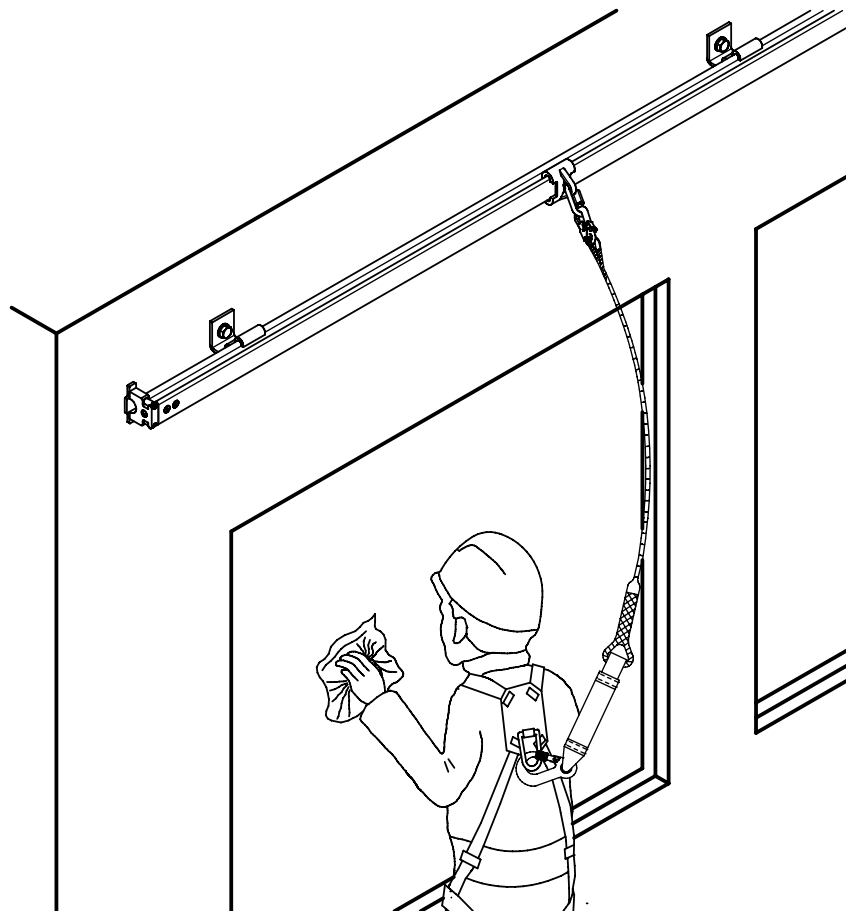


Operating and maintenance instructions

for

„Söll-MultiRail“ horizontal Anchorage system



Stand: 19.06.2009
SE 25



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Notice!

In this issue the following has been changed: logotype

1. Introduction

General instructions

These instructions are intended to assist the user and/or the assembly/installation personnel in achieving a fault-free process of all operational functions.

It is therefore important that these instructions are read thoroughly and are fully understood by all personnel responsible for this installation or those who use it.

The manufacturer will not accept any responsibility for faults and damage caused by non-adherence to these instructions.

If, despite this, problems arise which you cannot solve, please contact our customer service and replacement parts department. Our members of staff will be pleased to be of assistance!

2. Equipment description

The **Söll „Söll-MultiRail“ Horizontal anchorage system** is a fall protection anchorage rail which has been tested in accordance with and complies with EN 795, class D.

The respective and valid safety precautions must be observed!

The system consists of a guide rail and specially bent brackets, which enable sideways, overhead or ground-based assembly / installation with large bracket spacing.

Due to the individual components the guide rail run can easily be adapted to suit local conditions.

This system is used, for instance, for window and facade cleaning, flat roof access for maintenance work, cleaning of glass roofs or cleaning of solar panels.

3. Safety precautions

General safety precautions

Before operating the system every person working with or on a Söll „Multi Rail“ anchorage device must be made aware of these instructions.

Attention!

Using the system contrary to these instructions will endanger life!

The operator of the anchorage device system must ensure that these instructions are either

- retained in a dry and secure condition at the installation or
- retained by the operator, whereby he or she must ensure that the user is aware of the storage location of these instructions and that the documents are accessible at all times.

The operator must produce these instructions on demand by the manufacturer of the Söll „Multi Rail“ anchorage device (SPERIAN FALL PROTECTION Deutschland GmbH & Co. KG Deutschland GmbH & Co. KG or one of their authorised dealers).

The respective instructions must be observed when assembling, installing or using Söll accessories with this Söll „Multi Rail“ anchorage device.

The respective instructions must be observed when using other personal protection equipment.

The Söll „Söll-MultiRail“ anchorage device should be used only by personnel who are trained to handle this system safely.

