EXPERTISE IN MACHINING

Productivity on the right track.
THE RIGHT SIGNALS FOR EFFICIENT MACHINING.

All around the world, the requirements for the transportation of people and goods are increasing, which is turning the rail industry into an important market for the future. Railway infrastructure is one of the deciding factors for the economic success of a region. In the process, the rail industry must deal with the growing demands for mobility and flexibility and meet the challenges set by raw material shortages and environmental protection considerations.

For high-speed solutions which include the best possible levels of safety while at the same time improving profitability, rail transportation requires an innovative and reliable manufacturing partner such as Walter, who have a wealth of experience in rail technology and know how to solve the problems involved: Walter will provide you with complete solutions for all machining requirements.

Expect more.
With us, you can turn your visions into reality.
The paramount objective in the manufacture of flat bottom and girder rails is always a long service life. But rails and points are subjected daily to great stresses. The rail steel that is used has a tensile strength of 700 to 1600 N/mm² and is therefore a real challenge for machining. Robust, versatile tools are needed which are suitable for use in a wide variety of conditions. The powerful Walter milling cutters are ideal in such circumstances. They are available for all current rail profiles and elevations and provide a high degree of process reliability and productivity, whatever type of material is used.

Walter special milling cutter:
Machining the rail head

Walter special milling cutters are available in a wide range of diameters for all current profiles. The tools ensure that the user will achieve a very high level of profile accuracy thanks to stable insert seats with minimal tolerances.

Walter special milling cutter:
Fishplate chamber machining

This special milling cutter achieves a high metal removal rate thanks to an optimum number of cutting edges and perfect space distribution for chip clearance. You can machine all profiles with this strong tool.

Walter form milling cutter:
Machining groove profiles

This form milling cutter machines straight deep grooves and points in one operation. Thanks to the optimum arrangement of the cutting edges, it is possible to achieve a high metal removal rate.

Walter form milling cutter:
Machining groove profiles

We provide this form milling cutter with a wide variety of form inserts for every possible type of profile, thereby enabling particularly efficient and precise machining of the profile at the transition of the rail head. This means greater cost efficiency for the user in comparison to normal solid carbide end mills.
There are few components on railway vehicles which come in so many different variant types as the bogies. The stresses on these components (which consist mainly of welded structures) are never the same, but always extremely high. On ICE trains, for example, half of all axles are driven and the bogies can also be adjusted in their angle of inclination. For machining these units, high-precision tools are required which offer the highest possible levels of productivity and versatility. We have the right tools and also a cutting tool material which enjoys benchmark status: Tiger·tec® Silver.

**BOGIES**

Due to its positive and soft cutting action, the Xtra·tec® face milling cutter achieves extremely high metal removal rates, even on relatively less powerful machines. In addition, the cutter provides a high level of process reliability and allows low cutting material costs thanks to the Tiger·tec® Silver indexable inserts with 8 cutting edges.

**Walter Xtra-tec® F4033 face milling cutter: Machining the contact surfaces**

Equipped with four-edged, tangential Tiger·tec® Silver indexable inserts, the Walter BLAXX porcupine cutter is impressive thanks to its high metal removal rate and almost step-free contours. For even greater process reliability, each cutting edge has its own internal coolant supply.

**Walter BLAXX F5138 porcupine cutter: Machining the spring plate**

The Xtra·tec® Insert Drill achieves higher machining values and minimal hole tolerances with 4 usable cutting edges and extremely strong insert clamping. For the user, that means more productivity and precision when drilling or spot drilling in steel, cast iron and stainless steel.

**Walter Xtra-tec® B4215 Insert Drill: Drilling from solid**

The Walter Prototyp Paradur® x·pert P tap has a large rake angle and produces excellent surface finish qualities. A tough tool which produces cost-effective results for small and medium-sized batch sizes and is available in many profile variants and sizes.

**Walter Prototyp Paradur® x·pert P: Tapping of blind hole threads**

Powered by Tiger·tec® Silver
A wheel set for a modern rail vehicle consists of two monoblock wheels and one axle. These vehicle components are important for vehicle safety and must be able to withstand enormous physical and thermal stresses. The demands on material and manufacturing process are accordingly high. Forged steel (tensile strength 800 to 1000 Nm/mm²) needs to be machined with a high degree of precision. This is because the surface finish quality has a direct influence on the running characteristics and, consequently, on energy efficiency. Walter turning tools are made for such challenges and provide the user with an extremely high level of precision, reliability and flexibility in one cost-effective machining process.

Walter Capto™ turning toolholder: Machining the inner profile

The Walter turning toolholder with its tough Tiger-tec® Silver round inserts ensures excellent surfaces and large-volume chip removal when machining the inner side of the wheel. Thanks to the Walter Capto™ interface, fast tool changes and the transmission of high forces are no problem for this tool.

Walter Capto™ turning toolholder: Machining the outer profile

Fitted with Tiger tec® Silver inserts, these large special turning toolholders which, in the new C8 size, can absorb enormous forces, provide an extremely high level of versatility and dimensional accuracy when machining the wheel flange. A decisive advantage when turning large-scale components cost-effectively.

Walter Tiger-tec® Silver insert: External and internal turning

The circumference-sintered Tiger-tec® Silver insert with new HUG geometry has been specially developed for the medium and heavy roughing of solid wheels and forged parts. A robust and powerful cutting tool with special chip grooves for ideal chip formation and a tool life that is up to 40 percent longer.

Walter Tiger-tec® Silver turning inserts: ISO P machining

Users of the new Tiger-tec® Silver ISO P Generation can achieve up to 75 percent increased performance at the cutting edge when turning steel. The field of application is also increased by up to 40 percent, as a result of which tool costs in production can be significantly reduced.