

# CROSSINGS

## Description

Since trams are particularly stressed in the area of turnout intersections, in order to bypass the interrupted running edge in the crossing, different types of crossings are used in our turnouts depending on the application. With all our crossing designs, we place great importance on safety, availability, durability and a material-appropriate maintainability.



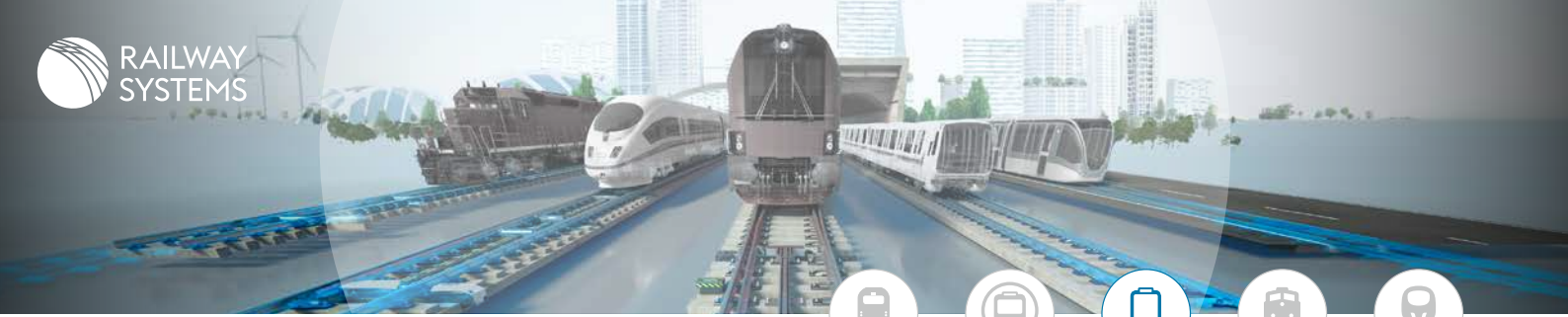
## System advantages

- » Suitable solutions for all rail profiles and maintenance philosophies
- » Ensure the highest level of functional reliability and maintainability
- » Use of highly wear-resistant materials in wear areas
- » Replacement without affecting the top layer (WHZ-T)

## System features

- » The right crossing for all rail types
- » For flat, deep and mixed groove (according to track laying specifications)
- » Straight and curved design
- » Special designs possible
- » Crossing types
  - » Made of rolled profiles (H = 180 mm), for the crossing block made of 310C1 in combination with welding rails made of 73C1 or 105C1 with integrated groove (flat and deep groove)
  - » Made of highly wear-resistant 400HB steel
  - » Interchangeable crossing WHZ-T
  - » Overrun crossings



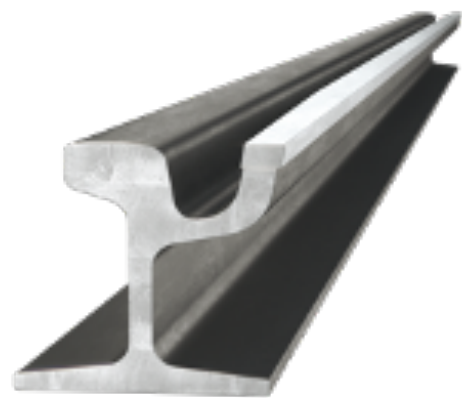


## CROSSING 400HB

### Description

For this crossing design, we use highly wear-resistant 400HB steel in the area of the crossing block in order to meet the demands for a long life cycle while reducing maintenance costs and effort. According to the rail profile to be adapted, the design of the block consists of a sandwich or full block design.

The welding rails connecting to the block may consist of rails for crossings and turnouts with incorporated grooves, standard rails with welded in wear-resistant guiding edges (deep groove only) and block rails made of wear-resistant 400HB steel according to the available designs and are welded to the block.



