

# Installation and User Instructions

## Horizontal Anchor Device



## Typ LUX-top® FSA 2010-H

*Rail system for attaching personal fall protection equipment (PFPE)*

**Tested and certified to EN 795:2012 Type D +  
CEN/TS16415:2013  
by DEKRA Testing and Certification GmbH Notified Body**

**These installation- and user instructions are supplied with each LUX-top® FSA 2010-H anchor device. They must be read through carefully before use and must be kept accessible at all times, where possible near the equipment.**

## Introduction

**Before installing the anchor device the load-bearing capacity of the roof/substructure must be checked. In case of doubt seek the advice of a structural engineer! The technical building regulations must be complied with. Do not make any changes to the anchor device and only use original parts of the anchor system.**

**When using the system in Germany, the information provided in the national technical approval Z-14.9-808 must be observed.**



## SAFETY INSTRUCTIONS:

- If using the anchor device as part of a fall arrest system, for safety reasons, before each use it is essential to ensure the necessary clear space below the user at the workplace, so that in case of a fall it is not possible for them to hit the ground or any other obstruction!
- During the fall of a person secured to the **LUX-top® FSA 2010-H** anchor device, the resulting deformation/deflection of the anchor device (up to 0.5 m with a maximum allowed distance of 3 m between the brackets (please also observe page 5)) must be considered for the fall-arrest distance.

The minimum clear space required below the system user (see also DGUV Regulation 112-198) is calculated from:

Deformation/deflection of the anchor device (up to 0.5 m)

- + Fully open length of the shock absorber according to its instructions for use (see instr. of the respective PFPE)
- + Elongation of the lanyard due to extension (see instructions of the respective PFPE)
- + Displacement of the full body harness on the body (see instructions of the respective PFPE)
- + Height of the user
- + Safety clearance of 1.0 m

- **If there is insufficient clear space below the user, the anchor device may only be used with a restraint system and must be labelled accordingly.** To this end, also note and follow the instructions for use for the other personal fall protection equipment (PFPE).
- In case of horizontal use, only use lanyards, which are suitable for this type of use and which are tested for the applicable loading and stressing due to the corresponding edge design.
- The anchor device may only be used by trained and instructed persons, who are familiar with these user instructions and with handling PSA against falls from a height and are physically and mentally suitable for the task. Health restrictions (e.g. cardiovascular problems, medication) can endanger the safety of the system user when working at heights.

- Use of the system for purposes other than those for which it is intended, e.g. hanging loads or transporting materials is not allowed.
- The anchor device may be used for securing persons against falls by attaching the PFPE (personal fall protection equipment) according to EN 363, consisting, for example of a full body harness (EN 361), lanyard (EN 354) and energy absorber (EN 355). The anchor device can also be used to attach the suspension system in accordance with TRBS 2121-3 for rope-assisted access and positioning techniques by using an additional rail slider and shortened holder spacings (see page 5).
- If the anchor device is used as part of a fall arrest system the user must be equipped with an energy absorber, which limits the maximum dynamic forces that act on the user during an arrest to 6 kN maximum.
- The use of the anchor device in combination with retractable fall arresters according to EN 360 and guided type fall arresters on a flexible anchorage line (EN 353-2) is possible.
- The combination of individual elements of the above-mentioned equipment with the **LUX-top® FSA 2010-H** system may increase the potential of fatal risks by impairing the proper functioning of one of the elements. Therefore, always ensure that the equipment parts put together to form a system are compatible with each other.
- The components of the personal protective equipment against falls from a height must be checked to ensure that they are in proper condition and that they comply with these user instructions.
- The user attaches his PFPE on the **LUX-top® FSA 2010-H** by means of the system's own rail slider (see **LUX-top® FSA 2010-H** system components on page 11 f).
- The user must visually inspect the integrity of the anchor device before each use to ensure its proper functional and maintained condition.
- The **LUX-top® FSA 2010-H system should no longer be used** and subject to an inspection by qualified personnel (with written documentation) if there are safety concerns regarding its condition (e.g. heavy corrosion, deformations, lightning strikes, damaged system components, loose parts, poor quality of the mounting base) or after mechanical stress following a fall incident.
- The stability of the mounting base after a person secured to the **LUX-top® FSA 2010-H** falls, must be checked by a qualified person before re-assembling a new anchor device on site. If necessary, the complete rail system including the anchoring system or individual components must be replaced.
- On-site operating instructions with information on the location and use of the anchor devices should be attached at the access to the safety system (e.g. roof hatch)!

- The relevant national regulations and the health & safety regulations (in Germany the accident prevention regulations of the trade associations responsible for industrial safety) and any other relevant regulations must be complied with when using the **LUX-top® FSA 2010-H** system. For Germany these include, among other things:
  - **TRBS 2121** "Technical rules for health & safety at work - risk to people due to falling".
  - **DIN 4426** "Safety requirements for workplaces and transport routes".
  - **DIN 363** "Personal fall protection equipment - personal fall protection systems".
  - **DGUV Regulation 38** "Construction Work"
  - **DGUV Regulation 112-198** "Use of personal protective equipment against falls"
  - **DGUV Information 201-008** "Roof Work"
  - **DGUV Regulation 101-016** "Roof Work"
  - **DGUVI 201-056** "Planning principles of anchor devices on roofs"
  - **DGUVI 212-001** "Work using rope access and positioning techniques "
  - **ASR A2.1** "Technical rules for workplaces - Protection against falls from a height..., entering danger zones".

Furthermore, the "Safety and Working Guideline for Rope Access and Positioning Techniques" of the FISAT - Fach- und Interessenverband für Seilunterstützte Arbeitstechniken e.V. (Professional and Interest Association for Rope-Assisted Working Techniques) should be taken into account.

- Ensure safe, stable position during use!
- A plan must exist, which takes into account the rescue measures for all possible emergency incidents that can occur.
- The lanyard must always be set as short as possible, even when fall arrest systems are used, in order to reduce any free-fall height in case of a fall to a minimum. It is essential for safety that the position of the anchor device and the plan of work be chosen so that the free fall and the fall height are limited to a minimum.

**Ideally, a fall over the edge should be completely prevented by appropriate use of the PPE against falls from a height.**

- Position the anchor device on the building so that in case of a fall over the roof edge, the maximum possible fall factor is 1.
- Please note that failing to follow these user instructions, and if the documentation is incomplete, all claims for compensation are excluded.
- The manufacturer must be contacted in case of any uncertainty during installation or use of the system!

**Max. number of users\*):**

| Fall Arrest- resp. Restraint – system using PFPE   | rope access and positioning techniques according to TRBS 2121-3 (industrial climbers)  |
|--|--|
| <ul style="list-style-type: none"> <li>• <b>4 persons</b> (on the whole (straight) system <b>resp.</b>)</li> <li>• <b>3 persons</b> (on the whole system with curves)</li> <li>• <b>2 persons</b> (per section for all systems)</li> </ul> | <ul style="list-style-type: none"> <li>• <b>1 person</b> (per section) with one rail slider for the suspension system and a separate slider for the safety (fall arrest)- system</li> </ul> <p><i>In case of rescue a second person possibly may be allowed in one section! Additional rail sliders may be required for rescue!</i></p> <ul style="list-style-type: none"> <li>• <b>3 persons</b> (on the whole system)</li> </ul> |
| <p><b>If you have any questions, please contact the manufacturer.</b></p>  |  |

**Allowable distances between rail brackets\*):**

| RAIL BRACKET   | DISTANCES BETWEEN BRACKETS  |
|--|---|
| LUX-top® FSA 2010-H bracket double standing seam   | <p><b>Maximum 2 m</b> (in a Fall Arrest – resp. Restraint - system)</p> <p><b>Maximum 1 m</b> (to attach the suspension system in accordance with TRBS 2121-3 for rope access and positioning techniques)</p>   |
| LUX-top® FSA 2010-H bracket C-Form<br>LUX-top® FSA 2010-H bracket L-80<br>LUX-top® FSA 2010-H bracket L-150<br>LUX-top® FSA 2010-H bracket trapezoidal profile<br>LUX-top® FSA 2010-H bracket Omega<br>LUX-top® FSA 2010-H bracket L-80 WDVS | <p><b>Maximal 3 m</b> (in a Fall Arrest – resp. Restraint - system)</p> <p><b>Maximal 1 m</b> (to attach the suspension system in accordance with TRBS 2121-3 for rope access and positioning techniques)</p>   |
| LUX-top® FSA 2010-H bracket C-Form ASP<br>LUX-top® FSA 2010-H bracket L-Form ASP   | <p><b>Maximal 3 m</b> (in a Fall Arrest – resp. Restraint - system)</p> <p>Suitability for rope access and positioning techniques as part of the suspension system in accordance with TRBS 2121-3 shall be tested on a case-by-case basis. Please consult the manufacturer.</p> |
| <p><b>For special brackets that are not listed here, please refer to the corresponding specifications of the manufacturer.</b></p> <p><b>If you are at all uncertain, please contact the manufacturer</b></p>                                |   |

\*) When using the system in Germany, the information provided in the national technical approval Z-14.9-808 must be observed.