The accident prevention regulations BGV A1 and BGV D 36 as well as the „Rules for the use of personal protective equipment against falling and/or for holding and rescuing“ BGR 198 and 199 must also be observed.

When assembling installing this equipment, observe the details listed in UVV BGV C 22 as well as information booklet BGI 530.

Söll „Multi Rail“ anchorage devices may only be fitted and operated with original Söll components / elements.
Combining with components and/or elements from other manufacturers can adversely affect the safety of the Söll „Multi Rail“ anchorage device. In these situations SPERIAN FALL PROTECTION Deutschland GmbH & Co. KG Deutschland GmbH & Co. KG and their dealers will reject any claims for product liability!

In addition, such cases are completely unauthorised, as Söll anchorage devices are tested and certified as complete systems. Full liability is therefore transferred to the operator!

Söll „Multi Rail“ anchorage devices made from stainless steel 1/4401 are supplied fully pickled at the manufacturer's works. Ensure storage facilities are suitable for stainless steel parts.

The check list (chapter 8) must be filled in fully, clearly and correctly by the manager of the construction company using an indelible pen.

Ensure that the Söll „Söll-MultiRail“ anchorage device is in the flawless working condition and is functioning properly before and during every use of the device.

The Söll „Multi Rail“ anchorage device may only be used in conjunction with fall arrester DIN EN 355.

The Söll „Söll-MultiRail“ anchorage device has been designed to be used by a maximum of 6 persons simultaneously. If less than 6 persons are permitted due to structural reasons, the same must be specified on the identification plate.

The user should be physically fit and should not be under the influence of medicines or alcohol. This is essential for his/her safety.

It is essential for this system to have a rescue measures plan. This plan all possible emergencies that may occur while working into account.

If this system is re-sold in another country, the retailer must provide this manual in this country's language. This is important for the users' safety.

Call in the notified department 0158: EXAM BBG Prüf- und Zertifizier GmbH, Certification Body, Dinnendahlstraße 9, 44809 Bochum.

4. Screw connections / Srew locking

4.1 Stainless steel screws

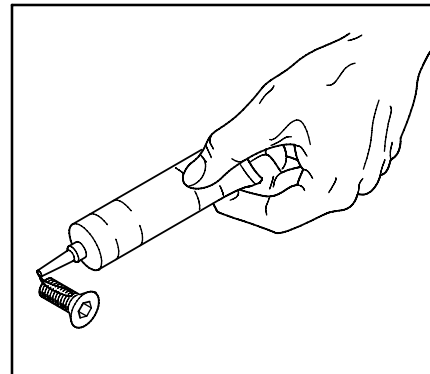
Only stainless steel screws may be used with the Söll „Multi Rail“ anchorage device

4.2 Locking with LOCTITE

Spring washer or serrated washers are quite useless as a locking agent when used with stainless steel screws. It is therefore important that the liquid locking agent LOCTITE 2701 is used.

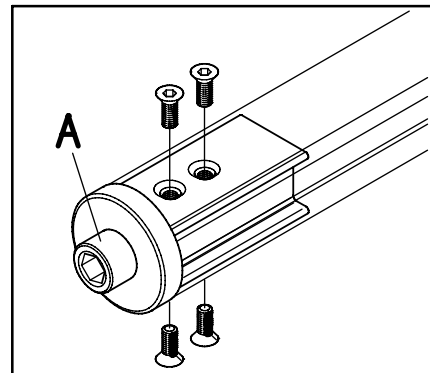
Attention:

Ensure that the hex. socket screw A (M 14 x 35) does not come into contact with the glue.



Process:

- Clean the surfaces to be glued with LOCTITE Fast Cleaner 7063 or 7070
- Blow out holes and threads with dry and oil-free air
- With M12 apply the product in drops to the bottom of the internal thread
- With M6 apply the product in drops or in circular form to the external thread
- Insert the screws and tighten. This ensures that the product is distributed evenly over the thread run. Final locking is achieved after 24 hours at 22°C
- If screws have to be unscrewed again, remove any loose LOCTITE by mechanical means, apply fresh LOCTITE and then fit the screws again.



4.3 Guidance for the use of LOCTITE

M6 = 1 drop

M12 = 3 drops

5. Assembly / Installation

5.1 System design

Fixings used with Guide Rail must be selected by a competent person and be suitable for the type of substrate and loads conditions.

A competent person must ensure that the substrate being fixed to is sufficiently strong and robust.

