
# Milling switches

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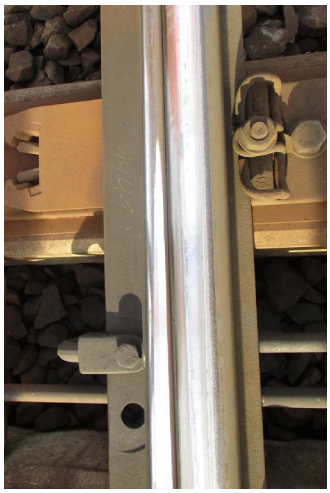
enabling green mobility

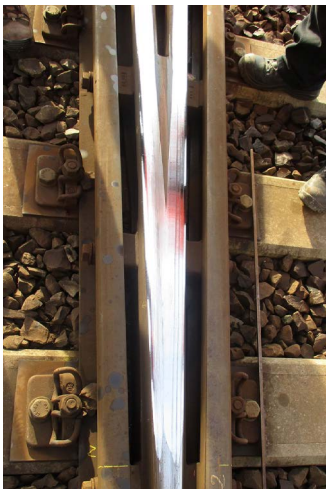
Technical Datasheet

Open switch rail



Closed switch rail

One side of a wing rail



Milled frog

## Benefits

/ Complete reprofiling of the main line and the turnout including frog, wing rails and switch rails down to a width of 20 mm
/ Minimal machining time required
/ Switch is back to near-new condition after machining

## Applications

/ All switches including switches with spring-action frogs can be machined
/ For cost-effectiveness reasons, not recommended for single-slip switches, double-slip switches or crossings


SF02 W-FS milling truck

### Switch maintenance using corrective rail machining

Milling a switch is a challenge and up until now has received little consideration as a machining option. Now it's possible to machine up to 95 % of switches and crossings including the frog, wing rails and closed switch rails using a specially developed tool – and that's with Deutsche Bahn approval and on high-speed lines up to 280 km/h! Other cost-effective combinations are also possible in conjunction with our Flexis System.

Video

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# Milling switches using the SF02 W-FS in combination with Flexis

## Operational requirements

Although machining the switch's more heavily trafficked main line is straightforward, machining the turnout does require the adjacent track to be closed for a short time. Flexis is used to align the ramps in the frog as well as the wing rails and the switch rails in order to comply with regulations. Flexis can also be used while trains are running.

# SF02 W-FS Technical Data

| Main dimensions | |
|---|---|
| Length over buffers (LoB) | 18,320 mm |
| Height | 3,408 mm |
| Width | 2,490 mm |
| Number of bogies<br>Number of axles | 1–4 |
| Wheelbase between bogie pins | not applicable as vehicle has only one bogie and 2 fixed axles |
| Vehicle gauge / structure gauge | UIC 505-1 |

| Speed | |
|---|---|
| Hauling speed when transported as part of train set | transport in train sets not permitted |
| Hauling speed | 20 km/h |
| Max. speed (self-propelled) | rail speed: 45 km/h<br>road speed: 80 km/h |
| Operating speed | 0.4–0.8 km/h |

| Weight | |
|---|---|
| Tare weight | 45 t |
| Maximum axle load | 12.4 t |

| Brake system | |
|---|---|
| Brake system type | hydrostatically operated brake system – activated via traction lever + direct-acting brake system that works by means of an auxiliary shaft on the differential 4 disc brakes |
| Braked weight | 40 |
| Braked weight percentage (calculated using the braked weight and weight of the vehicle) | 92 |
| Transport setting (F/P) | not applicable – no F/P change-over |

| On-track operability | |
|---|---|
| Shunting maneuvers not permitted (e.g. hump-shunting or loose shunting) | not permitted |
| Smallest traversable curve radius (transport mode / operating mode) | Ra 50 (transport)<br>Ra 80 (operating) |
| Max. uphill and downhill gradients/cant (transport mode / operating mode) | 40 ‰ uphill and downhill |
| Transport in train set / as end vehicle | transport in train sets or as end vehicle not permitted |

| Weather constraints | |
|---|---|
| Ambient temperature (operating mode) | between -10°C and 40°C, modifications possible |

| Equipment / features | |
|---|---|
| Performance data | one milling unit on each side, integrated tangential grinding units and downstream flap-disc grinding units |
| Material removal | 0.9 mm max. material removal per pass |
| Applicable standards | DB Ril 824,<br>EU Standard 13231:2-2020 |
| Personnel: machine operator, crew (number, qualifications) | 4 personnel for operation +<br>2 personnel for maintenance shift |
| Equipment for train operation | ATC, ITC, digital train radio |

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