

**Manual**  
**for Installation**  
**and Maintenance**  
**of**  
**Horizontal Anchorage Device**

**Type 30 10 010-31**  
**of**  
**Horizontal Guide-Rails, Anodised Aluminium** Part No. FS-WAL

**Type 30 10 010-32**  
**of**  
**Horizontal Guide-Rails, Hot Dip Galvanized Steel** Part No. FS-WST

**Type 30 10 010-33**  
**of**  
**Horizontal Guide-Rails, Pickled Stainless Steel** Part No. FS-WA4

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SE 23



# Table of contents

A	General	3
B	Installation	4
C	Inspection and approval	12
D	Bolt connections/securing of bolts	12
E	Maintenance	12
F	Check List	15

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**Notice!**

**In this issue the following has been changed: Position B 12 has been removed without any new comments added. New B 12 gives tightening torque ranges for widened range of screws (m10-M20). Section C - additional comments added.**

# A General

- A 1. Anyone working with or on SÖLL anchorage devices in accordance with EN 795 must be familiarised with these instructions prior to using the system. Use which is not in accordance with these instructions constitutes a risk to human life!
- A 2. The operator of the anchorage device must ensure that these instructions are stored in a safe, dry place on site and that the user may have access to them at any time.
- A 3. If requested, the plant operator must present these instructions to the manufacturer of the fall protection system (Christian Dalloz Holding Deutschland GmbH & Co. KG or a dealer authorised by the same).
- A 4. The fitment and use of SÖLL accessories to such anchorage devices must strictly adhere to the relevant instructions for the fitment and use thereof.
- A 5. In case of the use of further personal protective equipment, relevant instructions must be followed.
- A 6. National regulations on accident prevention and use of safety equipment for construction work must be adhered to.
- A 7. Söll anchorage devices may only be fitted and used with original Söll components/elements. The combination with non-original components/elements may influence the safety of SÖLL anchorage devices. In such cases, Christian Dalloz Holding Deutschland GmbH & Co. KG and dealers authorised by the same refuse to accept product liability. In addition, such systems are not properly approved and authorized since SÖLL anchorage devices are tested, approved and authorized as complete systems. Full liability will therefore rest with the operator.
- A 8. Söll anchorage devices made of stainless steel 1.4571 are delivered in pickled finish ex.works. Care must be taken that storage and further processing is suitable for stainless steel.
- A 9. The check list (see Section F) must be fully and correctly compiled by the chief engineer of the installing company by means of an indelible pen.
- A 10. Before and during the use of the installed fall protection system, the system must be visibly inspected to ensure that it is in safe operating condition.
- A 11. This Söll anchorage device may only be used in conjunction with fall arrester DIN EN 355.
- A 12. This Söll anchorage device is designed for simultaneous use by a maximum of 3 persons.

## B Installation

### B 1. The installation components consist of

- several guide-rail sections which may be fitted as required.
- an appropriate number of fixing brackets, which must be fitted at a distance of max. 1000 mm.
- one profile joining section fitted to each anchorage rail section with 2 special bolts each M 12 x 30 with nut and tooth lock washer.

#### Per anchorage device at least:

- 2 horizontal end stops, Part No. 16571
- or 1 end stop, Part No 11634 and 1 horizontal end stop, Part No. 16571 or 2 end stops, Part No 11634.

Bolt connections must be secured against loosening, refer to section D „Bolt connections/ securing of bolts“.

### B 2. Equipment required for easy mounting:

- 2 open wrenches, SW 19
- 1 open wrench, SW 17
- 1 open wrench for wall bolts as required
- 1 open wrench, SW 13
- 2 full body harnesses according to EN 361
- 1 toolbox

**Min. 1 additional safety lanyard according to EN 354/355 with energy absorber for each person to protect the mounting person against falls from height during the installation.**

### B 3. Personnel required for installation: two persons

#### Attention: Mortal Danger!

If an opening has been provided for in the scope of the delivery, this must be immediately secured on both sides using a horizontal end stop (Part No. 16571) so as to prevent the runner from unintentionally sliding out of the end of the rail.

### B 4. Components must be handled carefully. Guide-rail sections must not be thrown.

### B 5. Before installation, rail sections must be cleaned from dirt - in particular on connecting surfaces. They should not come into contact with cement, mortar or similar substances. Remnants of mortar must be wiped off immediately. Especially the sliding surfaces for the fall arrester on the inside and outside of the guide-rail must be free of dirt.