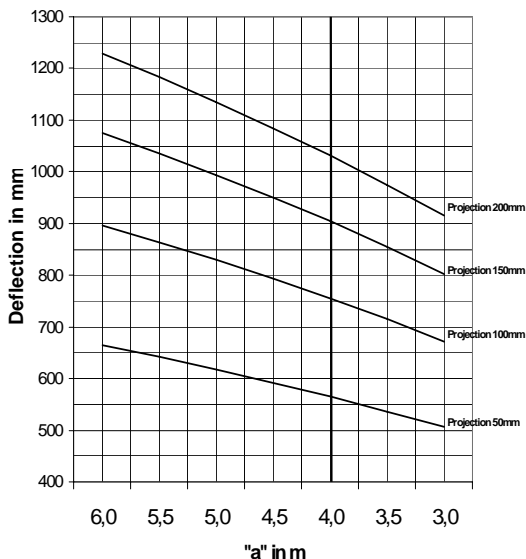
Select the position of guide rail to ensure that the free fall and the fall height are restricted to a minimum.

Ensure that the distance required for arresting the fall is not greater than the clearance available on-site. Select the most appropriate PPE and system configuration to achieve this. (Also refer to chart 1 for this purpose)

When a fall is arrested the deflection of the Söll-MultiRail guide rail depends on bracket spacing „a“ and the guide projection:

The chart must be used irrespective of the number of users.

chart 1



Note:

Both ends of guide rail must project by this design distance (also refer to point 5.9 for this purpose)

5.2 Components:

Depending on requirements, several lengths of guide rail (2), joined, order number 17488/19146.

A corresponding number of attachment brackets, will be required, order number 17489/17112. Please refer to the catalogue for the entire product range.

A rail connector piece is required for every joint, order number 17332, each with 4 countersunk M 6 x 10 screws (3).

Depending on the requirements:

Rail end plate, fixed (4), order number 17404

Rail end plate with release (5), order number 23956

Horizontal bend (6), order number 17331

Vertical bend (7), order number 17330

T-Junction (8), order No. 20449

Runner (9), order number 17407/17792 (with separate instruction document)

Roller (10), order No. 24168 with separate instruction document)

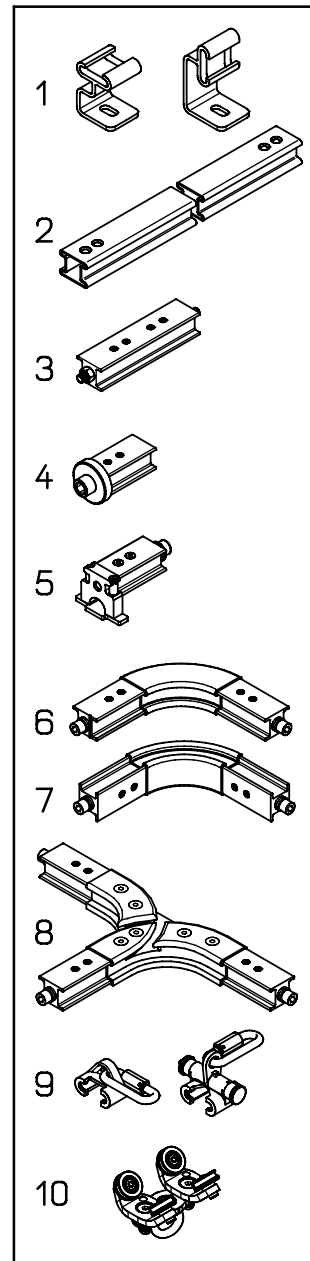
5.3 **Tools for assembly / installation**

- 1 wrench, (for M14)
- 1 wrench, (for M6)
- 1 wrench, (for M12)
- 1 open wrench,
- (for bracket assembly/installation M 12)
- 2 full body harness complaint with EN 361
- 1 tool bag

At least one separate safety rope i.a.w. DIN EN 345/355 with fall arrester per person to provide additional safety assembly/installation.

5.4 Personnel required for assembly / installation

At least 2 persons are required for the safe assembly / installation of the Söll „Multi Rail“ anchorage device.

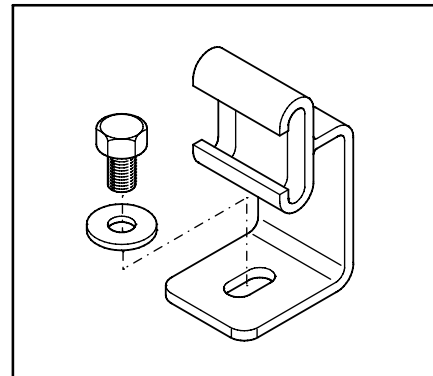


5.5 Condition of components

Treat and handle components with care.

Clean guide rails before assembly / installation. The bearing surfaces for the runner in particular must be cleaned before initial use.

Do not use damaged parts, do not attempt to repair them but replace them with new parts.



