



# COMMON BUILT-UP CROSSING

## Common Built-up Crossing “EHZ COMPACT 1400”

### Description

This design consists of a crossing vee, which is machined out of a rolled slab made of tempered steel. The closure rails are connected to the vee by flash-butt welding. The two wing rails are also made out of standard rail profile, machined and bolted by means of distance blocks to the welded crossing vee.



### System advantages

- » Excellent elasticity because of bolted design – therefore, optimal integration into the elastic behaviour of the track
- » No special appliances and patterns required – therefore, economical even for small quantities
- » Extension of service life by built-up welding in the track
- » “Bending” of the assembled crossing at a later stage possible – therefore perfectly suitable for all types of curved turnouts
- » Guaranteed interchangeability
- » Can be thermite welded into the track
- » Through tempering of the crossing vee a high yield point is achieved with at the same time sufficient elongation and thus high wear resistance is obtained in the wheel overrunning area with the typical dynamic compression stress

## Description

The crossing vee is machined from a rolled slab made of tempered steel. The length of the crossing vee depends on the rail profile and the geometry of the crossing. The welding joint between crossing vee and closure rails is in any case in the area where the wheel overrun of wing rail/crossing vee is completed. Distance blocks are welded onto the crossing vee.

The closure rails are machined from rolled rail profiles. They are welded together in the area of the head and foot and connected to the crossing vee by means of flash-butt welding. The wing rails are also made from rolled rail profiles, machined and bolted to the welded crossing vee by means of distance blocks.

All distance blocks are machined and adjusted to the support areas of the closure and wing rails during final assembly. This guarantees on the one hand an exact position of the distance blocks and on the other hand adherence to the required flangeway tolerances.

## Technical description

- » Fulfills EN 13232
- » Crossing vee: 51CrV4 according to EN material no. 1.8159
- » Tempered to tensile strength (elongation min. 8 %) 1200 - 1400 N/mm<sup>2</sup>

## Bolting of the Crossing “High-Tensile”

This type of bolting is used for durably connecting the main components (wing rail, crossing vee, closure rail, guard rail and joggled rail) of common, obtuse and multiple built-up crossings.

The components are connected to each other by means of high-tensile metric bolts (property class 8.8 or 10.9) and hexagon nuts. In order to make sure that the seat of the rail head and the hexagon nut is level, special shims are used. These shims have a special form in the contact area of the rail web so that the best possible contact surface is achieved. Possible settling loss can thus be kept to a minimum. To achieve the rectangular contact of the head of the bolt and the nut, hardened spherical disks and ball sockets are used. They guarantee a 100% rectangular contact area of the head of the bolt and the nut. Self-locking nuts are used to make sure that the bolt does not get loose.