### B 6. Damaged parts may neither be used nor repaired but must be replaced by new ones.

**B 7. Minimum dimensions for the mounting of anchorage rails:**

The minimum dimension of the bolts is M 12 for the connection between the anchorage rail and the fixing bracket, M 16 between the sub-structure and the fixing bracket. In the case of chimneys, bolts according to DIN 601 - M 20 and nuts in accordance with DIN 555 are prescribed for use.

B 8. We specifically stress that only those dowels may be used which are permitted by site inspection engineers.

B 9. For concrete structures we recommend the use of undercut dowels (such as Hilti, Fischer, UPAT or Liebig); follow technical instructions given by the manufacturer.

In case of installations on brick wall constructions we recommended you to consult the responsible design engineer for an approval in each specific case.

**B 10. Solidium requirements:**

The anchorage device is tested in accordance with DIN EN 795 and is consequently equipped according to prototype testing for a static force of 10 kN for the first person and 1 kN for every additional person (max. 3 persons = 12 kN). The requirements of the solidium are to be calculated accordingly.

**In accordance with EN 795, the following recommendations for installation are valid:**

When fixing in steel or in wood it is to be proven, for example by means of calculation, that the construction and installation can withstand the force exerted during prototype testing.

When fixing in other materials, suitability is to be established, for example via testing in a sample of the material concerned. The sample must meet with the requirements of prototype testing in accordance with DIN EN 795, Point 4.3.4.

According to this, each anchorage should be subjected to an axial tensile force of 5 kN after being fitted in the material concerned in order to test the strength of the fittings. The anchorage should withstand the force for at least 15 seconds.

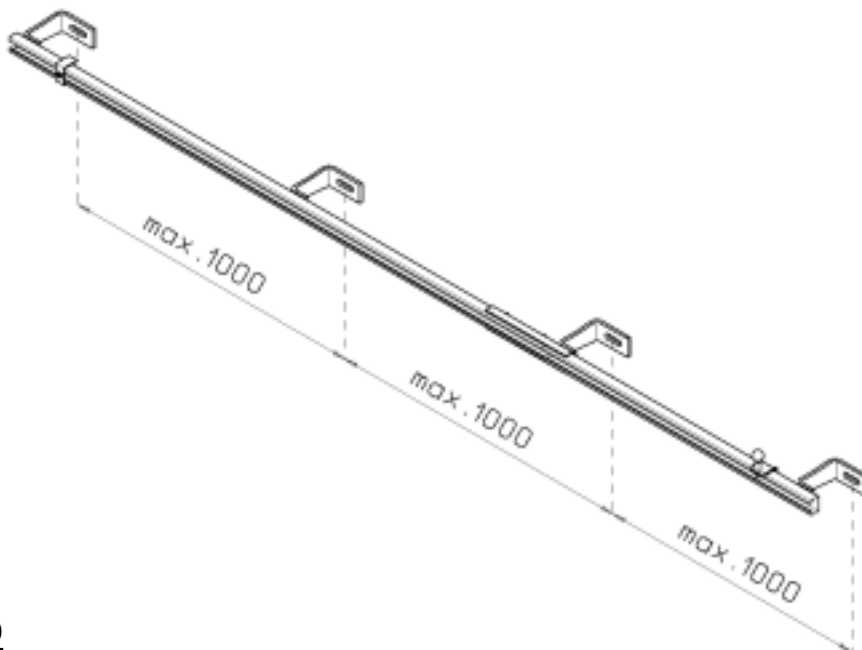
It is to be established beyond doubt that the distance required to arrest a falling worker is not greater than the distance available at the site in question. Follow the manufacturer's instructions supplied together with the shock absorber.