5.6 Fixing of brackets

The attachment brackets are fixed to the structures or sub-structures with M12 screws.

Note:

The guide rail can be fitted as anchorage in overhead position, on the ground as well as on the side.

Rollers (order no. 24168) can only be used for overhead installations. **Ensure the guide rail is fitted horizontally on its complete length!**

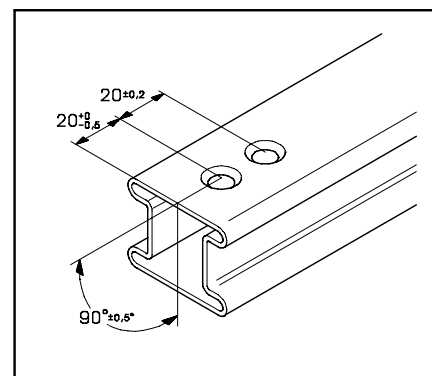
5.7 Cutting of rails

The cut edge must run at an angle of $90^\circ \pm 0,5^\circ$. The chamfering (for DIN 7991 - M6 x 10 countersunk screws) must be drilled on both sides at a spacing of 20 mm. (Follow the tolerances)

A drilled jig, order no. 23841, is available for counterbores.

Note:

The head of the countersunk screws must be flush with the surface of the rail or protrude max. 0.5 mm. All saw or drilling edges must be cleanly deburred!



5.8 Bracket spacings

Note:

Every length of rail must be supported by at least 1 bracket.

5.8.1 Using the Söll „Söll-MultiRail“ anchorage device in combination with the runner (order no. 17407/17792)

- recommended bracket spacing 4.0 m.
- Maximum permissible bracket spacing 6.0 m.
- Refer to diagrams

5.8.2 Using the Söll „Söll-MultiRail“ anchorage device in combination with the roller (order no. 24168) and a fall arrester

- Bracket spacing „a“, refer to chart 2

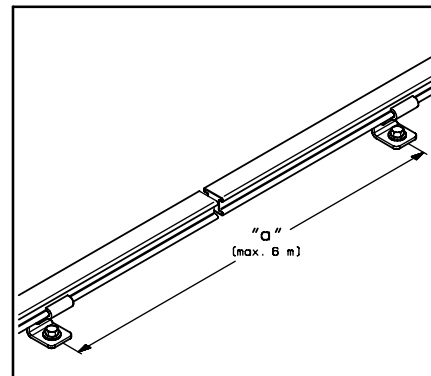
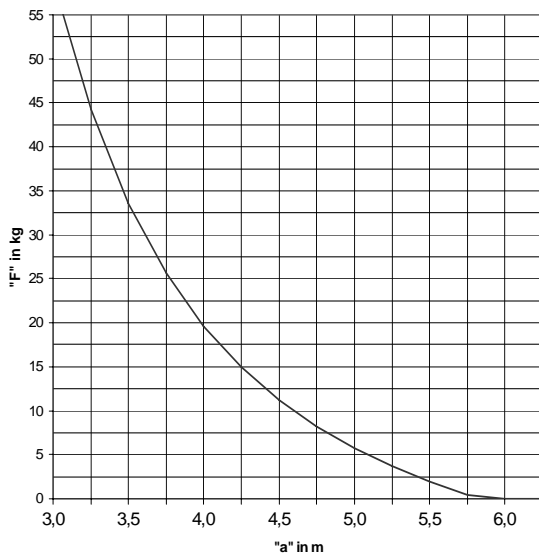


chart 2



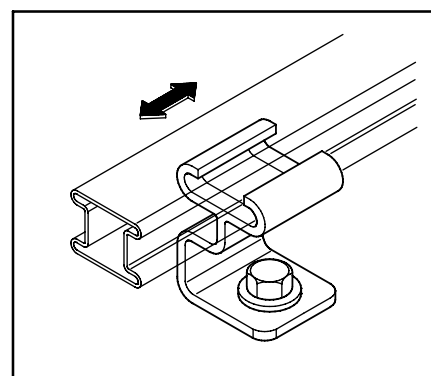
Definition of „F load“:

Dead weight of the retractable type fall arrester + maximum retracting force of the retractable type fall arrester (maximum retracting force is normally at approximately 3 kg)

„a“ = bracket spacing

„F“ = load

The rail slides on a Teflon strip in the brackets.



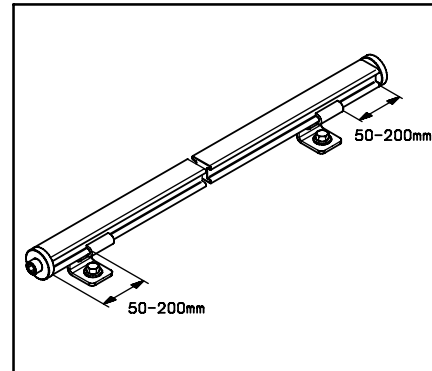
5.9 Rail over-hanging the last / first bracket.

