

68.05 / 13

RAIL CLAMPS

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1 TECHNICAL DATA

Length along the rail	Approx. 100 mm
Maximum width at right angle to the rail	Approx. 280 mm
Height	Approx. 130 mm
Weight	Approx. 11.5 kg

Rail Clamp 68.05 Version 13 is designed for the following rail type and fishplate combinations:

Rail UIC60 and fishplate no. RDSO/T-3714 (RDSO/T-1898)

Rail UIC60 and fishplate no. RDSO/T-5916

Special designs for other rail types **upon request**.

The standard design of the rail clamps for the rail types mentioned **does not encroach the clearance gauge**.



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2 SAFETY

2.1 General dangers

The device is built securely according to the current state of technology.
 For further information see Appendix A.

2.2 Information about dangers

All the following information and instructions are intended to protect the operator's personal safety and physical well-being against dangers and the assets of the company operating the device from damage. The instructions on hand consistently use certain terms to distinguish between types of danger and the level of consequences to be expected from not complying with instructions. These are as follows:



DANGER: points out that non-compliance with instructions may result in death or severe injury to the operator or considerable damage to the operating company's assets.



CAUTION: points out that non-compliance with instructions may result in injury to the operator or damage to the operating company's assets.



INFORMATION: contains important information about the device, its operation or about a section of the instructions on hand.

2.3 First aid

Always ensure that proper "first aid" equipment is provided.
 Consult the medical duty officer or doctor at your office regarding "first aid" measures and appropriate equipment.

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3 DESCRIPTION OF DEVICE

3.1 Designated use

The gauge-independent rail clamps of type 68.05, version 13, are suitable for flat bottom rail UIC60, see chapter 1.

The rail clamps are used for joining two rail ends securely with a tight fit or for securing rail breaks.

For this two fishplates have to be used and mounted on the right and left of the web of the rail.



Approved for tracks in service of the Deutsche Bahn AG network, speeds of up to 160 kph.

Respective country and railway specific regulations have to be adhered to.



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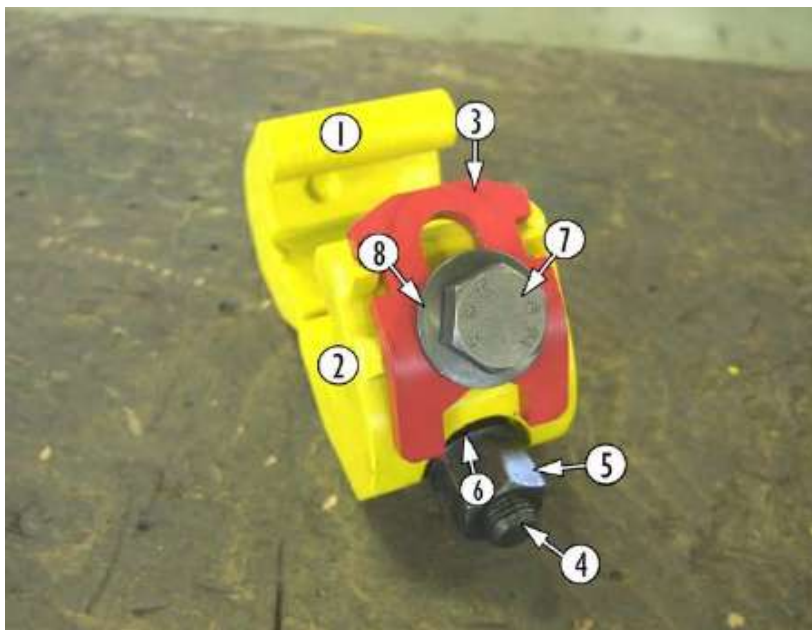
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3.2 The individual components

The rail clamps consist of:

- 1 Jaw (orange)
- 2 Jaw with locking mechanism (orange)
- 3 Locking plate (red)
- 4 Hexagonal bolt M27 x 260
- 5 Hexagonal nut with collar M27
- 6 Lock washer "HS"
- 7 Hexagonal bolt M27 x 2 x 50
- 8 Tension washer



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4 OPERATING CONDITIONS

4.1 Operating conditions

The use of rail clamps is not subject to restrictions due to weather conditions.

ATTENTION

The appliance is not sea water-proof.

- Do not fit rail clamps where groundwork is affected by salt-water.

4.2 Storage conditions

Rail clamps are to be stored in a dry place.

4.3 Transport conditions

ATTENTION

Damage of the locking mechanism!

- Care should be taken not to damage the locking mechanism.
- Rail clamps in transit are to be protected against extreme impact or blows.