**Fig. 1a, b and c**

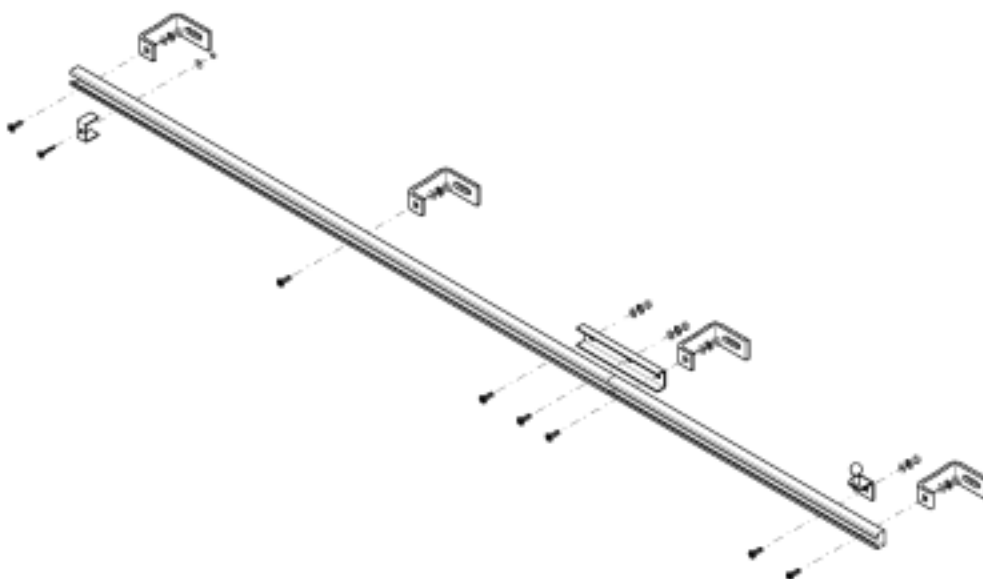
B 11. Fixing distances

According to approvals applicable for this product the maximum distance between its attachment points must not exceed c-c 1.000mm. There must be no unsupported overhang past the brackets at each end of the rail system.

**Fig.1a**

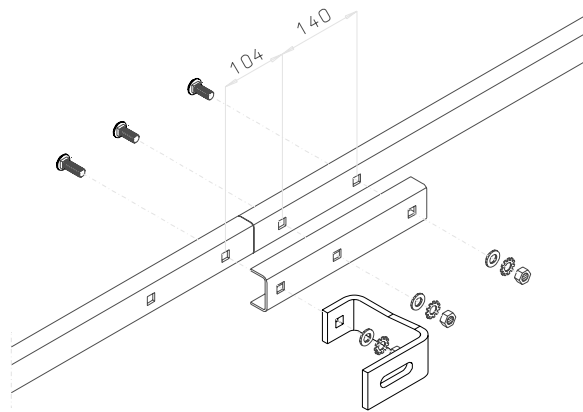


**Fig. 1b**



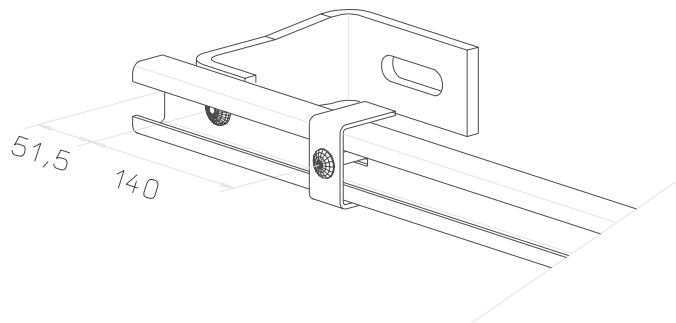
Rail interconnectors must be secured to a mounting bracket on the shortest side, that is, next to the rail joint as per Figure 1c.

**Fig. 1c**



A mounting bracket shall be installed at the extreme ends of each rail system. Mounting holes for rail interconnectors normally come factory drilled. Use the first hole to mount the bracket and the second hole (at 140mm from rail end) to install the end stop.

**Fig. 1d**



**B 12. Torque ranges:**

When tightening mounting screws in **steel quality 8.8** used in combination with tooth lock washers the following tightening torque range is recommended:

Screw size:	M 10	M 12	M 16	M 20
	20 Nm	25 Nm	60 Nm	120 Nm

When tightening mounting screws in **stainless steel quality 1.4571** in combination with Söll supplied auto-locking nuts (DIN 985) the following torque range is recommended:

Screw size:	M 10	M 12	M 16	M 20
	40 Nm	45 Nm	85 Nm	150 Nm

**Fig. 2**

**B 13. End-stops**

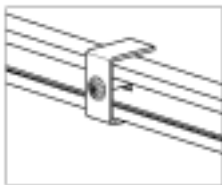
The function of the anchorage device is only guaranteed within the area of the anchorage rail which has been secured using end stops and if used in accordance with regulations.

It is to be established beyond doubt that a horizontal end stop (Order No. 16571) or a fixed end stop (Order No. 11634) has been fitted at each end of an anchorage device.