Possibility 1:

The guide projection should be between 50 and 200 mm. (Refer to point 5.1, chart 1)

Attention!

A rail end plate **must** be fitted to each rail end.

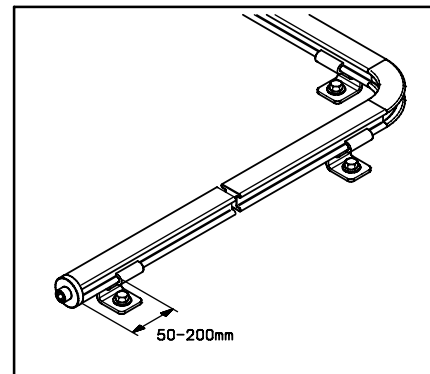


Possibility 2:

The guide projection should be between 50 and 200 mm. (Refer to point 5.1, Table 1)

Attention!

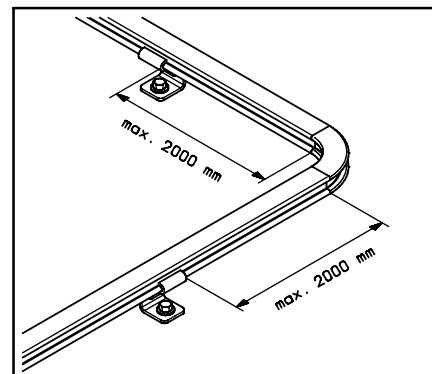
A rail end plate **must** be fitted to each rail end.



Clamp spacing for bends:

L-shape of the „Söll-MultiRail“ anchorage device: (only 1 bend has been built in)

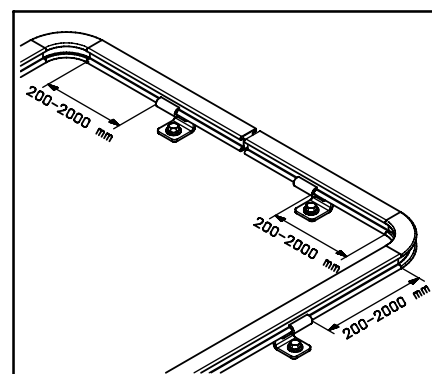
The distance between the clamp and the bend can be a maximum of 2000 mm.



U-shape of the „Söll-MultiRail“ anchorage device: (2 bends have been built in)

The distance between the clamp and the bends should be between 200 and 2000 mm.

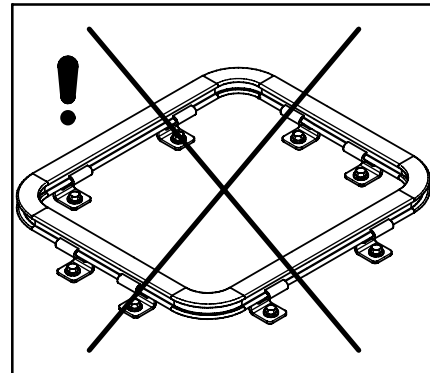
Special shapes are available after consulting the manufacturer.



Caution!

Endless or closed shape of the „Söll-MultiRail“ anchorage device is **not permitted**.

Exceptions are possible after consulting the manufacturer.



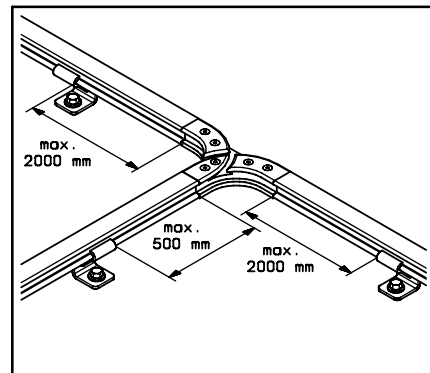
5.10 Bracket spacing on rail distributing points

Horizontal point

A bracket may be fitted at max. 500 mm, the other two brackets may be fitted at max. 2000 mm spacing.

Note:

The distributing points may only be used if the rail is installed at low level (not above the worker).

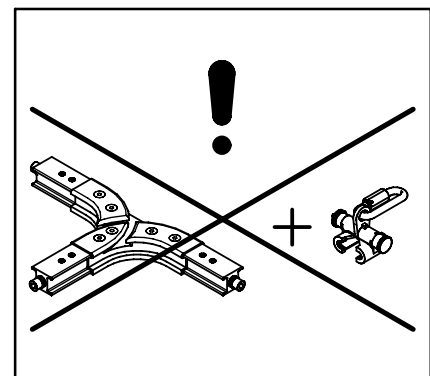


Note:

A combination of the horizontal guide with a runner that can be opened, order no. 17792, is not permitted.