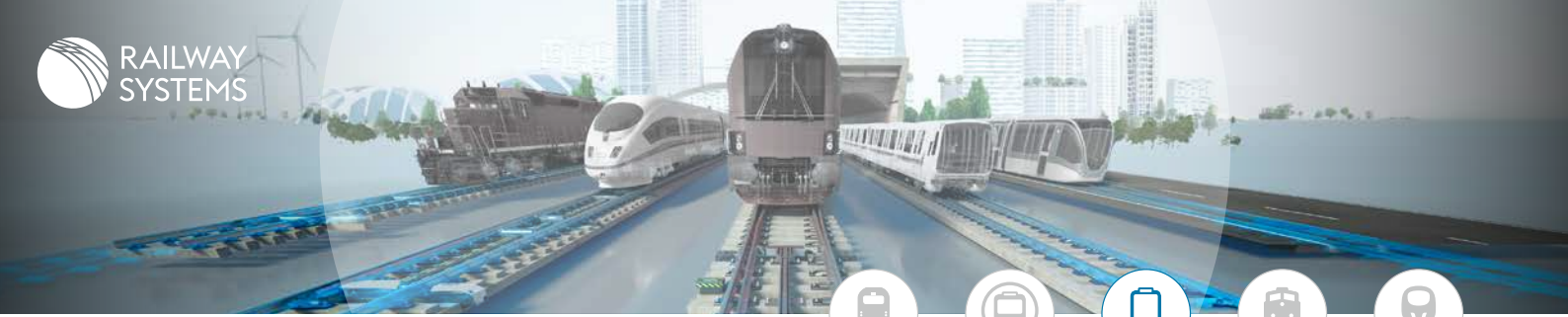
### System advantages

- » Suitable for all rail profiles and rail qualities
- » Low maintenance due to excellent wear resistance through the use of highly wear-resistant 400HB steel
- » Optimised wheel overrun
- » Guaranteed interchangeability
- » Can be used for all turnouts in curve turnouts
- » Order and repair welding possible
- » Suitable for all types of rail fasteners
- » Aluminothermically weldable into the track

## Materials

- » Crossing block made of highly wear-resistant 400HB steel
- » Welding rails according to the track guidance relevant need and standard rail used in the turnout area
  - » Construction rails (profile H = 180mm) 73C1 and 105C1 with integrated groove (flat and deep groove), quality R220G1
  - » Standard rails with welded-in guide rail 400HB (deep groove) R200, R220, R260, 290GHT-CL, R290GHT, R340GHT
  - » Highly wear-resistant welding rail made of 400HB steel (flat and deep groove)





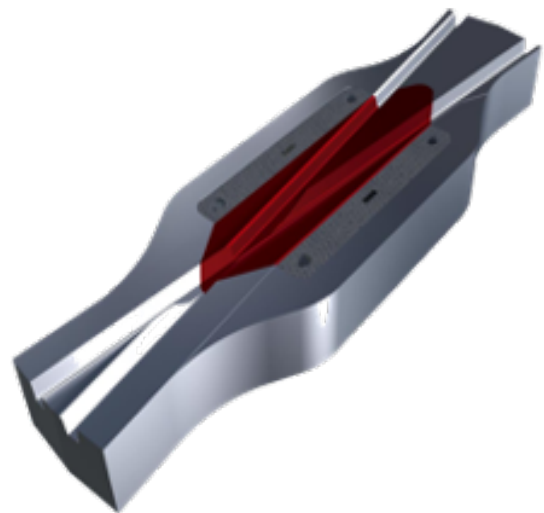
# INTERCHANGEABLE CROSSING WHZ-T (FOR DEEP GROOVE)

## Interchangeability of the overrun area without damaging the top layer

### Description

In the context of the need to minimize costs and ensure largely fault-free rail traffic, it is important to extend lay times and reduce maintenance times. In order to carry out complex repairs, for example in the event of an accident or extensive maintenance work, it was previously unavoidable to affect the road surface.

Additional, cost-intensive construction measures had to be accepted. This is no longer the case! Due to the design, the overrun areas in the crossing are exposed to particularly high loads.



### System advantages

- » Suitable for all rail profiles
- » Use of highly wear-resistant steels with tensile strengths of  $\geq 1200 \text{ N/mm}^2$
- » Low-wear, rounded  $30^\circ$  scarf joints
- » Permanently proven bracing of the insert
- » Replacement of the insert without affecting the top layer
- » High level of availability
- » Fast amortisation
- » Short-term data collection for LCC consideration
- » Spare parts compatible with ZAD 30/45

### Additional description

In order to make the service life of the entire crossing independent of the service life of the overrun area, the idea was born from a special customer request to make the corresponding parts interchangeable.

In addition, the design also allows the disassembly of hard-to-weld parts for maintenance and repair work under workshop conditions. Data acquisition for LCC considerations is possible. In this way, the material can be “played” with. In this way, different materials can be tried out under identical conditions. Conclusions about other systems are adaptable.