## Important installation instructions:

- The rail system **LUX-top® FSA 2010-H** may only be installed by qualified installation personnel using the fixing materials supplied according to the Installation and User Instructions and must be checked appropriately!
- All components must be checked for completeness and integrity prior to assembly. All entry and exit points as well as interruptions of the rail are to be secured by end stops (e.g. hinged outside anchor or U-shaped endpiece).
- All specified tightening torques must be applied with a tested torque wrench.
- The rail system must be integrated into the lightning protection system (potential equalization) according to the national lightning protection regulations. Use as an air termination rod is not permitted! We always recommend involving the responsible lightning protection builder/planner!
- Maximum permissible incline of the rail system = 15° (according to EN 795:2012 Type D).\*)
- Assembly must take place on a surface/substrate with adequate load bearing capacity in accordance with the manufacturer's specifications and on site structural strength verification in accordance with the technical building regulations. The minimum component dimensions and edge distances in accordance with the assembly instructions must be observed!\*)
- The load transfer into the ground or into the on-site overall construction must be verified on site by technical building regulations.)\*
- The installers must ensure that the surface/substrate is suitable for fixing the anchor device.)\*
- All connections of the anchor device must be properly and conscientiously installed and checked according to the manufacturer's specifications. This must be confirmed in the form for the assembly documentation attached to these user instructions by the installer in charge.)\*
- The form for installation documentation must be completed after installation and handed over the building operator/owner and stored together with any non-permanently installed parts of the equipment in a safe place.)\*
- We recommend that you also additionally document proper installation by taking photos and with other important installation data. We recommend to use the documents at the end of these User Instructions. Further information on the assembly documents can be found in EN 795: 2012 (Annex A).\*)
- The installation documents verify to the user that the installation has been carried out properly and provide the basis for subsequent inspections of the anchor device. A copy should therefore be kept in the building.
- You must comply with the relevant national regulations and the accident prevention regulations of the respective country during installation of the anchor device.

\*) When using the system in Germany, the information provided in the national technical approval Z-14.9-808 must be observed.

- The installers must take measures so that neither components of the anchor device nor tools can fall from the work area.
- In case of sloped surfaces and roofs, snow guards must be installed to prevent loading of the **LUX-top® FSA 2010-H** system with snow loads!

### Installation distances\*):

The distance up to the edge of the building should be selected according to national regulations and depending on the geometry of the roof.

The correct selection and arrangement of anchor devices for permanent installation of the surface of the roof must be made depending on the type and use of the anchor device, taking into account the particular characteristics of the roof's surface.

For information on the recommended design and positioning of the anchor devices on the roof, please refer to, e.g. the DGUVI 201-056 "Planning principles of anchor devices on roofs", which were determined within the framework of the international expert working group D-A-CH-S.

The brochures can be found at [www.lux-top-absturzsicherungen.de](http://www.lux-top-absturzsicherungen.de) and can be downloaded free of charge.

National provisions shall remain unaffected by these recommendations. If these proposals deviate from national law, the user assumes full legal risk to the extent of the deviation.

\*) When using the system in Germany, the information provided in the national technical approval Z-14.9-808 must be observed.

## Use / system description:

The system **LUX-top® FSA 2010-H** is an anchor device with a rigid anchor line in accordance with EN 795: 2012 Type D + CEN / TS16415: 2013, which is used for attaching personal protective equipment against falls from a height during working in areas subject to the high risk of falling. The purpose of the anchor device is to prevent persons from falling, or in the event the user falls, to catch the person falling and protect him from serious or even fatal injuries.

It is also suitable for use as part of the suspension system for rope access and positioning techniques according to TRBS 2121-3.

In combination with the **LUX-top® FSA 2010-H** rail brackets mentioned above, the rigid system can be mounted on all components with sufficient load-bearing capacity.

**LUX-top® FSA 2010-H** is intended for loading in all directions.

**LUX-top® FSA 2010-H** can be installed and used in the following configurations:\*)

- In a horizontal configuration, e.g. on roofs
- In an inclined configuration, e.g. on sloped surfaces
- In a horizontal configuration, e.g. on walls and posts
- Overhead configuration e.g. on ceilings and beams

During proper use of the system the maximum force, which is passed in the event of a fall to the building structure on the brackets of the rail system, is:

**For 1 user:**  $F_{E,d} = 9,0 \text{ kN}$  (6 kN x 1,5).

**For 2 user:**  $F_{E,d} = 10,5 \text{ kN}$  (7 kN x 1,5).

**For 3 user:**  $F_{E,d} = 12,0 \text{ kN}$  (8 kN x 1,5).

**For 4 user:**  $F_{E,d} = 13,5 \text{ kN}$  (9 kN x 1,5).

The anchor device **LUX-top® FSA 2010-H** is approved for the simultaneous use of up to **4 persons** with full body harnesses and energy absorbers (including any necessary persons for first aid/rescue). Each user must be secured to a separate slider.\*)

Even a system which has already been deformed by a fall can generally still be used for the rescue of fallen persons.

The **LUX-top® FSA 2010-H** can be used in the following fall protection systems to EN 363:2008:

- Restraint systems
- Fall arrest systems
- Rescue systems

**The respective user instructions of the other personal fall protection equipment as well as abseiling (descent) and rescue equipment used must also be noted and followed!**

**LUX-top® FSA 2010-H** may be used as an anchor device for suspension systems with rope-assisted access techniques (abseiling, etc.) in accordance with TRBS 2121-3 or for positioning people!

The maximum permissible load on the system is 3 kN (~300 kg) per user and section.

\*) When using the system in Germany, the information provided in the national technical approval Z-14.9-808 must be observed.



## Materials:

The rail systems are manufactured from the materials 1.4301, 1.4305, 1.4307, AW-2017, W2.0966 and EN AW-6060 T66 (natural anodized). The rail systems thus correspond to the corrosion resistance class CRC II according to DIN EN 1993-1-4.

## Maintenance, care and testing:

Before each use, the user must check the system for integrity (see safety instructions).

The owner/operator is obligated to ensure that the anchor device is in perfect and flawless condition at all times. It is therefore recommended, as needed, but at least every 12 months (e.g., within the general roof maintenance), to have the anchor device inspected by one of ST QUADRAT Fall Protection S.A. trained and certified experts.\*\*)

This regular inspection/monitoring is essential, as the safety of the user depends on the effectiveness and durability of the anchor device.

The check list in the annex can be used to aid the inspection process.

Test loading the system for the purpose of verification is not allowed on the structure!

An inspection log card is included in the appendix of these user instructions, on which the inspection by the competent person can be documented.

The date of the next scheduled inspection must always be entered on the LUX-top® FSA 2010-H system information sign and on the inspection log card.

Prevent contact between the stainless steel anchor device and "black" steel (including in the form of grinding dust), as well as chemicals and other aggressive substances since this can lead to corrosion.