Caution!

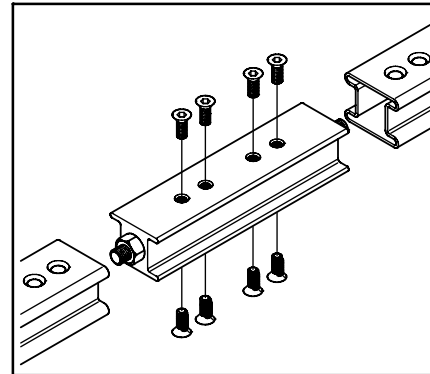
Danger of falling



5.11 Butt joints / bends

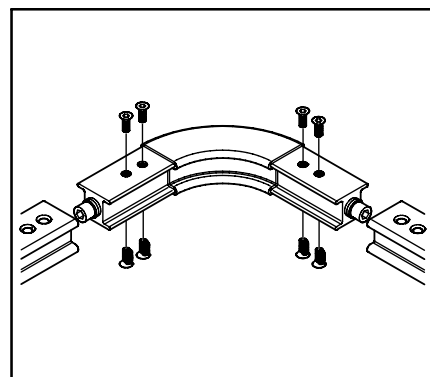
The connection of two guide rails or two guide rails with a bend is carried out as follows:

- Insert the butt joint connector or end pieces of the bend into the guide rail until the holes in the guide tube and the internal thread are superimposed.
- Apply a locking agent to the M6 x 10 hex. screws and screw both sides together from the outside.



Note:

During assembly / fitting of the bends, care must be taken to ensure that the bend and the rail are aligned! When connecting two guide rails, the gap should be a maximum of 1.0 mm. When connecting a guide rail with an arc the gap should be a maximum of 0.5 mm.



Bend H

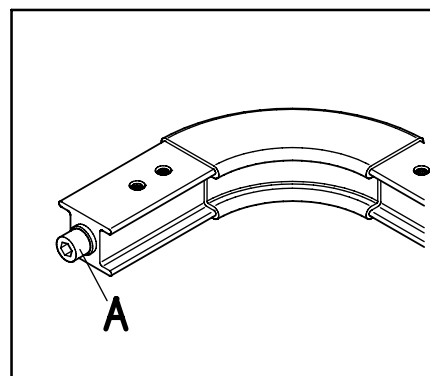
- is used for ground or overhead assembly / installation
- is available with angles of min. 30° to max. 150°.

Bend V ((not in illustration - order number 17330)

- is used with sideways assembly / installation, whereby the guide rail can also be operated by hand
- is available with angles of min. 30° to max. 150°.

Hinweis:

Once screw (A) has been loosened, a locking agent must be applied again and then tightened with a torque of 50 Nm!

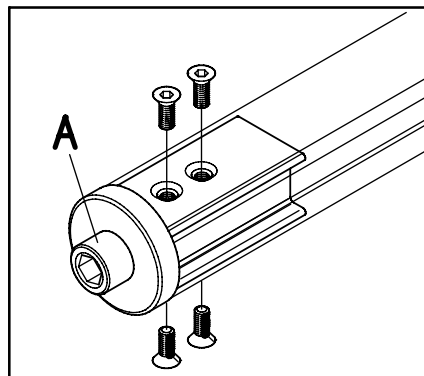


5.12 Rail end pieces

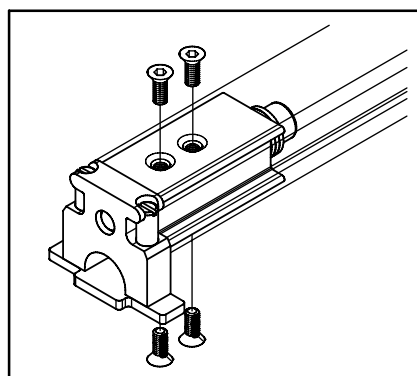
Fixed rail end piece, order number 17404

Attention!

The hex. socket screw **A** (M 14 x 35) must **not** be glued!



Rail end plate with release, order number 23956.
The runner can be removed from the guide rail at any time.

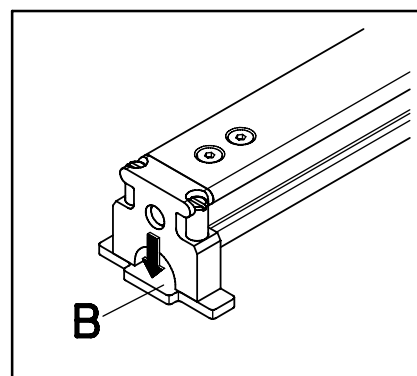


Unlocking of the rail end plate with release:

Press the unlocking plate (**B**) having 2 bolts downwards and place the runners on the guide rail.