**Fig. 2**

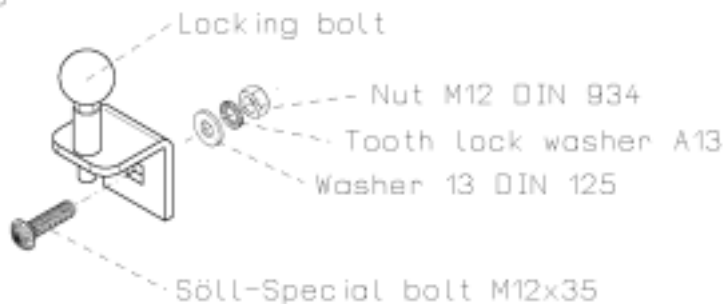
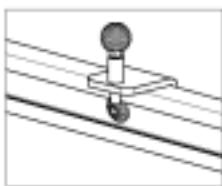
End stop

Order No. 11634



Horizontal End stop

Order No. 16571



The anchorage rail can be mounted overhead (opening downwards) as an anchorage device, as well as laterally, to the side.

**Important:**

The end gate Part No.16571 should always be installed with the knob of the locking bolt pointing upwards, if the rail is installed with its side opening not directed upwards or downwards. This condition applies also when the rail is used in connection with a turn table in combined vertical/horizontal systems. Should the horizontal rail system be used in connection with a roof transfer unit, follow the instructions applicable for that unit.

**B 14. Care is to be taken that the anchorage rail is in a horizontal position!**

**Fig. 3**

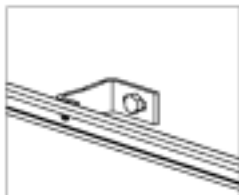
**B 15. Fixing brackets**

For the purpose of fixing to a solidium and sub-structures, our fixing brackets are to be used taking the following table into account

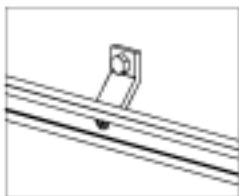
	Fixing Bracket Part No. BB-SSTR	Mount Part No. 11102	Fixing Bracket Part No. BB-SA4R	Mount Part No. 16838
Guide rail Aluminium, anodised Part No. FS-WAL			x	x
Guide rail Hot Dip galvanised steel Part No. FS-WST	x	x		
Guide rail Pickled stainless steel Part No. FS-WA4			x	x

**Fig. 3**

Order No. BB-SSTR (Hot dip galvanised steel)  
Order No. BB-SA4R (Pickled stainless steel)



Mount  
Order No. 11102 (Hot dip galvanised steel)  
Order No. 16838 (Pickled stainless steel)



**B 16. Anchorage Rail Joint Gaps:**

- a) When fitting steel/stainless steel anchorage rails to steel sub-structures the rails can be mounted with no joint gaps due to the virtually identical thermal expansion properties.
- b) Practice has shown it to be advisable to assemble the system with a gap of **2 mm**. More exact details regarding min. and max. gaps can be found in the following tables.

**for aluminium ladder joints for mounting on concrete structures**

brickwork	section length 4,48 m		section length 2,24 m	
	max. Joint Gap	min. Joint Gap	max. Joint Gap	min. Joint Gap
- 20 °C	5,0	2,7	5,0	1,4
- 10 °C	4,5	2,2	4,7	1,1
0 °C	3,9	1,6	4,5	0,8
10 °C	3,4	1,1	4,2	0,5
20 °C	2,8	0,5	3,9	0,3
30 °C	2,3	0	3,6	0

**for aluminium ladder joints for mounting on brickwork**

brickwork	section length 4,48 m		section length 2,24 m	
	max. Joint Gap	min. Joint Gap	max. Joint Gap	min. Joint Gap
- 20 °C	5,0	4,1	5,0	2,1
- 10 °C	4,2	3,3	4,6	1,6
0 °C	3,4	2,5	4,2	1,2
10 °C	2,5	1,6	3,8	0,8
20 °C	1,7	0,8	3,4	0,4
30 °C	0,9	0	2,9	0

**for steel ladder joints for mounting on brickwork**

brickwork	section length 4,48 m		section length 2,24 m	
	max. Joint Gap	min. Joint Gap	max. Joint Gap	min. Joint Gap
- 20 °C	5,0	2,7	5,0	1,4
- 10 °C	4,5	2,2	4,7	1,1
0 °C	3,9	1,6	4,5	0,8
10 °C	3,4	1,1	4,2	0,5
20 °C	2,8	0,5	3,9	0,3
30 °C	2,3	0	3,6	0

## C Inspection and approval

During inspection attention should be paid to the fact that the anchorage rails are horizontal. All screw/bolt connections to the fixing brackets, rail connections and end stops are to be inspected. They must be securely fastened and secured against loosening (see Section D). The locking bolts in the horizontal end stops must automatically return into locking position.

