

Precise grinding

Robel's modular rail and switch grinding machine is a device designed for multiple track maintenance tasks.

Text: Achim Uhlenhut Images: Robel Bahnbaumaschinen GmbH



Easy to handle: the ROGRIND 13.63 modular rail and switch grinding machine can be mounted with additional modules on a base frame that can travel on rails.

There is always something to grind, which is true of both tracks and switches. In particular, after repair grinding and build-up welding, it is important to quickly restore the rail profile or the dimensions in a switch as perfectly as possible on the rail head and the side. Build-up welding is common in curved track and on switches. During operations, worn rail material is replaced with systematically placed weld beads. The profile's reduced cross section is filled up again either mechanically or by hand. Another welding task is to remove spot defects on the rail head. In each of these cases, the comparatively coarse result must then be smoothed and returned to the desired dimension ("target profile"). This is achieved through skilful grinding and reprofiling, often between two trains.

Different grinding machines are used for the rail head and the sides of the rail. Depending on the grinding task, they are equipped with cup wheels, cylindrical grinding heads, or grinding discs. There are two options: either use multiple machines for the specific grinding operation or use one machine which can be re-equipped accordingly in just a few steps. The ROGRIND 13.63, a modular rail and switch grinding machine by Robel Bahnbaumaschinen GmbH, is an example of the latter. Eight attachable grinding modules, four electrically powered E³ modules, and four with internal combustion engines featuring different outputs complete the base frame that can travel on rails. The components are assembled on the machine according to the task at hand; no additional tools are required.



Environmentally friendly: the ROGRIND 13.63 can also be operated without emissions using energy from the battery storage.

The same is true of the gauge adjustment in a range of 1000 to 1676 millimetres, which is ideal for treating multi-gauge track as well as grooved rail.

As is usual at Robel, energy from both the standardized, robust battery storage developed for track construction and a cord (power supply) can be used to supply the E³ electric modules. Electric machines are noticeably quieter and do not require servicing. One battery charge (2300 watt-hours) enables 60 minutes of uninterrupted grinding which, in practice, is enough for an entire shift. The sturdy frame design ensures stable guidance and, in combination with the central feed of the grinding tools, results with the desired precision. The grinding angle is finely adjustable, which is important for the radii on the rail head. Thanks to the modular design and the telescopic frame, the machine can be easily transported to construction sites, is ready for operation quickly, and can be taken off the track quickly.