Caution!

The unlocking plate and 2 bolts must be pressed to the initial position using spring force.



5.13 Vertical height differences

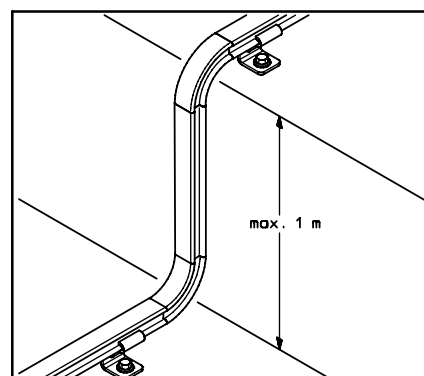
Smaller levels (e.g. on flat roofs) up to max. 1 m can be bridged with this system without interruptions.

Attention!

There is no fall arrest protection at these points!

Note:

Fittings must be positioned at least 2 m before the edge of the drop.



6. Checking and acceptance

At the time of acceptance, ensure that the guide rails are aligned horizontally.

Check all bolted joints on the butt joints, bends, guides and rail end plates. They must be firm and secured against loosening (refer to chapter 4).

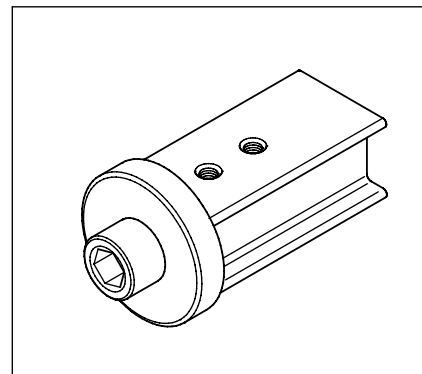
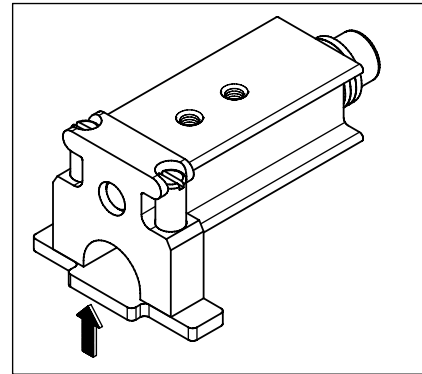
The maximum bracket spacing of 6.0 m was not exceeded.

Bracket spacing specified in table 2 was adhered to while using a roller (product no. 24168) in combination with a fall arrestor.

The guide projection was selected as specified in table 1 (point 5.1) and is between 50 and 200 mm on both sides.

The unlocking plate and 2 bolts of the rail end plate with a release (order no. 23956) must be pressed to the initial position using spring force.

The hexagon head screw (M14x35) of the fixed rail end plate (order no. 17404) should **not** be glued!



7. Maintenance

Independent repair work on the guide rails is not encouraged for reasons of safety. Mechanically damaged guide rails, e.g. after a fall, must be exchanged!

An anchorage device damaged by, for instance, a fall must be taken out of service immediately. It should not be operated till an expert assures the flawless condition of the anchorage device or, if required, replaces parts that are damaged due to a fall.

Ask an expert to inspect the Söll „Söll-MultiRail“ anchorage device regularly, at least once every 12 months, by taking the statutory regulations into account and depending on the usage and operating conditions.

Regular inspections are essential since users' safety depends on the effectiveness and durability of the device.

A specialist is:

„A person who, in view of his or her specialist training and experience, has sufficient knowledge in the field of personal safety equipment as protection against inadvertent falling and who is familiar with the current and valid government safety at work regulations, prevention of accident regulations, directives as well as all generally recognised technical rules and regulations (e.g. DIN EN standards, DIN standards, technical rules and regulations of other member states of the European Union or other contractual states participating in the agreement outside the EEC) to the extent that he or she can evaluate the safe working conditions and correct application of personal safety equipment designed to protect against inadvertent falling.“

A person is deemed a specialist if he or she can provide evidence of successful participation in a training course run in accordance with the „principles for selection, training and proof of capability of specialists for personal safety equipment to protect against inadvertent falling“ (BGG 906).

Attention!

A specialist is not authorised to carry out repairs!

Before and during every use of the anchorage device ensure attention is paid to correct functioning of all components.