The anchor device **LUX-top® FSA 2010-H** is permanently weatherproof. Depending on the use conditions, the anchor device must be cleaned occasionally with warm water.

**Never use aggressive cleaning products or chemicals!**

## Miscellaneous:

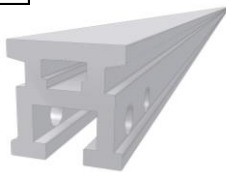
Changes or additions to the anchor device may only be made with the prior written consent of the manufacturer. Equally, all repairs may only be carried out in agreement with the manufacturer.

If resold to another country, for purposes of user safety, the reseller must provide instructions for use, maintenance, periodic inspections and repairs in the language of the respective country.

\*\*) **Note:** According to the German DGUV regulation 112-198 before anchor devices, which are permanently mounted on a building or structure can be used, it must be ensured that the last professional inspection is not older than one year, if shorter inspection intervals are not specified due to the prevailing operating conditions.

## Standard - system components LUX-top® FSA 2010-H:

1



LUX-top® FSA 2010  
rail profile

**Part No.: 84500**

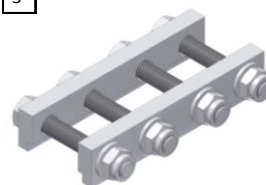
2



LUX-top® FSA 2010  
rail bend

**Part No.: 84507**

3



LUX-top® FSA 2010 – H  
butt connector, outside

**Part No.: 84525**

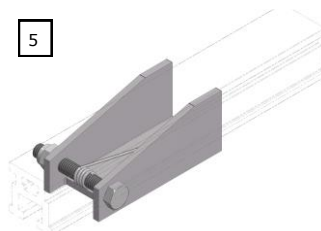
4



LUX-top® FSA 2010  
U-shaped endpiece

**Part No.: 84185**

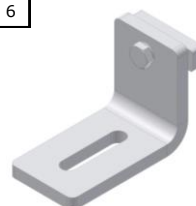
5



LUX-top® FSA 2010 – H  
hinged outside anchor

**Part No.: 84550**

6



LUX-top® FSA 2010 – H  
bracket L-80

**Part No.: 84565**

7



LUX-top® FSA 2010 – H  
bracket L-150

**Part No.: 84580**

8



LUX-top® FSA 2010 – H  
bracket C-Form

**Part No.: 84595**

9



LUX-top® FSA 2010 – H  
bracket L-80 WDVS

**Part No.: 84570**

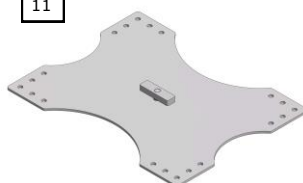
10



LUX-top® FSA 2010 – H  
bracket Omega

**Part No.: 84600**

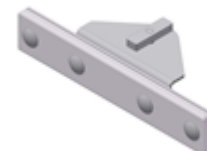
11



LUX-top® FSA 2010 – H  
bracket trapezoidal profile

**Part No.: 84632**

12



LUX-top® FSA 2010 – H  
bracket double standing seam

**Part No.: 84630**

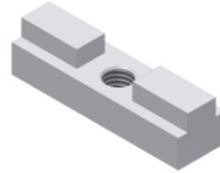
13



LUX-top® FSA 2010 – H  
rectangle nut M10

**Part No.: 84110**

14



LUX-top® FSA 2010 – H  
rectangle slide nut M10

**Part No.: 84515**

15



LUX-top® FSA 2010 – H  
slider type HSL 45

**Part No.: 84850**

16



LUX-top® FSA 2010 – H  
slider type HSL 90

**Part No.: 84860**

17



LUX-top® FSA 2010 – H  
slider type HSL Überkopf

**Part No.: 84855**

18



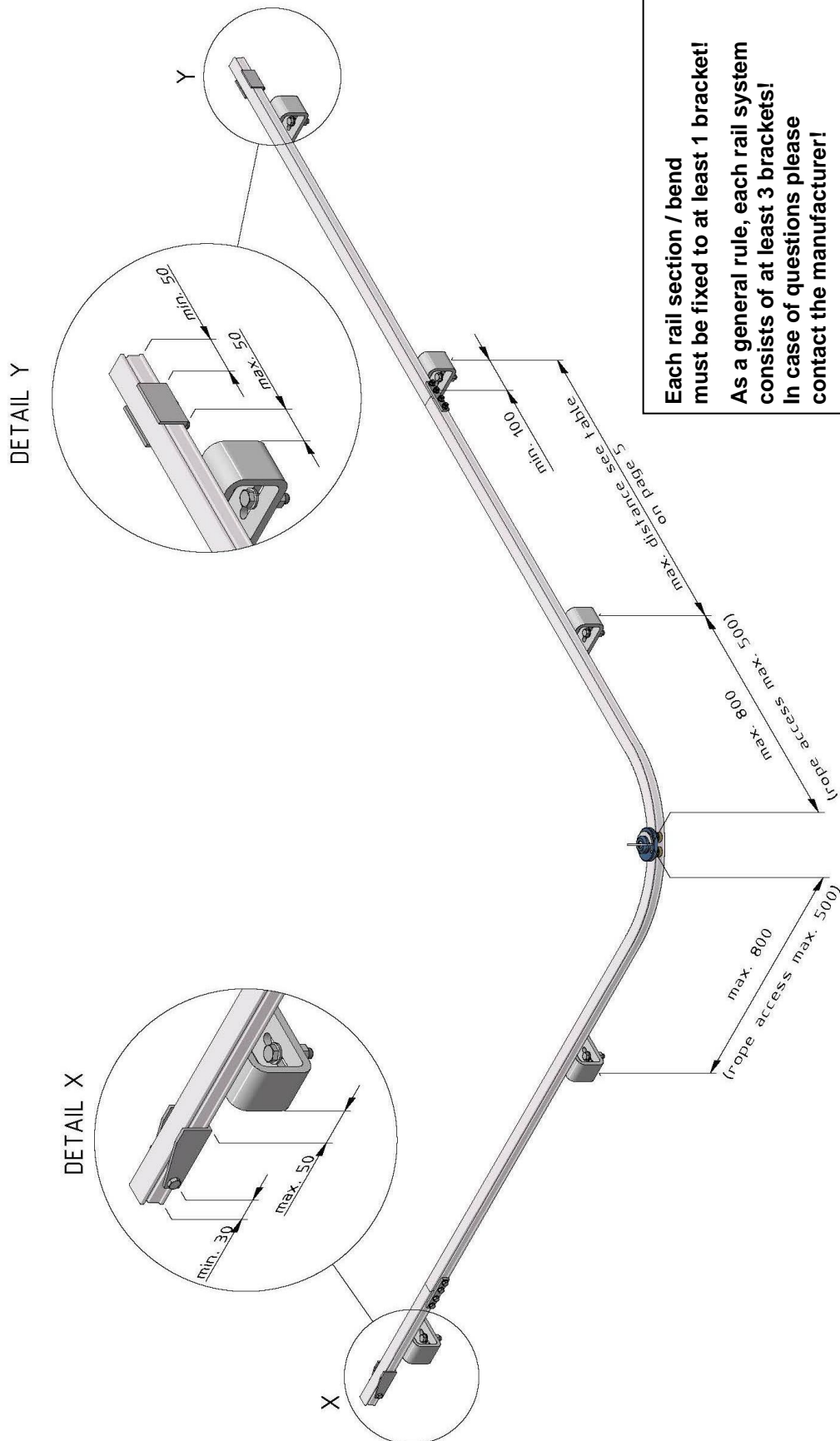
LUX-top® FSA 2010 – H  
system information sign A2

**Part No.: 84778**

- (1) **LUX-top® FSA 2010 – H rail profile**  
31 x 31 mm; EN AW-6060 T66, natural anodized  
as permanently installed horizontal rigid anchor rail in  
LUX-top® FSA 2010 rail systems.
- (2) **LUX-top® FSA 2010 – H rail bend**  
Available in different versions, with minimum radius 330 mm.  
The rail profile can be bent in different axes.
- (3) **LUX-top® FSA 2010 – H butt connector, outside**  
for connecting horizontal rails in  
LUX-top® FSA 2010 - H rail systems
- (4) **LUX-top® FSA 2010 – H U-shaped endpiece**  
as fixed end (extremity) anchor in  
LUX-top® FSA 2010 rail systems
- (5) **LUX-top® FSA 2010 – H hinged outside anchor**  
Detachable anchor, premounted on the rail,  
for removing the rail slider.
- (6) **LUX-top® FSA 2010 – H bracket L-80**  
For fixing the rail system onto the concrete- or steel support structure with  
1 pc. anchor bolt M12 or 1 pc. hex head screw M12.
- (7) **LUX-top® FSA 2010 – H bracket L-150**  
For fixing the rail system onto the concrete- or steel support structure with  
1 pc. anchor bolt M12 or 1 pc. hex head screw M12.
- (8) **LUX-top® FSA 2010 – H bracket C-Form**  
For fixing the rail system onto the concrete- or steel support structure with  
1 pc. anchor bolt M12 or 1 pc. hex head screw M12.

