification, and cooling. It leaves behind a very clean and almost residue-free casting. The peel-off effect of MIRATEC™ TS has been proven in SEM investigations. The scanning electron microscope images clearly show that the coating leaves a very clean and almost residue-free cast surface (Figure 1).

### Higher productivity and lower costs with TS Technology

The coating technology features rapid drying with a color change that shows the drying progress. This visual indicator allows the user to easily see when the coating is completely dry. This saves time and energy and saves drying costs.

The water-based coating is particularly suitable for dipping applications and leaves practically no drops after drying. The coating also helps to reduce rework and cleaning time, as it reduces residual dirt and avoids casting defects such as veining and penetration. The improved microstructure with vermicular graphite increases the quality of the casting. Overall, MIRATEC™ TS contributes to higher productivity and better quality at lower costs.

The TS versions are also available as an LFS version for reduced formaldehyde pollution in core production if required.

### Global quality improvement

Foundries all over the world are now using MIRATEC™ TS coatings to produce complex parts economically. A wide variety of climatic conditions, sands, and binders do not interfere with the peel-off effect of the MIRATEC™ TS coating. It works in a wide variety of conditions (Figure 2).



Figure 2: Worldwide use of MIRATEC™ TS

## YOUR SUSTAINABILITYPLUS

### Profitability

- Cost reduction
  - Reduced cleaning time due to the peel-off effect
- Productivity increase
  - Short handling times
  - Fast drying
  - Higher quality through improved microstructure with vermicular graphite (CGI)
  - Reduced rework due to fewer casting defects

### Environment & Social

- Water-based formulation
- Passive and active (patented) reduction of formaldehyde pollution in core production possible
- Energy reduction thanks to shorter drying times and lower drying temperature