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5 APPLICATION

5.1 General

ATTENTION

Pay attention:

- Current permanent way installation specifications relating to the temporary repair of rail fractures and joints must be observed without fail!
- Rail clamps must NOT be used for connecting insulated joints!
- The correct fishplate for each rail type must be fitted (=> please observe country-specific railway regulations!).
- The mounting of rail clamps without fishplates is strictly prohibited.
- It is strictly prohibited to use damaged rail clamps.



When using the ROBEL rail clamps 68.05 / 13 (short version) at least 4 sets of rail clamps are required for securing the fishplates.

For this rail clamps 68.05 / 13 must be fitted at both ends of the fishplate.



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5.2 Conditions for safe operation

The rail clamps may only be used if the following points are observed:

- It is essential to observe the applicable installation regulations on technical superstructure measures in the case of rail fractures and joints.
- The appropriate fish plates must be used for each rail type (each use of fish plates must be checked by ROBEL before use).
- The maximum speed at which the point of use of the rail clamps may be crossed is specified by the network operator, but must not exceed a maximum of 160 km/h.
- The installation of the rail clamp without fish plates is strictly prohibited.
- Rail clamps are not allowed to be used for insulated joints.
- Do not use defective rail clamps or fish plates.
- The deflection during dynamic movement must not exceed 5 mm. If the measuring device indicates more than 5 mm, the ballast must be compacted, e.g. with a ROBEL Vertical Tamper.
- During the use of the rail clamp, the temperature difference of the ambient temperature must not exceed 25 °C. If the temperature difference is greater than 25 °C (e.g. the temperature difference between day and night), then the individual rail clamp must be checked on site at shorter intervals. (see also the operating instructions of the network operator).
- At the rail joint, no edge ("step") leading upwards in the direction of travel may be crossed. If the edge leads downwards in the direction of travel, a maximum of 2 mm is permitted.
- If the rail clamp is used on a track with curves, radius must not be smaller than 75 m.
- The entire length of the rail clamp must be in contact with the fish plate.
- In the case of long holes or bores, the rail clamp may only rest between the bores/long holes or symmetrically over the bores/long holes. In the case of joggled fishplates, the rail clamp must not jam on the joggled area of the fishplate.
- Ensure that the emergency rail clamps are only in contact with the rail and fish plate and not with other components (e.g. signalling, sleeper, welding). During operation, the sagging when a rolling stock passes over must be taken into account.

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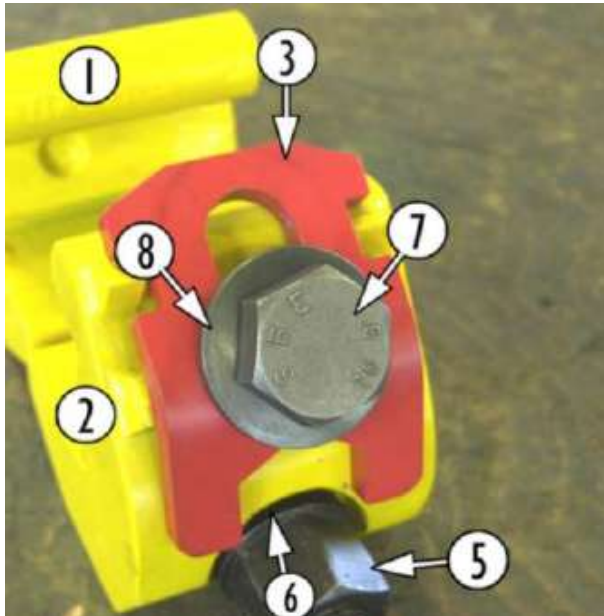
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5.3 Preparation of the rail clamps for installation



- Open locking bolt (7) (approx. 7 rotations).
 - Slide up locking plate (3) and fix by tightening the locking bolt.
 - Loosen hexagonal nuts (5) with a suitable tool SW41 and unscrew.
 - Remove lock washers (6).
 - Pull apart the jaws (1+2).
- ⇒ The rail clamp is now open and ready for mounting.



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5.4 Installation

5.4.1 Important information

When installing the rail clamps the following procedure has to be adhered to (Extract from: TM 2006-083 I.NVT (F) of DB AG):

- In order to ensure a tight fit of the fishplates after installation the rail fastenings on the adjacent sleepers have to be loosened such that a tight-fit installation of the fishplates is possible. This has to be done after the ballast has been cleared between the sleepers.
- The fishplate locking mechanism (fishplates and clamps) has to be tightened securely during installation. The fishplates have to be bashed with a sledge hammer and the hexagonal nuts tightened with a torque of **580 Nm** using a torque spanner.
- After the first train has passed the fishplates have to be re-bashed with a sledge hammer and the required torque of 580 Nm has to be checked using a torque spanner.

5.4.2 Tools required for installation



Sledgehammer approx. 6.5 kg for destressing fish plates



Torque Wrench capable for 580 Nm with Hexagonal 41 mm socket

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