- (9) **LUX-top® FSA 2010 – H bracket L-80 WDVS**  
For fixing the rail system onto the concrete- or steel support structure with 2 pcs. anchor bolt M12 or 2 pcs. hex head screw M12.
- (10) **LUX-top® FSA 2010 – H bracket Omega**  
For fixing the rail system onto the concrete- or steel support structure with 2 pcs. anchor bolt M12 or 2 pcs. hex head screw M12.
- (11) **LUX-top® FSA 2010 – H bracket Trapezprofil**  
For fixing the rail system onto negatively laid trapezoidal profiles or sandwich-roof elements with 12 pcs. special-rivets (\*\*\*)
- (12) **LUX-top® FSA 2010 – H bracket double standing seam**  
For fixing the rail system onto double standing seam – roofs with aluminium seam clamping rails.
- (13) **LUX-top® FSA 2010 – H rectangle nut M10**  
For rigid fixing of the rail brackets to the rail profile (**fixed point**).
- (14) **LUX-top® FSA 2010 – H rectangle slide nut M10**  
For movable fixing of the rail brackets to the rail profile (**loose point**).
- (15) **LUX-top® FSA 2010 – H slider type HSL 45**  
Mobile anchor point, which can be freely moved on the horizontal rigid anchor rail.
- (16) **LUX-top® FSA 2010 – H slider type HSL 90**  
Mobile anchor point, which can be freely moved on the horizontal rigid anchor rail.  
**This slider can also be used in rope-assisted access and positioning technique as part of the suspending system in accordance with TRBS 2121-3.**
- (17) **LUX-top® FSA 2010 – H slider type HSL Überkopf (Overhead)**  
Mobile anchor point, which can be freely moved on the horizontal rigid anchor rail.  
This slider is specially designed for overhead use in combination with the with a retractable type fall arrester.
- (18) **LUX-top® FSA 2010 – H system information sign A2**  
Contains important information on use of the system.

\*\*\*) **Note:** special tool necessary!



**Each rail section / bend must be fixed to at least 1 bracket!**  
**As a general rule, each rail system consists of at least 3 brackets!**  
**In case of questions please contact the manufacturer!**  
**For individual rail lengths of > 25 m, loose points are recommended (see installation instructions section 5)**  
**This figure applies to all bracket types**  
**All dimensions in [mm]**

## **Installation instructions LUX-top® FSA 2010-H\*):**

### **Foreword:**

Before installing the anchor device the load-bearing capacity of the structure must be ascertained. Technical building regulations must be observed. Only original parts of the anchor device system must be used.

## **1 Measuring and checking the rail layout on the object**

## **2 Divide and install rail brackets**

### **2a bracket L-80, L-150 and C-Form (made of 10 mm sheet metal)**

#### ***Attaching to concrete components min. C20/25:***

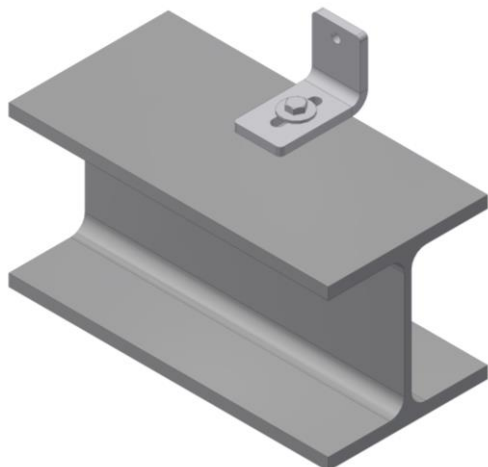


|   |                 |
|---|-----------------|
| Anchor bolt   | FAZ II 12/20 A4 |
| Drill hole-Ø [mm]   | 12              |
| Min. drilling depth / depth of anchoring into concrete [mm] | 90 / 70         |
| Tightening torque [Nm]                                      | 60              |
| Min. component thickness [mm]                               | 120             |
| Min. edge distance anchor bolt [mm]                         | 250             |

1. Position the rail bracket at the desired position.
2. Drill a 90 mm deep hole with a Ø12 mm drill from the top edge of the concrete.
3. The hole has to be cleaned thoroughly (brushing and blowing)!
4. Insert the included concrete anchor bolt and tighten it with the torque given above. Use a torque wrench.

\*) When using the system in Germany, the information provided in the national technical approval Z-14.9-808 must be observed.

### Attaching to steel components min. S235:



|                               |                                  |
|-------------------------------|----------------------------------|
| Fixation material             | Hex head screw<br>M12 – A2-70    |
| Drill hole-Ø [mm]             | 13                               |
| Tightening torque [Nm]        | 56 (screw clean +<br>greaseless) |
| Min. component thickness [mm] | A.T.B.R.<br>But min. 4           |
| Min. edge distance [mm]       | A.T.B.R.                         |

A.T.B.R. = according to technical building regulations.

1. Position the rail bracket at the desired position.
2. Mark and drill the hole. Apply corrosion protection if required.
3. Attach the screw, washer and nut and tighten it with the torque given above.  
Depending on the ambient conditions, use thread lockers!

### 2b bracket L-80 WDVS bzw. bracket Omega (made of 6 mm sheet metal)

#### Attaching to concrete components min. C20/25:

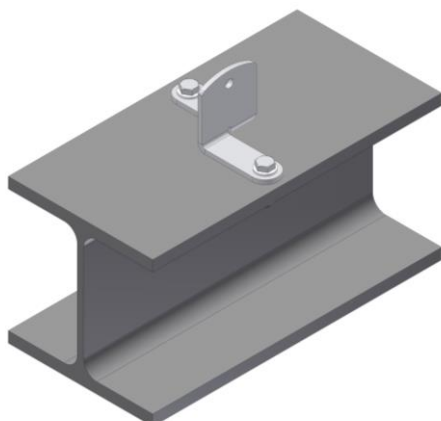


|   |                 |
|---|-----------------|
| Anchor bolt   | FAZ II 12/20 A4 |
| Drill hole-Ø [mm]   | 12              |
| Min. drilling depth /<br>depth of anchoring<br>into concrete [mm] | 90 / 70         |
| Tightening torque [Nm]  | 60              |
| Min. component thickness [mm]                                     | 120             |
| Min. edge distance<br>anchor bolt [mm]                            | 250             |

1. Position the rail bracket at the desired position.
2. Drill 90 mm deep holes with a Ø12 mm drill from the top edge of the concrete.
3. The holes have to be cleaned thoroughly (brushing and blowing)!
4. Insert the included concrete anchor bolts and tighten them with the torque given above. Use a torque wrench.