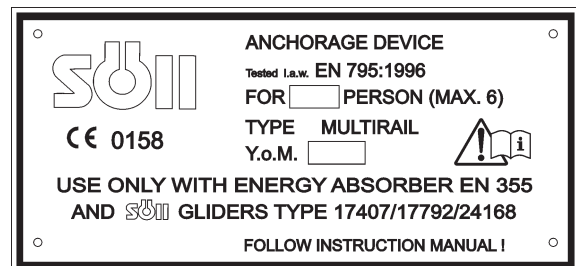
Ensure that the guide rails are free from dirt.

Ensure that all screw connections are tight. We recommend LOCTITE No. 2701 as screw locking agent (see also chapter 5).

If guide projections are not the same due to the displacement of guide rails, the sum of both guide projections in a section must be between 100 mm and 400 mm.

Fix a durable and sufficiently large notice at every entry and outlet position that contains the following details:

- Type – name
- Number of users
- Year of manufacture
- Manufacturer, vendor or importer
- Number and year of the European standard
- Pictograph indicating that the user must read the operating manual



Attention!

The anchorage device may only be used with fall arresters complying with DIN EN 355!

Comment:

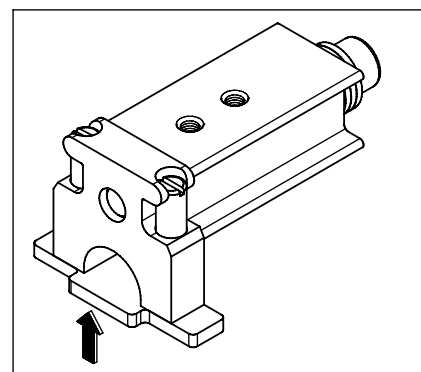
Durable is identified as, for instance, a stamped and coated aluminium notice.

Note:

The batch number has been stamped onto the guide rail.

Check the legibility of the identification during every regular inspection.

Rail end plates must be fitted to the ends of the anchorage device. The unlocking plate and 2 bolts of the rail end plate with a release must be pressed to the initial position using spring force!



7.1 Regular inspections and repairs

Date	Reason for revision (*)	Determined damages, executed repairs and other important specifications	Name and signature of the expert	Date of the next regular inspection

(*) "I" for regular inspections, "R" for repair

8. Acceptance checklist

Both sides of this check list must be filled in by the site manager of the construction company, using an indelible pen. The construction company site manager is responsible for the accuracy of the statements. If a checkpoint is answered with „no“, the same must be explained in the „Space for comments“ list on page 18.

Control Activity

Remarks

(please cross)

yes no

- | | | |
|--|--------------------------|--------------------------|
| • The maximum bracket spacing of 6 m was not exceeded (refer to section 5.9) | <input type="checkbox"/> | <input type="checkbox"/> |
| • At least 1 clamp has been fixed on every guide rail unit (refer to section 5.8) | <input type="checkbox"/> | <input type="checkbox"/> |
| • The maximum gap widths of 1.0 mm for guide rail joints and 0.5 mm for joints between guide rails and arc have been maintained. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The bracket spacing specified in table 2 (refer to section 5.9) has been maintained while using the anchorage device in combination with the roller (order no. 24168). | <input type="checkbox"/> | <input type="checkbox"/> |
| • Guide rails i.a.w. the requirements of chapter 5.10 are available. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The clamp spacing on guides has been maintained as per section 5.11. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Fastening elements have been fixed onto the structure using M12 screws as specified in section 5.7. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The attachment elements have been fitted correctly tightened. | <input type="checkbox"/> | <input type="checkbox"/> |
| • All screw connections have been secured against unscrewing as specified in chapter 4. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Rail end plates have been fitted i.a.w. chapter 5.13 to the start and end of the guide rails. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The rail end plate with a release is functioning (refer to section 5.13). | <input type="checkbox"/> | <input type="checkbox"/> |
| • Only stainless steel attachment elements and screw connections have been used. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Identification label existing. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Runners can be placed on the guide rail. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Runners were handed over to the operating company. | <input type="checkbox"/> | <input type="checkbox"/> |
| • A test run has been carried out. No faults were noted. | <input type="checkbox"/> | <input type="checkbox"/> |
| • These instruction have been handed over to the operator. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Only SPERIAN FALL PROTECTION Deutschland GmbH & Co. KG fall arrest technology components have been used. | <input type="checkbox"/> | <input type="checkbox"/> |

Installation Site: _____

Owner: _____ Installing company: _____

Street: _____ Street: _____

City: _____ City: _____

Telephone: _____ Telephone: _____

Fax: _____ Fax: _____

Manual handed over to: _____
name (site operator or representative) signature

Chief engineer of the installing company: _____
name signature

Place: _____ Date: _____

Next inspection: at: _____ in 1 year

Defects, irregularities and deviations at the time of acceptance must be noted here:

Noted defects/shortcomings	determined by	signature	date