## D Bolt connections/securing of bolts

When using hot dip galvanised screws the tooth washer ensures satisfactory securing of the screw/nut connection.

When using stainless steel screws self-locking nuts (nyloc or similar) shall be used.

## E Maintenance

### **Warning:**

For reasons of safety, guide-rail sections should not be repaired without consulting competent personnel. Parts which were mechanically damaged, for example, during a fall from a height should be exchanged.

An anchorage device which has been subjected to a fall is to be taken out of service immediately. It is to remain out of service until a competent person establishes that it is in perfect working order or until the components of the anchorage device which have been subjected to stress by the fall have been replaced by a competent person.

- E 1. Guide rails as part of an anchorage device are to be checked as required by a competent person to ensure that they are in good working order.

### **A competent person is:**

One who is knowledgeable of manufacturer's recommendations and instructions on manufactured components and is capable of identifying existing and predictable hazards in any component of a personal fall protection system and related equipment used in the work environment, and who has authorization to take prompt corrective measures to eliminate or control the hazards. He must be familiar with the relevant guidelines, national and international safety regulations and generally acknowledged rules of technology (e.g., EN standards).

- E 2. Runners are to be checked at least once a year by a competent person, as well as after having been subjected to the strains of a fall. Please refer to the relevant instructions with regard to this!
- E 3. Prior to and during each usage, the anchorage device is to be checked with regard to the regularity and function of all components.
- E 4. At the extreme ends of a horizontal anchorage device end stops or gates shall be installed. The locking bolt of the end gate (Fig.2) shall in systems with rail openings not upwards or downwards always be directed upwards. The spring activated locking bolt must close automatically, to prevent unintended exit of the trolley.
- E 5. Guide-rails must always be free of dirt.
- E 6. All bolt connections must be securely fastened and secured against loosening, see section D.
- E 7. A permanent sign of sufficient size is to be fixed adjacent to every import and export point for runners, which must contain the following details:
- Type or model designation.
  - Year of manufacture.
  - Manufacturer, supplier or importer of the anchorage device.
  - Form of anchorage device in accordance with DIN EN 795.
  - Notice: "Only use anchorage device with fall arresters in accordance with EN 355."

**Note:** Permanent is intended to mean, for example - an embossed, coated aluminium sign.



# F Check List for the Inspection and Approval of Söll Anchorage Devices

**Type 30 10 010-31 for horizontal guide rails, anodised aluminium Part No. FS-WAL**  
**Type 30 10 010-32 for horizontal guide rails, hot dip galvanized steel Part No FS-WST**  
**Type 30 10 010-33 for horizontal guide rails, stainless steel Part No FS-WA4**

The check list on pages 15 and 16 must be fully and correctly compiled by the chief engineer of the installing company using an indelible pen. He is responsible for the correctness of all information provided therein. Check points which are characterised by defects or deviate from the description are to be entered in the appropriate list on page 16.

## Control Activity

**Remarks**  
(please cross)  
yes no

- The maximum fixing distance is 560 mm - B 11.
- There are no excess projections, in accordance with section B 11.
- The gaps at the guide-rail joints comply with section B 17.
- The bolt connections between structure and mounting elements comply with section B 7.
- The mounting elements are correctly installed and all bolt connections are tightly fastened.
- All bolt connections are secured against loosening in accordance with section D.
- A "Bottom End Stop" has been installed at the beginning of the climbing path in accordance with sections B 19/20.
- "End stops" have been fitted at the beginning and end of the guide rail in accordance with section B 14.
- The locking pin of the horizontal end stop is easy to open and returns automatically into locking position.
- Identification sign in accordance with section E 7 is fitted.
- The guide-rails are free of dirt.
- Only anti-corrosive, or hot dip galvanized mounting elements and bolt connections have been used.
- The Söll fall arrester can be inserted into the guide rail.
- Söll fall arrester have been issued to the operator.
- Test climbing has taken place.
- No defects or shortcomings found.
- This manual was handed over to the operator.
- Only original components from Christian Dalloz Holding Deutschland GmbH & Co. KG were used.

Please turn over!