### Attaching to steel components min. S235:



|                               |                                  |
|-------------------------------|----------------------------------|
| Fixation material             | Hex head screw<br>M12 – A2-70    |
| Drill hole-Ø [mm]             | 13                               |
| Tightening torque [Nm]        | 56 (screw clean +<br>greaseless) |
| Min. component thickness [mm] | A.T.B.R.<br>But min. 4           |
| Min. edge distance [mm]       | A.T.B.R.                         |

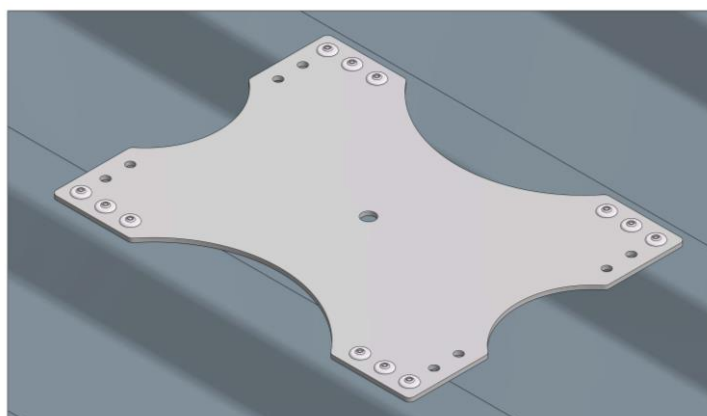
A.T.B.R. = according to technical building regulations.

1. Position the rail bracket at the desired position.
2. Mark and drill the holes. Apply corrosion protection if required.
3. Attach the screws, washers and nuts and tighten them with the torque given above.  
Depending on the ambient conditions, use thread lockers!

### 2c bracket trapezoidal profile

#### Attaching to negatively laid trapezoidal profiles or sandwich - roof elements made of steel sheet metal ( $t_{min} = 0,5 \text{ mm}$ ) or aluminium sheet metal ( $t_{min} = 0,7 \text{ mm}$ )

Note: The standard bracket trapezoidal profile is designed for an upper belt spacing of 250 and 333 mm. Other widths available on request



**With this type of bracket, loose points must always be combined with at least two fixed points.**

See also

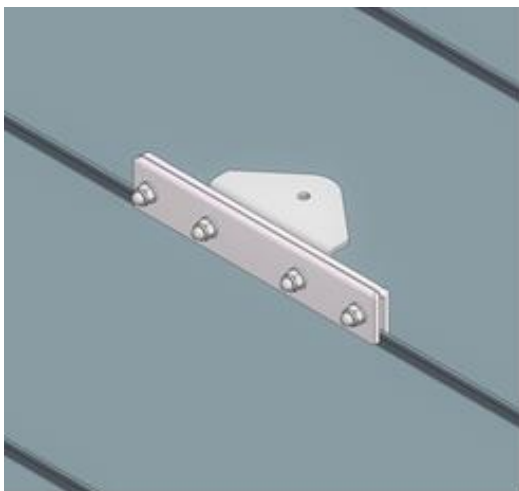
**5a + 5b**

1. Stick the sealing strips over the matching hole pattern supplied to the underside of the baseplate.
2. Position the baseplate centrally on the upper chords of the sandwich - roof element respectively trapezoidal profile.
3. Use the baseplate as a template for the shown drill holes ( $\varnothing = 8 \text{ mm}$ ) for mounting the rivets. **Tip:** First insert 2 rivets and then drill the remaining holes.  
**After drilling the holes, remove the drilling chips from the roof!**
4. Be sure to insert all of the 12 rivets supplied with the help of a special hand riveting tool (Gesipa HN 2 - BT), or a electro-mechanical blind rivet gadget. (Gesipa PowerBird®).
5. Check that the bracket is firmly mounted.

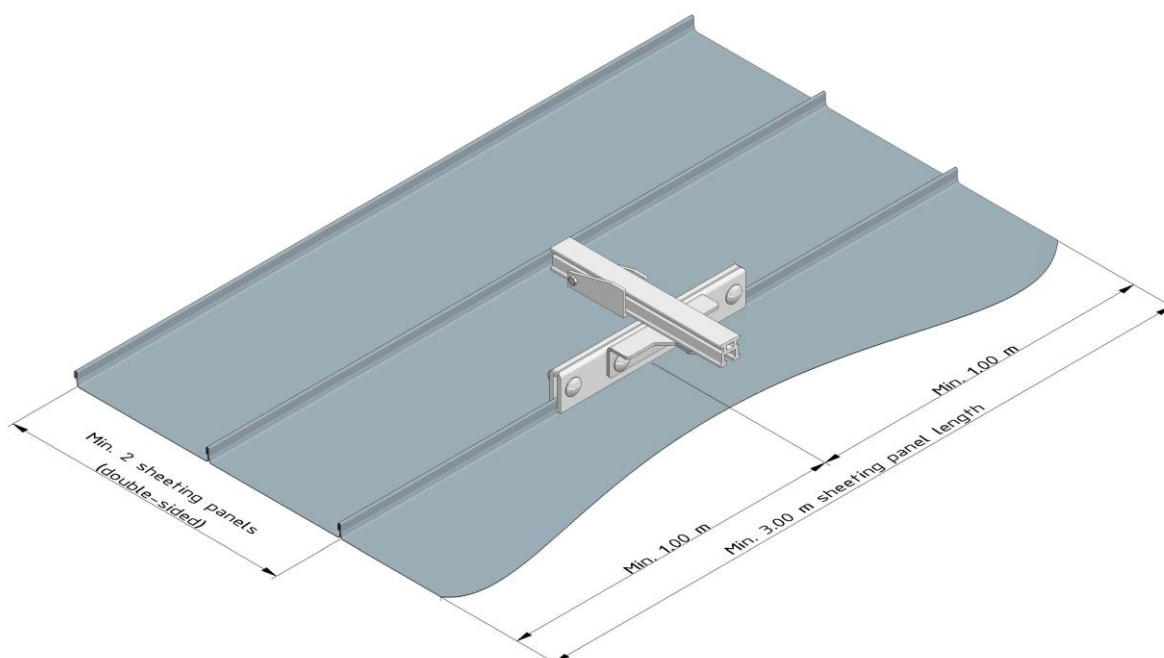


## 2d bracket double standing seam

**NOTE:** Mounting on copper only permitted with EPDM-stripes (as a separating layer) available at ST Quadrat!



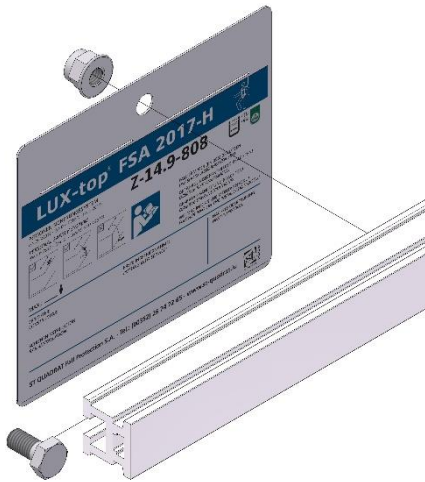
1. Position the rail bracket at the desired position on the welts of the double-welting standing seam sheet from above so that the rear grip of the welt clamping rail grips under the beading as shown in the figure above.
2. Alignment of all rail brackets (e.g. by means of a plumb line /chalk line).
3. Pull the aluminium welt clamping strip under the beading so that it is in tight contact with it and tighten the fastening bolts with a torque of 50 Nm. Ensure the welt clamping rail fits uniformly. The square of the coach bolts must sit correctly in the notching provided in the clamping strip.



**With this type of bracket, loose points must always be combined with at least two fixed points.**

See also **5a** + **5b**

### 3 Attaching Information sign A2



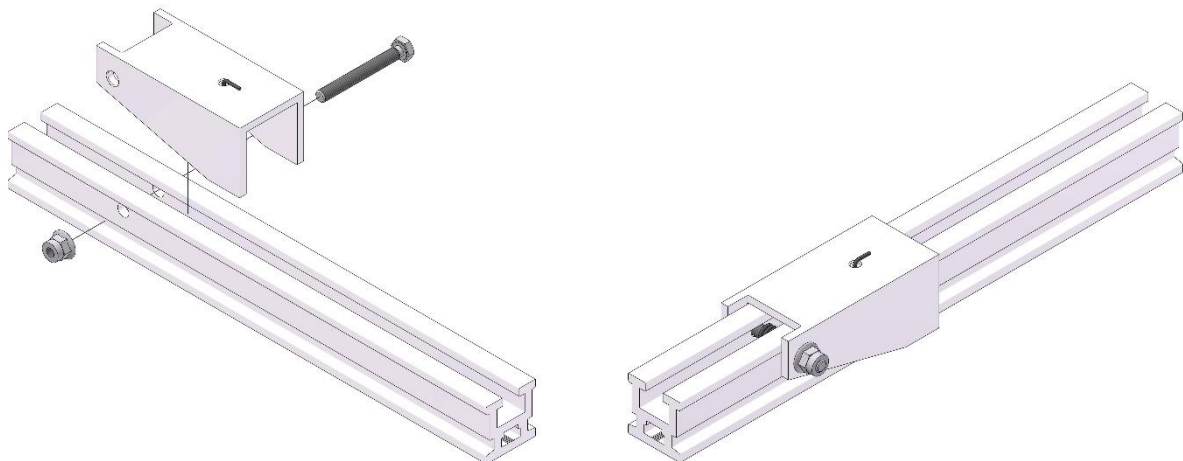
Note separate installation instructions!

1. Thread the hexagon head screw into the groove of the rail profile.
2. Mount the information sign with lock washer and nut and apply a torque of 32 Nm.

### 4 Attaching hinged outside anchor

As standard, the hinged outside anchor is already pre-assembled on the rail.

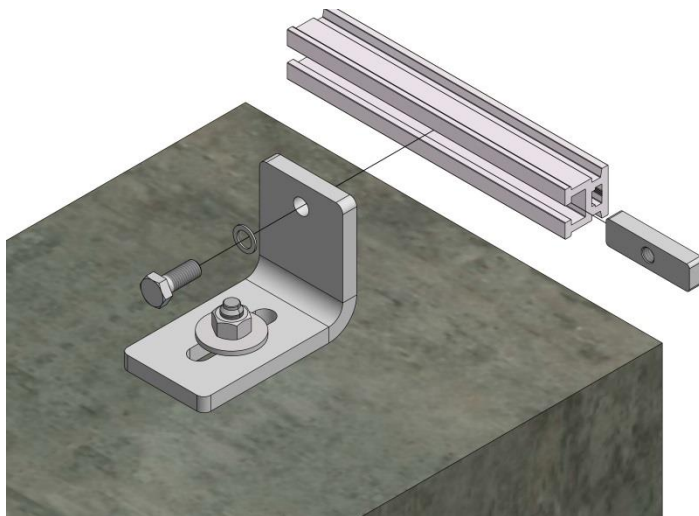
If a different position for the hinged outside anchor is required on site, proceed as follows:



1. Position the flap flush on the rail as shown in the illustration and drill a through hole  $\varnothing$  7 mm (min. 30 mm edge distance to rail profile end) through the entire rail profile.
2. Insert the spring into the flap as shown in the illustration and screw the flap together so that the flap can be swivelled easily and closes automatically.

## 5 Attaching rail profile

### 5a Realize the fixed point on the bracket by means of a rectangle nut.



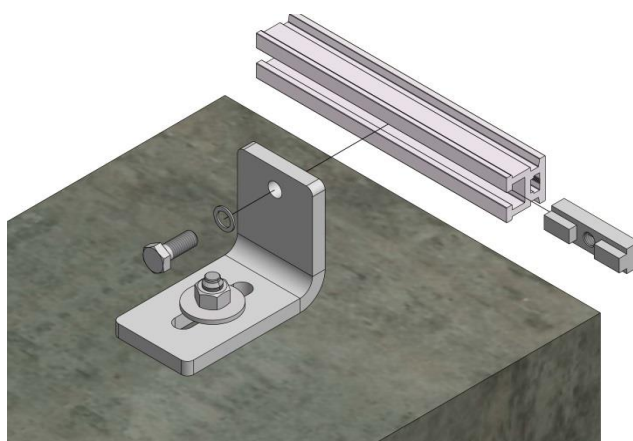
| Thickness of the bracket [mm] | necessary screw / safety washer (included)                     |
|-------------------------------|--|
| 4                             | <b>M 10 x 20</b><br>+ safety washer<br>Form VS with t = 1.8 mm |
| 6                             | <b>M 10 x 22</b><br>+ safety washer<br>Form VS with t = 1.8 mm |
| 10                            | <b>M 10 x 25</b><br>+ safety washer<br>Form S with t = 1 mm    |

Fig. applies exemplarily to all bracket types

1. Thread the rectangle nut into the rail profile and slide it into position.
2. Screw the supplied hexagon head screw M 10 with the safety washer through the bracket with a torque of 32 Nm. If necessary, use a torque spanner with a clevis. (e.g. for holders for pitched roofs or holders for double standing seam)

### 5b Realize the loose point on the bracket by means of a rectangle slide nut.

Fig. applies exemplarily to all bracket types

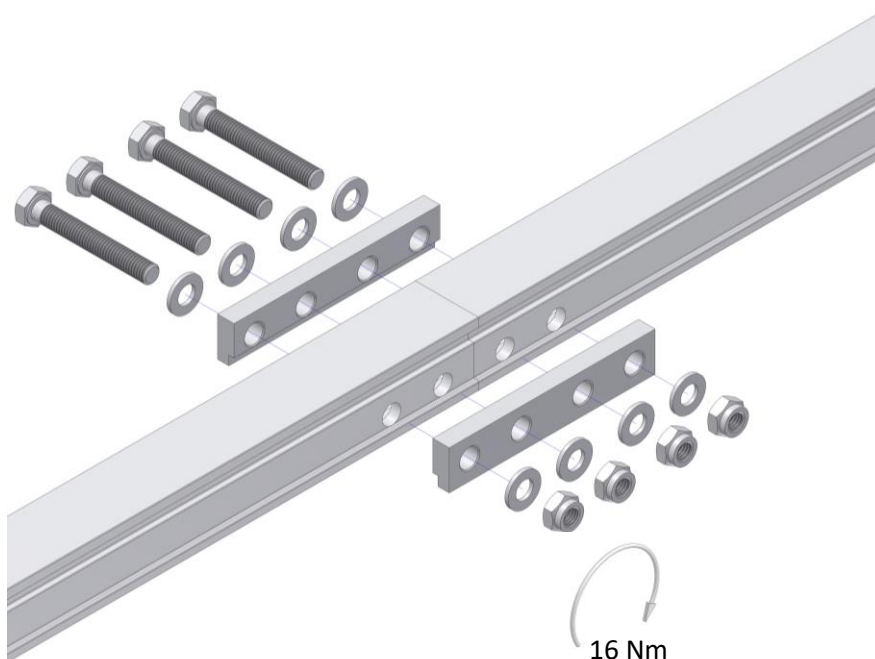


| Thickness of the bracket [mm] | necessary screw / safety washer (included)                  |
|-------------------------------|---|
| 4                             | <b>M 10 x 20</b><br>+ safety washer<br>Form S with t = 1 mm |
| 6                             | <b>M 10 x 22</b><br>+ safety washer<br>Form S with t = 1 mm |
| 10                            | <b>M 10 x 25</b><br>+ safety washer<br>Form S with t = 1 mm |

1. Thread the rectangle slide nut into the rail profile and slide it into position.
2. Screw the supplied hexagon head screw M 10 with the safety washer through the bracket with a torque of 32 Nm. If necessary, use a torque spanner with a clevis. (e.g. for holders for pitched roofs or holders for double standing seam)

The use of the rectangle sliding nut is recommended from a rail length of > 25 m! Always provide at least 2 fixed points per system (position of the fixed points according to consultation with the manufacturer).

## 6 Attaching butt connector, outside



1. Butt the rail profiles flush and screw them together as shown in the illustration.

**As a standard, the rail profiles are pre-drilled at the manufacturer's for the assembly of the butt connectors.**

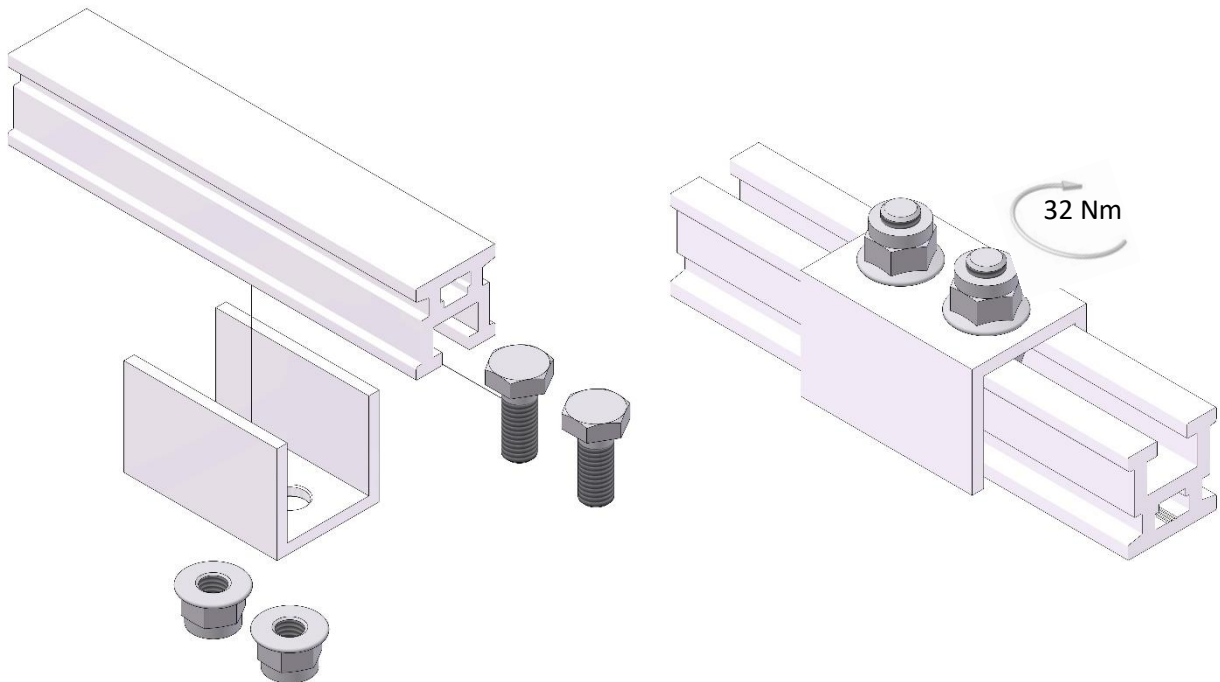
*If there is a different position for the butt connector necessary on site, proceed as follows:*

1. Mounting the butt connector on one side of an already pre-drilled rail section.
2. Thread another rail section between the butt connectors and clamp the undrilled rail section between the butt connector plates.



3. Create new holes  $\varnothing$  8 mm. Use the butt connector plates as drilling templates.
4. Mounting the remaining 2 hexagon head screws.

## 7 Attaching U-shaped endpiece



1. Thread the hexagon head screws into the groove of the rail profile.
2. Screw the U-shaped end piece with a torque of 32 Nm as shown in the figure.

**Note: The minimum distance from the free rail end must be at least 50 mm.**

## 8 Create installation documentation (see attachment in this document):

It is recommended to add photos to this documentation!

Installation documentation LUX-top® FSA 2010-H rail system



---

**Project data**

Building/Construction \_\_\_\_\_

Street/Post code/Town or City \_\_\_\_\_

---

**Installation company**

Company \_\_\_\_\_

Street/Post code/Town or City \_\_\_\_\_

Contact /Phone number \_\_\_\_\_

Installer \_\_\_\_\_

Date of completion \_\_\_\_\_

---

**Details of the anchor devices and surface/substrate**

Rail system - Type/version \_\_\_\_\_

Year built \_\_\_\_\_

Rail bracket type \_\_\_\_\_

Fixing surface or substrate/construction \_\_\_\_\_

Structural member/element dimensions \_\_\_\_\_

Fixing materials, if applicable with details of torque \_\_\_\_\_

---

**Roof layout/site sketch** (if necessary on additional sheet)

---

**Confirmations by the installation firms**

The LUX-top® anchor devices were installed by a qualified person according to the installation instructions and guidelines of ST QUADRAT Fall Protection S.A. and, when installed in Germany, in compliance with the national technical approval Z-14.9-908.

The fixing materials used have been used according to their manufacturers' guidelines (checking the surface, proper cleaning of the drillholes, correct tightening torques + distances from edges, etc.).

The installation and use instructions as well as the technical documentation have been handed over to the owner/customer so that they can make them available to the user.

---

\_\_\_\_\_  
(place, date) (stamp, signature)

This certificate is to be handed over to the owner.

---

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## 9 Fill in Control Card (upper part)

**Kontrollkarte / Prüfbuch**  
Anschlageneinrichtung für persönliche Schutzausrüstung gegen Absturz



**LUX-top®**  
Hersteller: [www.lux-top-absturzversicherungen.de](http://www.lux-top-absturzversicherungen.de)

|  |                     |                                      |
|--|---------------------|--------------------------------------|
| <b>Typ/Modell</b>                      | LUX top® FSA 2010-H | NORM: DIN EN 795 Typ C + CEN/TS16415 |
| Baujahr                                |                     |                                      |
| Montagedatum                           |                     |                                      |
| Datum der ersten Inbetriebnahme        |                     |                                      |
| Projekt-/ Objektbezeichnung            |                     |                                      |
| Adresse des Betreibers / Auftraggebers |                     |                                      |

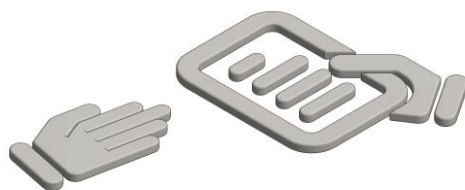
**Regelmäßige Systemkontrolle, Überprüfung und Instandsetzung**

| Datum | Grund der Bearbeitung<br>(regelmäßige Überprüfung oder Instandsetzung) | Festgestellte Schäden + Mängel<br>(Beschreibung / Maßnahmen usw.) | Zur sicheren Verwendung<br>freigegeben (ja/nein) | Name + Unterschrift<br>der Sachkundigen Person | Datum der<br>nächsten Prüfung |
|-------|--|---|--|--|-------------------------------|
|       |  |   |  |  |                               |
|       |  |   |  |  |                               |
|       |  |   |  |  |                               |
|       |  |   |  |  |                               |
|       |  |   |  |  |                               |
|       |  |   |  |  |                               |
|       |  |   |  |  |                               |

ST QUADRAT Fall Protection S.A. – Ihr kompetenter Partner für Absturzversicherungen – [www.lux-top-absturzversicherungen.de](http://www.lux-top-absturzversicherungen.de)

Version 01/2018

## 10 Hand over documents to building operator resp. purchaser





# LUX-top® FSA 2010 - H

## STANDARDS

**LUX-top® FSA 2010 - H** was tested and certified according to EN 795:2012 Type D + CEN/TS16415:2013

## SYMBOLS AND MARKINGS

A label must be attached and must contain the following information:

- Type designation: **LUX-top® FSA 2010-H**
- Number of the corresponding standard: **EN 795:2012 Type D + CEN/TS16415:2013**
- Name or logo of the manufacturer/seller: 
- Manufacturer's serial number / year made: **XXXX/20XX**
- Max. allowable number of people: **XX**
- Symbol indicating that the user instructions must be noted and followed: 

The legibility of this product labelling must be checked following installation and during the specified mandatory annual inspection!

If the label is no longer accessible following installation, it is advisable to attach additional labelling near the anchor device!

---

**Manufacturer: ST Quadrat S.A.**  
**11, rue Flaxweiler**  
**L-6776 Grevenmacher/Potaschberg**  
**Luxembourg**

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Certification body used for the Type Examination:  
DEKRA Testing and Certification GmbH - Dinnendahlstraße 9, D – 44809 Bochum



## Project data

Building/Construction

Street/Post code/Town or City

## Installation company

Company

Street/Post code/Town or City

Contact /Phone number

Installer

Date of completion

## Details of the anchor devices and surface/substrate

Rail system - Type/version

Year built

Rail bracket type

Fixing surface or substrate/construction

Structural member/element dimensions

Fixing materials, if applicable with details of torque

## Roof layout/site sketch (if necessary on additional sheet)

## Confirmations by the installation firms

- The LUX-top® anchor devices were installed by a qualified person according to the installation instructions and guidelines of ST QUADRAT Fall Protection S.A. and, when installed in Germany, in compliance with the national technical approval Z-14.9-808.
- The fixing materials used have been used according to their manufacturers' guidelines (checking the surface, proper cleaning of the drillholes, correct tightening torques + distances from edges, etc.).
- The installation and use instructions as well as the technical documentation have been handed over to the owner/customer so that they can make them available to the user.

(place, date)

(stamp, signature)

This certificate is to be handed over to the owner.



# CHECKLIST

for annual inspection of LUX-top® anchor devices by a competent person

## LUX-top® FSA 2010-H horizontal anchor device

Building / construction project .....

Street / Post code / Town or City .....

Year the system was built: .....

Date of the test/inspection: .....

Competent person: .....

### 1 Corrosion

Is there any visible corrosion on system components (rail profile, rail brackets, etc.)?

yes, on .....

no

Can a cause for the corrosion (e.g. chimney nearby) be found?

yes, .....

no

Is the load-bearing capacity of the anchor device limited?

yes

no

Is the fixation visible?

yes

no

If yes, is the fixation complete and correct? (Check tightening torque if necessary!)

yes

no

### 2 Dirt/soiling

Are the system components dirty (e.g. soiled by bird droppings, moss, algae)?

yes, by .....

no

Does the dirt impair its functionality?

yes, .....

no

Is it possible to prevent the soiling in future?

yes, .....

no

### 3 Appearance

Are the rail components or rail brackets visibly deformed? (E.g. due to fall load)

yes,.....

no

*On sloped ropes:*

Is there any identifiable damage due to snow loads?

yes,.....

no

Is there any identifiable damage due to lightning strikes?

yes

no

Are there any signs of external effects or tampering?

yes, .....

no

Are all components of the rail system still present? (end stops, butt connectors, rail brackets)

yes

no

Are the screw connections of the rail system present and tightened?

yes

no

Is the information sign present and legible?

yes

no

### 4 Rail sliders

Is corrosion visible on the components of the rail sliders?

Yes

no

Can a cause for the corrosion (e.g. chimney nearby) be found?

yes

no

Are the slider components visibly deformed or deformed? (e.g. due to falling load)

yes

no

Are there any signs of external effects or tampering?

yes

no

Are the screws of the track roller bolts and the anchor eye provided and are the safety notches in line?  yes

no

Are there any signs of increased abrasion on the slider? (e.g. on the track rollers or the anchor eye)  yes

no

Are the track rollers smooth-running and freely rotatable?  yes

no

## 5 Documentation

Are the installation- and user instructions available for all components  yes

no

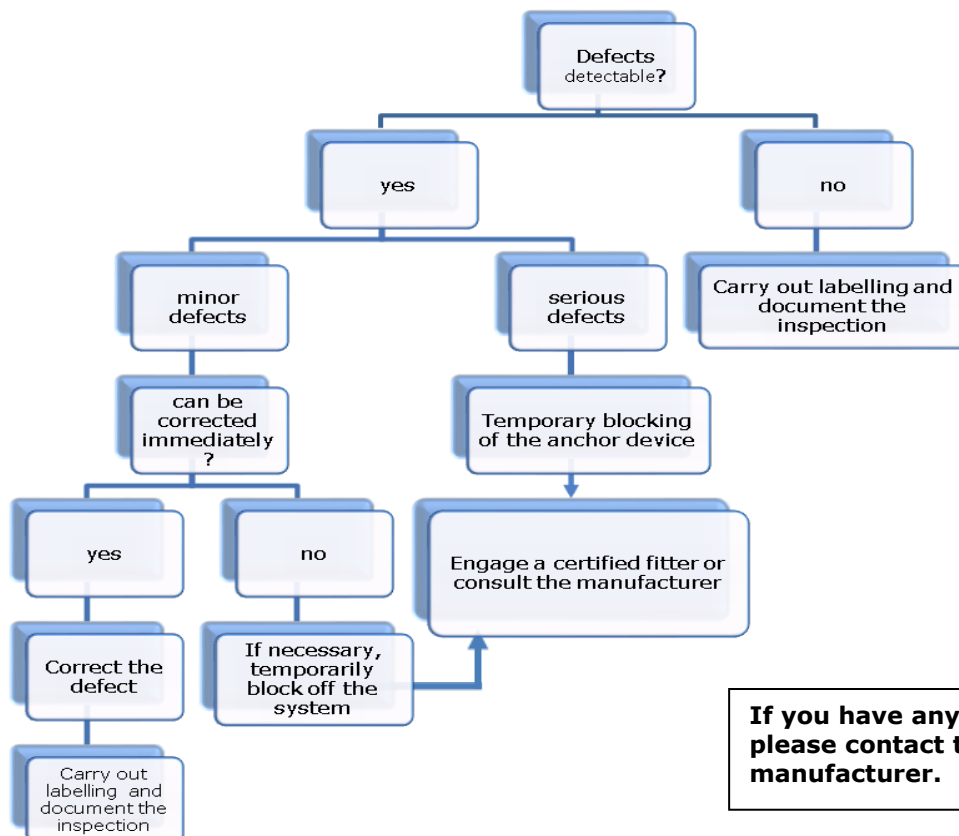
Is the installation documentation (if applicable with photos) available?  yes

no, .....

Is the Inspection Log Card / Log Book available and correctly filled out?  yes

no, .....

## 6 Evaluation



**If you have any questions, please contact the manufacturer.**

## 7 Summary

The checked system is defects-free and can continue to be used without restriction.

- yes
- no, the following defects must be corrected:

.....

.....

.....

.....

---

## 8 Confirmation of the Competent Person

**Name** .....

**First name** .....

**Company** .....

**Street** .....

**Zip code / Town** .....

\_\_\_\_\_

(place, date)

\_\_\_\_\_

(stamp, signature)

# Inspection Log Card / Log Book

Anchor device for personal fall protection equipment



**LUX-top®**

manufacturer: [www.lux-top-absturzsicherungen.de](http://www.lux-top-absturzsicherungen.de)

|  |                            |  |
|--|----------------------------|--|
| <b>Type/Model</b>                        | <b>LUX top® FSA 2010-H</b> | <b>STANDARD: EN 795 Type D + CEN/TS16415</b> |
| Year built/serial number                 |                            |  |
| Installation date                        |                            |  |
| Date of the initial putting into service |                            |  |
| Project / property name                  |                            |  |
| Address of the owner (user) / customer   |                            |  |

## Regular system check, inspection and repair

| Date | Reason for entry (regular inspection or repair) | Damage + defects found (description / actions, etc.) | Released for safe use (yes/no) | Name + signature of the competent person | Date of the next test |
|------|---|--|--------------------------------|--|-----------------------|
|      |   |  |                                |  |                       |
|      |   |  |                                |  |                       |
|      |   |  |                                |  |                       |
|      |   |  |                                |  |                       |
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|      |   |  |                                |  |                       |
|      |   |  |                                |  |                       |
|      |   |  |                                |  |                       |

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Sketches, information, notes: