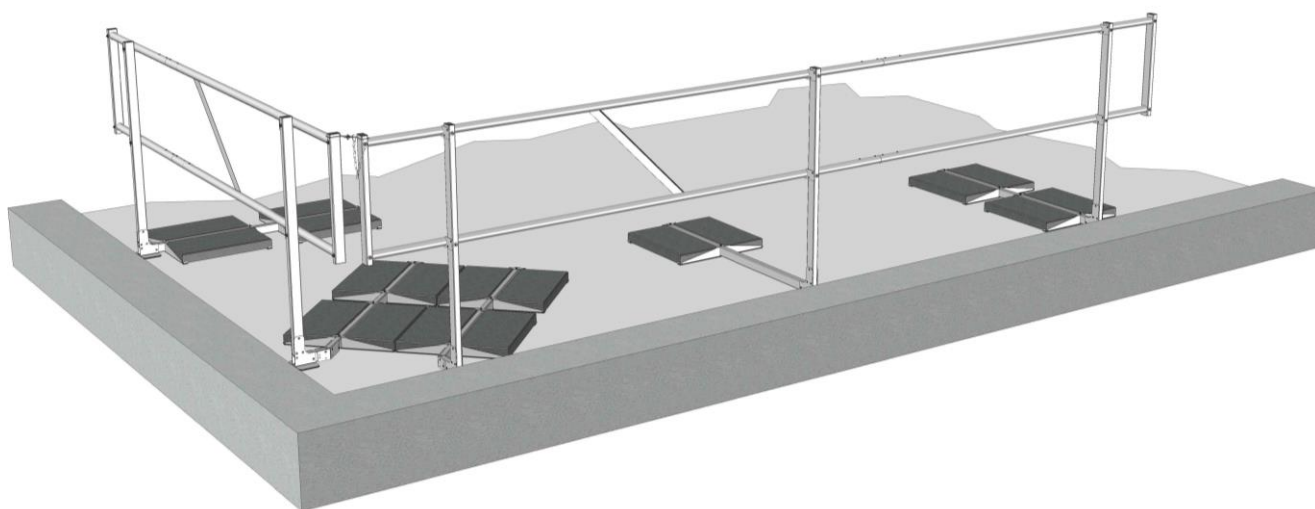


# Installation and User Instructions

## LUX-top® G-T



### Aluminium collective protection for use on flat roofs

**tested and certified to:**  
**EN 13374 Class A (edge protection systems)**  
**+ DIN 14094-2 6.6.3 (rescue ways)**

by DEKRA Testing and Certification GmbH

**Fulfils the requirements of DGUV-I 201-056**  
**+ ÖNORM B3417**

**These user instructions are supplied with each LUX-top® G-T.  
They must be read through carefully before use, must be kept accessible  
at all times and made available to the user.**

## Introduction

**Before installing the collective protection, 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. All variants of collective protection run as standard parallel to the installation surface or the mounting surface! Do not make any changes to the edge protection equipment deviating from these instructions and use original parts of the collective protection only.**



# SAFETY INSTRUCTIONS:

- **LUX-top® G-T** may only be installed by qualified persons, who are familiar with these user instructions and the local safety rules and regulations and are physically and mentally suitable for the task. Health restrictions (e.g. cardiovascular problems, medication) can endanger safety when working at heights.
- The **LUX-top® G-T** aluminium collective protection is used solely to secure authorised persons who are at risk of falling in areas not accessible to the public.
- **LUX-top® G-T** is suitable for installation on adequately load-bearing bitumen, membrane and concrete roofs.
- The standing area of the **LUX-top® G-T** must be plane, free from loose materials, any slippery substances, algae, snow and ice.
- Use of the collective protection for any purpose other than that for which it is intended, e.g. by hooking on undefined loads or lifting or lowering loads on a rope, e.g. building materials, is not allowed.
- The **LUX-top® G-T** must be integrated into the lightning protection in accordance with the national lightning protection regulations. Use as an arrester device is not permitted!
- In case of sloped surfaces and roofs, snow guards must be installed to prevent loading of the **LUX-top® G-T** system with snow loads!
- Use of the **LUX-top® G-T** system requires the presence of a load-bearing parapet/thrust protection at the edge of the roof.

Exception: **LUX-top® G-T DIREKT/DIREKT AT/DIREKT WD** with fixing on the substrate.

- Use in case of frost risk or frost conditions, which result in a hazard, is prohibited.
- In case of wind strengths extending beyond normal values (wind strength 10), the aluminium collective protection may not be used.
- The place of installation may not be higher than 40 m above the surrounding ground.
- The manufacturer must be contacted in case of any uncertainty during installation or use of the **LUX-top® G-T**!

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## **Installation instructions:**

- The installers must ensure that the substructure and the building structure are suitable for erection of the **LUX-top® G-T** system.
- The installation area must be thoroughly swept and any dirt removed before erecting the **LUX-top® G-T** (ask the manufacturer for exceptions).
- To protect the roofing membrane, it is recommended to place a protective layer of roofing membrane identical material underneath the **LUX-top® G-T** (load-bearing variants).
- The **LUX-top® G-T** may only be installed using the screws and connectors supplied by the manufacturer and in accordance with the assembly, installation and use instructions!
- All connections of the construction must be installed and checked properly and conscientiously according to the manufacturer's requirements.
- If an all-round parapet wall of at least 150 mm height is not available, a system toeboard must be installed.
- You must comply with the relevant national regulations and the accident prevention regulations during assembly and installation of the aluminium guardrail.
- Depending on the working conditions, during erection of the **LUX-top® G-T** the workers must be protected with additional measures against falling (e.g. by using PPE against falling).
- The installers must take measures to ensure that neither components of the aluminium collective protection nor tools can fall from the work area.
- On gravel-covered roofs the standing area of the **LUX-top® G-T** must be thoroughly cleared of gravel. Permanent protection must be ensured while this work is being carried out. After the collective protection has been fully installed the gravel can be spread around the system once again.



The **LUX-top® G-T** system fulfils the requirements for metal constructions as natural components of the lightning protection equipment. The components of the **LUX-top® G-T** collective protection are suitable as lightning conductors in accordance with EN 62305-3

## **User instructions:**

- The **LUX-top® G-T** – collective production, if used properly, provides collective protection for the authorised workforce during maintenance work on flat roofs not accessible to the public with up to max. 10° (approx. 17.6 %) roof inclination.
- Access to the flat roof must be strictly prohibited for the public and only permitted for authorised personnel.
- The relevant national laws and 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® G-T**. For Germany these include, among other things:
  - TRBS 2121 "Technische Regeln für Betriebssicherheit - Gefährdung von Personen durch Absturz" / Technical rules for health & safety at work - risk to people due to falling
  - DIN 4426 "Sicherheitstechnische Anforderungen an Arbeitsplätze + Verkehrswege"/Safety requirements for workplaces and transport routes
  - DIN 363 "Persönliche Absturzschutzausrüstung – Persönliche Absturzschutzsysteme"/ Personal fall protection equipment - personal fall protection systems
  - DGUV Regulation 38 "Bauarbeiten" / Construction work
  - DGUV-I 201-056 "Planungsgrundlagen von Anschlageneinrichtungen auf Dächern"/Planning and design principles for anchor devices on roofs
  - Arbeitsstättenverordnung (ArbStättV) / Workplace regulations
  - ASR A2.1 "Technische Regel für Arbeitsstätten - Schutz vor Absturz und herabfallenden Gegenständen, Betreten von Gefahrenbereichen" / Technical rules for workplaces - protection against falling and falling objects, accessing danger zones
- Depending on the conditions on site, the workers must use additional protection measures (e.g. use PPE against falls) when accessing the system.
- The **LUX-top® G-T** – aluminium collective protection must not be used for anchoring the personal protective equipment against falls.
- The user must inspect the **LUX-top® G-T** guardrail system visually before each use to ensure it is in proper functional and maintained condition; the inspection must be used to check for missing, loose or deformed parts. The collective protection must be withdrawn from use if any such defects are found
- It is prohibited to climb onto the guardrail or to lean ladders against the guardrail!
- The **LUX-top® G-T** system may only be used if fully equipped with the planned concrete paving slabs!

## **Notes on servicing/care/maintenance/checking:**

- The **LUX-top® G-T** is permanently weatherproof and low-maintenance under normal use conditions.
- The owner/building operator is obliged to ensure that the aluminium collective protection is in proper condition at all times. Inspection by a competent persons, precisely following the manufacturer's user instructions, is therefore recommended as and when necessary.

This inspection is essential, as the safety of the user depends on the effectiveness and durability of the aluminium collective protection.

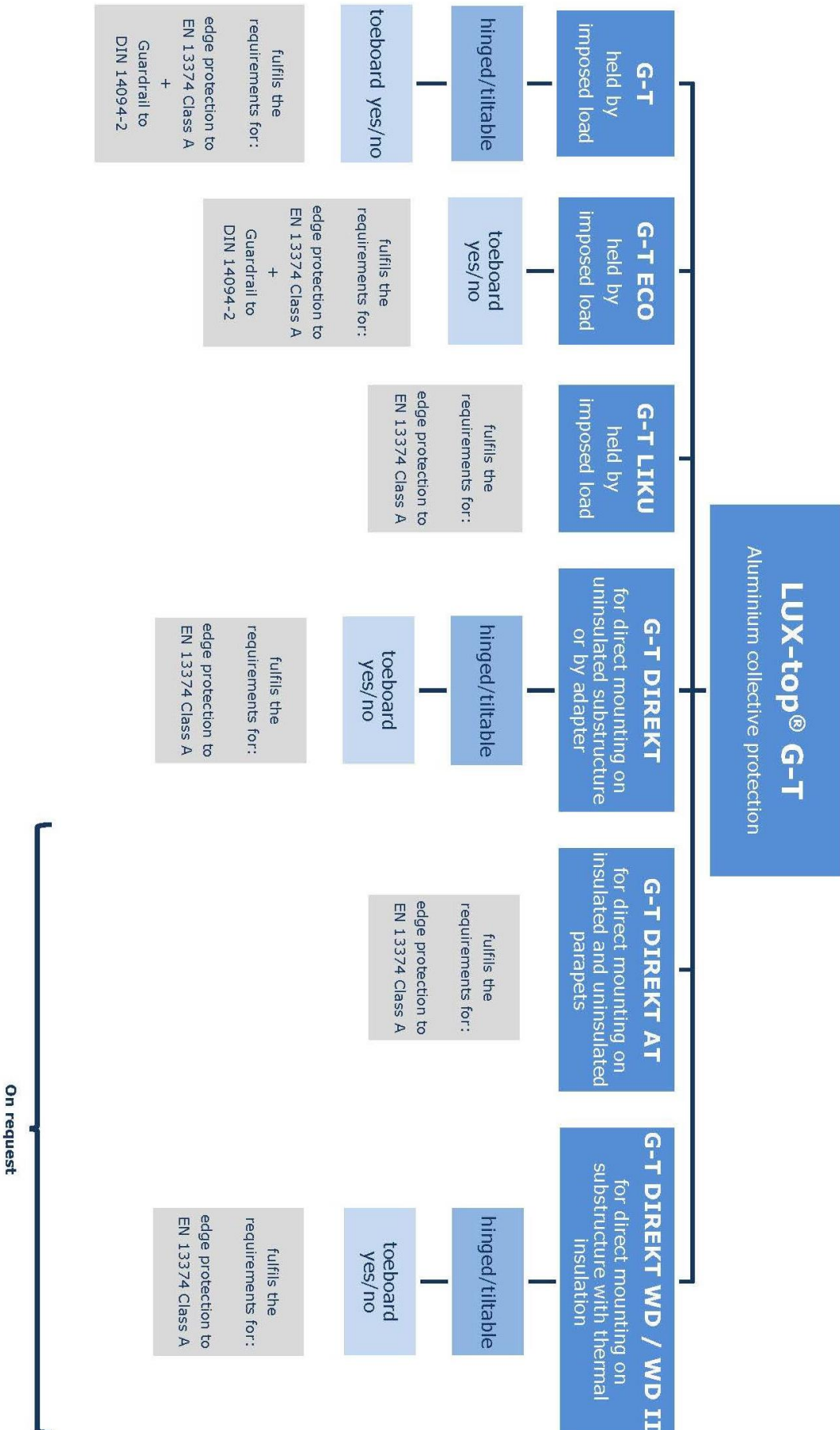
- Depending on the use conditions, the guardrail must cleaned occasionally with a brush and lukewarm water.
- Avoid any contact with acids, chloride, paint or aggressive cleaning liquids or chemicals.
- If the aluminium collective protection is used in particularly aggressive atmospheres, additional protective measures may be necessary. Please contact the manufacturer for details.
- Following the fall of a person or an object against or into the guardrail and its accessories, the edge protection component may only continue to be used if it has been checked and released by a competent person!
- Should any doubt arise regarding safe condition (e.g. severe deformation, lightning strikes, or similar) the system must be withdrawn from further use and it must be inspected by a competent person.
- Damaged parts must be replaced immediately by qualified persons.

## **Miscellaneous:**

Changes or additions 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 sold on to another country, to ensure the safety of the user the instructions for use, maintenance, the regular checks and repairs must be available in the language of the other country.



**System overview:**





## LUX-top® G-T standard system components:

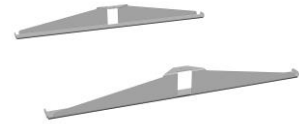
### LUX-top® G-T basic elements/accessories



GE-1 LUX-top® G-T  
Basic element I  
**Art. No.: 87350**



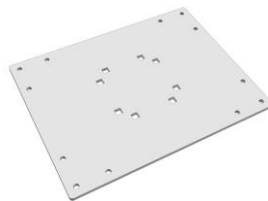
GE-2 LUX-top® G-T ECO  
Basic element  
**Art. No.: 88680**



GE-3 LUX-top® G-T  
Counterweight holder  
**Art. No.: 87450/87575**



GE-4 LUX-top® G-T DIREKT  
Basic element  
**Art. No.: 88032/88040**



GE-5 LUX-top® G-T DIREKT  
RVT adapter plate  
**Art. No.: 88025**



GE-6 LUX-top® G-T DIREKT  
Parapet adapter plate  
**Art. No.: 88380**



GE-7 LUX-top® G-T DIREKT AT  
Basic element  
**Art. No.: 88415**



GE-8 LUX-top® G-T DIREKT WD  
Basic element  
**Art. No.: 88023**

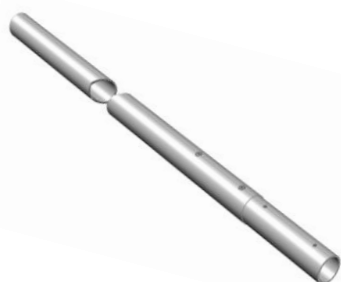


GE-9 LUX-top® G-T DIREKT WD II  
Basic element  
**Art. No.: 88325/88330**

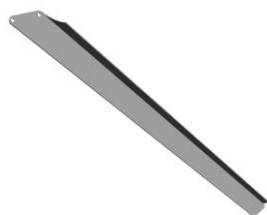


**GE-10** LUX-top® G-T  
Guardrail tube bracket, variable  
**Art. No.: 87283**

## LUX-top® G-T Principal guardrail/accessories

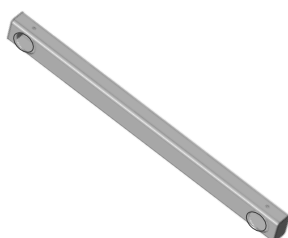


**G-1** LUX-top® G-T  
Guardrail tube incl. butt connector  
**Art. No.: 87500**



**G-2** LUX-top® G-T  
Diagonal members  
**Art. No.: 87980**

## LUX-top® G-T start/end elements



**A/E-1** LUX-top® G-T  
Tube end connector 570  
**Art. No.: 87390**

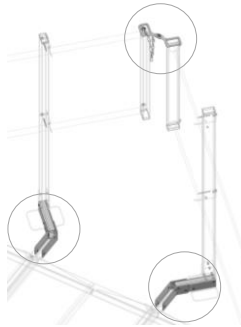


**A/E-2** LUX-top® G-T  
PVC end cap  
**Art. No.: 87080**

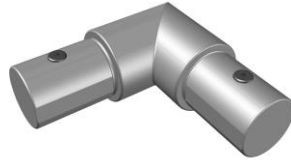


**A/E-3** LUX-top® G-T  
Shear connector  
**Art. No.: 87050**

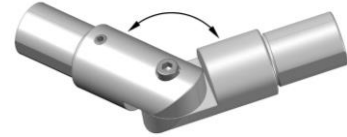
## LUX-top® G-T corners



**E-1** LUX-top® G-T  
Corner kit  
**Art. No.: 87820/88750**

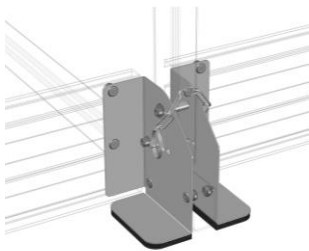


**E-2** LUX-top® G-T  
90° corner connector  
**Art. No.: 87000**

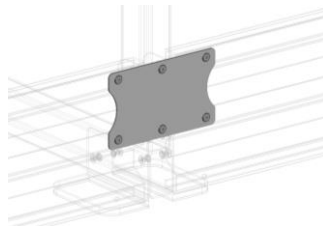


**E-3** LUX-top® G-T  
Variable corner connector  
**Art. No.: 87010**

## LUX-top® G-T toeboard/accessories



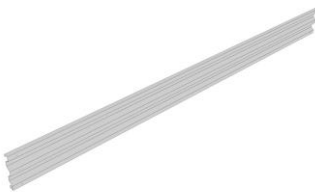
**B-1** LUX-top® G-T  
Toeboard, base part (extra)  
**Art. No.: 87347**



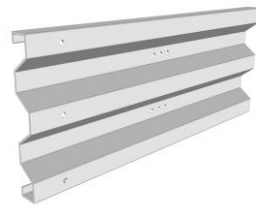
**B-2** LUX-top® G-T ECO  
Toeboard adapter  
**Art. No.: 88700**



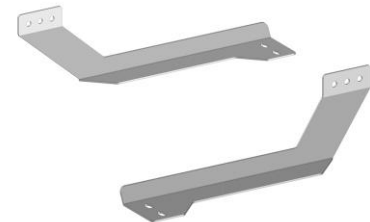
**B-3** LUX-top® G-T  
Anti-slip covering  
**Art. No.: 87125**



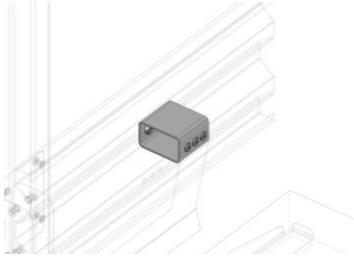
**B-4** LUX-top® G-T  
Toeboard  
**Art. No.: 87634**



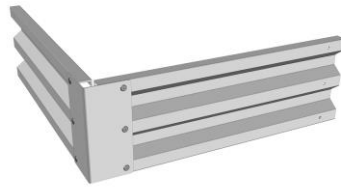
**B-5** LUX-top® G-T  
Toeboard start/end element  
**Art. No.: 87638**



**B-6** LUX-top® G-T  
Toeboard cross-strut  
**Art. No.: 87676/87679**



**B-7** LUX-top® G-T ECO  
Toeboard cross-strut adapter  
**Art. No.: 88705**



**B-8** LUX-top® G-T  
Toeboard, corner version  
**Art. No.: 87714/87735**

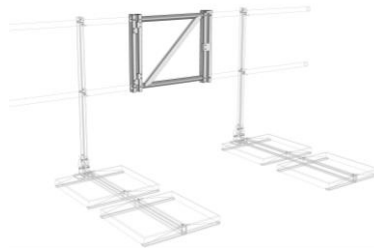


**B-9** LUX-top® G-T DIREKT WD II  
Toeboard adapter  
**Art. No.: 88275**

## LUX-top® G-T access doors



**ZT-1** LUX-top® G-T  
Access door  
**Art. No.: 87580**

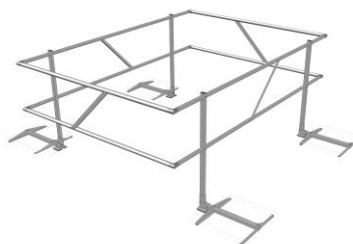


**ZT-2** LUX-top® G-T ECO  
Access door  
**Art. No.: 88880**

## LUX-top® G-T sets



**Set 1** LUX-top® G-T  
Module  
**Art. No.: 88050-88061**



**Set 2** LUX-top® G-T LIKU  
**Art. No.: 87990-87994**



**GE-1 LUX-top® G-T basic element I Art. No.: 87350**  
Post combination held by imposed load, hinged and with adjustable inclination, for holding the guardrail tubes.

**GE-2 LUX-top® G-T ECO basic element Art. No.: 88680**  
Post combination for holding the guardrail tubes and held by imposed load.

**GE-3 LUX-top® G-T counterweight holder Art. No.: 87450**  
Holder for retaining the concrete paving slabs.

one above the other **Art. No.: 87575**

**GE-4 LUX-top® G-T DIREKT basic element**  
Post combination for direct mounting on uninsulated surfaces made of concrete or steel.

Mounting position: Ceiling (horizontal) **Art. No.: 88032**  
Parapet (vertical) **Art. No.: 88040**

**GE-5 LUX-top® G-T DIREKT RVT adapter plate Art. No.: 88025**  
Adapter for mounting the LUX-top® G-T DIREKT basic element on sandwich elements or trapezoidal steel profiles.

**GE-6 LUX-top® G-T DIREKT parapet adapter plate Art. No.: 88380**  
Adapter for mounting the LUX-top® G-T DIREKT basic element on insulated and uninsulated parapets.

**GE-7 LUX-top® G-T DIREKT AT basic element Art. No.: 88415**  
Post combination for direct mounting on insulated and uninsulated parapets.

**GE-8 LUX-top® G-T DIREKT WD basic element Art. No.: 88023**  
Post combination for direct mounting on insulated surfaces made of concrete, wood, trapezoidal metal sheet, etc.

**GE-9 LUX-top® G-T DIREKT WD II basic element**  
Preassembled post combination for direct mounting on insulated substructures made of concrete, wood, trapezoidal steel profile and much more.

design: foldable/tiltable **Art. No.: 88325**  
not foldable **Art. No.: 88330**

- GE-10 LUX-top® G-T guardrail tube bracket, variable**  
 Preassembled kit as extra to the LUX-top® G-T basic elements for variable vertical alignment of the guardrail tubes.
- System:           LUX-top® G-T/DIREKT   **Art. No.: 87356**  
                       LUX-top® G-T ECO       **Art. No.: 88690**
- G-1 LUX-top® G-T guardrail tube incl. butt connector Art. No.: 87500**  
 Aluminium tube for guardrail and intermediate guardrail incl. connector.
- G-2 LUX-top® G-T diagonal member Art. No.: 87980**  
 For stiffening guardrail sections and guardrail modules.
- A/E-1 LUX-top® G-T tube end connector 570 Art. No.: 87390**  
 As the closure of guardrail tube ends with an overhang of > 100 mm.
- A/E-2 LUX-top® G-T PVC end cap Art. No.: 87080**  
 As the closure of guardrail tube ends with an overhang ≤ 100 mm.
- A/E-3 LUX-top® G-T shear connector Art. No.: 87050**  
 Ensures hinged/collapsibility of long guardrail sections that cannot be used individually.
- E-1 LUX-top® G-T corner kit**  
 Preassembled kit for forming corners in the systems held by imposed load.
- System:           LUX-top® G-T       **Art. No.: 87820**  
                       LUX-top® G-T ECO   **Art. No.: 88750**
- E-2 LUX-top® G-T 90° corner connector Art. No.: 87000**  
 For making corners.
- E-3 LUX-top® G-T variable corner connector Art. No.: 87010**  
 For forming corners and for levelling out larger changes in gradient.
- B-1 LUX-top® G-T toeboard, base part Art. No.: 87347**  
 As an extra to the LUX-top® G-T/DIREKT basic element for holding toeboards.



B-2

**LUX-top® G-T ECO toeboard adapter Art. No.: 88700**

Adapter for mounting LUX-top® G-T toeboards on LUX-top® G-T ECO basic elements.

B-3

**LUX-top® G-T anti-slip covering Art. No.: 87125**

Additional slip prevention when using the LUX-top® G-T toeboard.

B-4

**LUX-top® G-T toeboard Art. No.: 87634**

Prevents objects from falling in case of parapet heights less than 150 mm (100 mm in EN ISO 14122-3).

Standard length 1960 mm

B-5

**LUX-top® G-T toeboard start/end element Art. No.: 87638**

Prevents objects from falling where parapet wall heights are less than 150 mm at the start and end of guardrails.

Standard length 380 mm

B-6

**LUX-top® G-T toeboard cross-strut**

For stabilising cantilevered toeboard starts and ends.

Side:           left   **Art. No.: 87676**  
                  right **Art. No.: 87679**

B-7

**LUX-top® G-T ECO toeboard cross-strut adapter**

Adapter for mounting the LUX-top® G-T toeboard cross-strut in LUX-top® G-T ECO guardrail systems.

B-8

**LUX-top® G-T toeboard, corner version**

Prevents objects from falling where parapet wall heights are less than 150 mm at guardrail corners.

Standard sizes:                   **475x475 mm Art. No.: 87735**  
  **400x1600 mm Art. No.: 87714**

ZT-1

**LUX-top® G-T access door Art. No.: 87580**

Self-closing safety door for LUX-top® G-T systems.

ZT-2

**LUX-top® G-T ECO access door Art. No.: 88880**

Safety door for LUX-top® G-T collective protection to EN 13374 Class A.

Set 1 **LUX-top® G-T module**

Complete kits of collective protection, held by imposed load and hinged.

Standard lengths:

<b>2.8 m</b>	<b>Art. No.: 88050/88051</b>	(with toeboard)
<b>4.8 m</b>	<b>Art. No.: 88052/88053</b>	(with toeboard)
<b>6.8 m</b>	<b>Art. No.: 88054/88055</b>	(with toeboard)
<b>8.8 m</b>	<b>Art. No.: 88056/88057</b>	(with toeboard)
<b>10.8 m</b>	<b>Art. No.: 88058/88059</b>	(with toeboard)
<b>12.8 m</b>	<b>Art. No.: 88060/88061</b>	(with toeboard)

Set 2 **LUX-top® G-T LIKU**

Complete kits for protecting rooflights.

Standard sizes:

<b>S</b>	(clear size 1.95x2.75 m)	<b>Art. No.: 87990</b>
<b>M</b>	(clear size 2.75x2.75 m)	<b>Art. No.: 87992</b>
<b>L</b>	(clear size 2.75x4.75 m)	<b>Art. No.: 87994</b>

S-1 **LUX-top® G-T nameplate Art. No.: 87804**

Contains important information on the system.

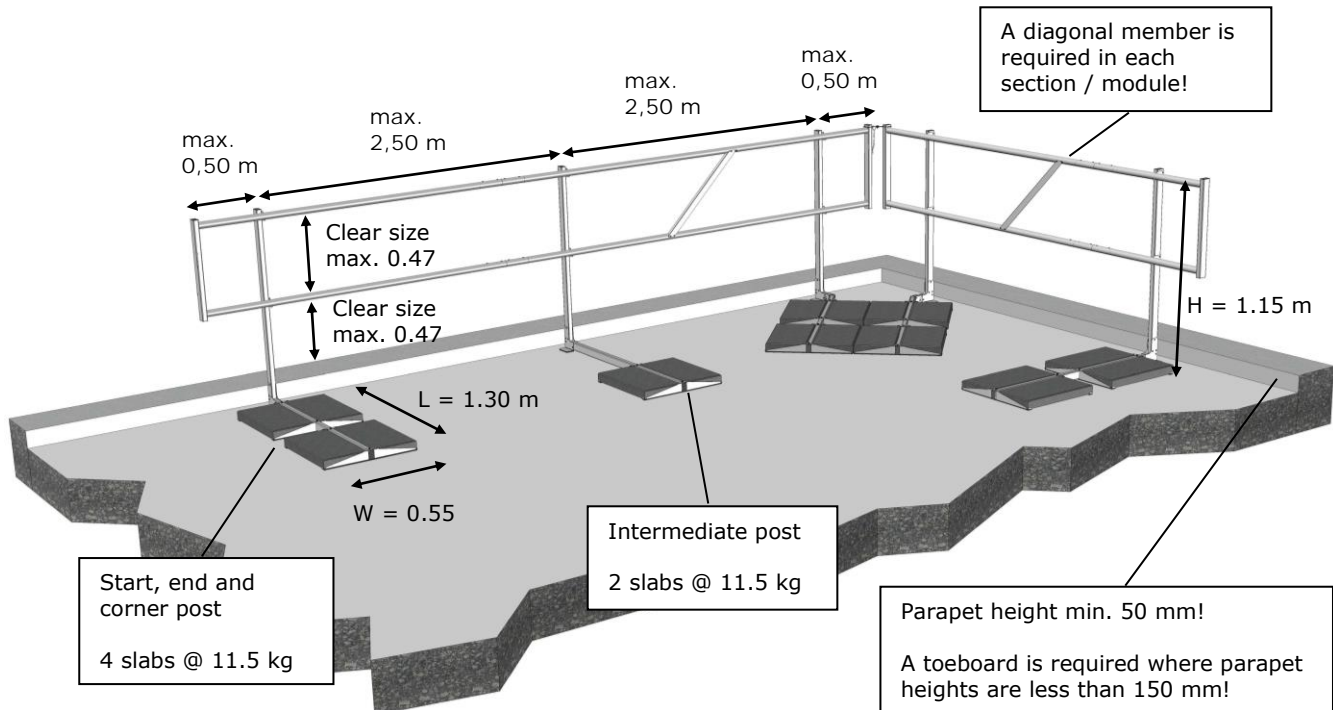
S-2 **LUX-top® G-T spare parts kit**

Spare parts kit with fixings, which is supplied with each LUX-top® G-T.

System:

LUX-top® G-T	<b>Art. No.: 87200</b>
LUX-top® G-T ECO/LIKU	<b>Art. No.: 88580</b>

## General assembly and installation requirements:



\* max. 0.50 m in EN ISO 14122-3

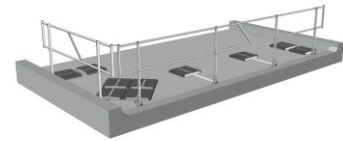
Figure by way of

- Openings between the edge protection systems and other constructions must be as small as possible, however, must not exceed 120 mm for principle guardrails and 20 mm for the toeboard.
- Only concrete paving slabs 50x25 cm with a maximum thickness of 5 cm and at least 11.5 kg weight each may be used as weighting material.
- The **LUX-top® G-T / LUX-top® G-T ECO** must always consist of at least one start and one end post. These must be equipped with a double weight (see schematic diagram).
- During the preparation phase: Roughly spread the basic elements, counterweight holders and concrete slabs along the length of guardrail to be installed in line with the installation requirements.

## **LUX-top® G-T types of use:**

### **LUX-top® G-T as edge protection system**

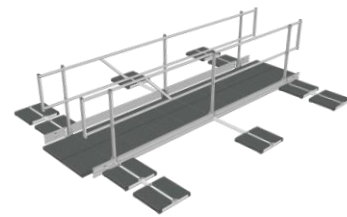
Temporary edge protection system for protecting authorised persons in areas where there is a risk of falls, on flat roofs not accessible to the public.



### **LUX-top® G-T as maintenance and escape route guardrail**

By using the **LUX-top® G-T toeboard** and a guardrail tube bracket in a rotated position, the guardrail system can be installed as an "escape route variant", whereby the guardrail tubes are on the use side (in the aisle/walkway).

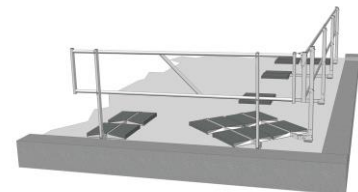
The minimum width of the escape route depends on the maximum number of persons who use the escape route in an emergency! The counterweight slabs and the slabs of the escape route are not included in the scope of supply.



## **LUX-top® G-T design variants:**

### **LUX-top® G-T unhinged**

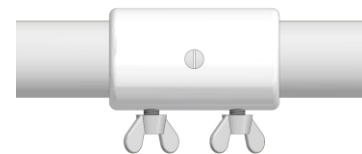
Standard variant of the **LUX-top® G-T** aluminium collective protection.



### **LUX-top® G-T hinged**

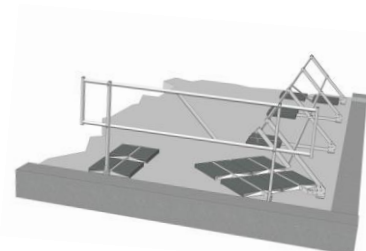
This variant is used if a fixed guardrail system is not wanted for visual reasons or e.g. a fixed guardrail system is not feasible because it would throw shadows on photovoltaic systems.

The hingeability/collapsibility can optionally be improved by installing **LUX-top® G-T shear connectors** (see Figure on the right) at regular spacings. These enable simple separation for the hinging / foldaway process.



The modular design with individually usable guardrail modules is recommended if the guardrail is also to be installed and used in short individual lengths.

The standard module length is 12.8 m (can be folded away by one person). Longer or shorter module lengths are also possible.



## **Recommended installation tools:**

### **LUX-top® G-T**

1. Chalk line/plumb or snapping line
2. Folding rule
3. Marking pen
4. Cordless screwdriver with bit size A/F 8 and metal drill bit 5 mm
5. Riveter (e.g. Gesipa "Akkubird") or rivet gun (e.g. Gesipa "HN2")
6. Pipe cutter/metal saw
7. Hand deburrer/round or half-round file

### **additionally for LUX-top® G-T DIREKT (concrete)**

8. Impact drill and stone drill bit 10 mm
9. Blow-out pump and brush
11. Hammer
12. Ring or open-end spanner A/F size 17 or ratchet set

### **additionally for LUX-top® G-T DIREKT (steel)**

8. Drill and metal drill bit 11 mm
9. Ring or open-end spanner A/F size 17 or ratchet set

### **additionally for LUX-top® G-T DIREKT (RVT adapter plate)**

8. Drill and metal drill bit 8 mm
9. Special riveting gun Gesipa "HN 2-BT" or "Powerbird"
10. Ring or open-end spanner A/F size 17 or ratchet set

### **additionally for LUX-top® G-T DIREKT (parapet adapter plate)**

8. Tools for mounting the adapter plate depending on the mounting surface and fasteners (if necessary, ask the manufacturer ST Quadrat)
9. Ring or open-end spanner A/F size 17 or ratchet set

### **additionally for LUX-top® G-T DIREKT AT**

8. Tools for mounting the retaining feet, depending on the fixing substrate/surface (ask manufacturer ST Quadrat)
9. Ring or open-end spanner A/F size 17 or ratchet set

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**additionally for LUX-top® G-T DIREKT WD**

8. Tools for mounting the retaining feet, depending on the fixing substrate/surface (ask manufacturer ST Quadrat)
9. Open-end spanner A/F size 30

**additionally for LUX-top® G-T DIREKT WD II**

8. Tools for mounting the retaining feet depending on the mounting surface (if necessary, ask the manufacturer ST Quadrat)
9. ratchet set with extension and SW19

**additionally for LUX-top® G-T - access door**

7. Drill and metal drill bit 8 mm
8. Allen key, A/F size 5

**additionally for LUX-top® G-T ECO - access door**

7. Ring or open-end spanner A/F size 10 or ratchet set

## **1. LUX-top® G-T basic elements/accessories installation instructions:**

### **LUX-top® G-T - basic element I**

- a) Remove the cotter pin and bolt
- b) Move the guardrail post into the required position
- c) Use the attached bolt and cotter pin to secure the guardrail post



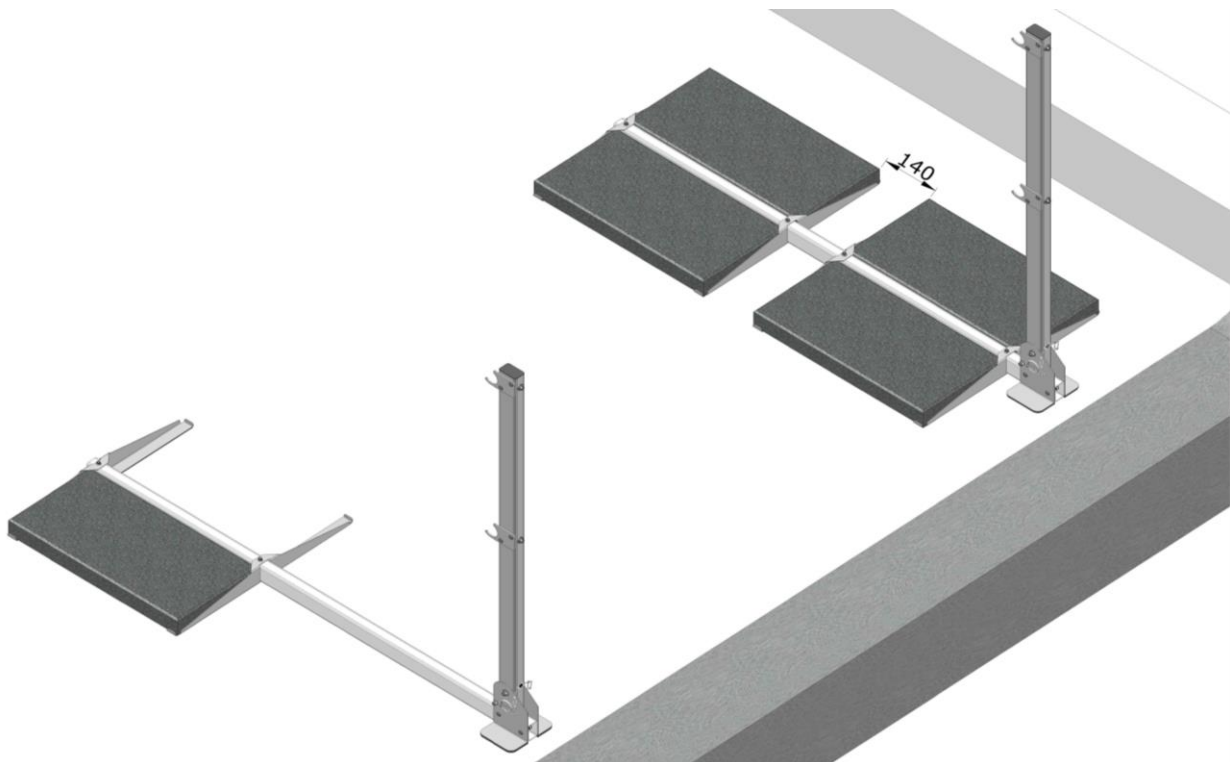
### **LUX-top® G-T ECO - basic element**

- a) Align guardrail post
- b) Use 2 blind rivets 4.8x10 A2 each to rivet the guardrail spreader onto the guardrail base



### **LUX-top® G-T - counterweight holder**

- a) Push on and align the counterweight (rear spreader predrilled in the factory)
  - Start, end, and corner posts, 2 pairs of counterweight holders (clear spacing 140 mm)
  - Intermediate posts, 1 pair of counterweight holders
- b) Fix the counterweight holder by means of self-drilling screws 5.5x20

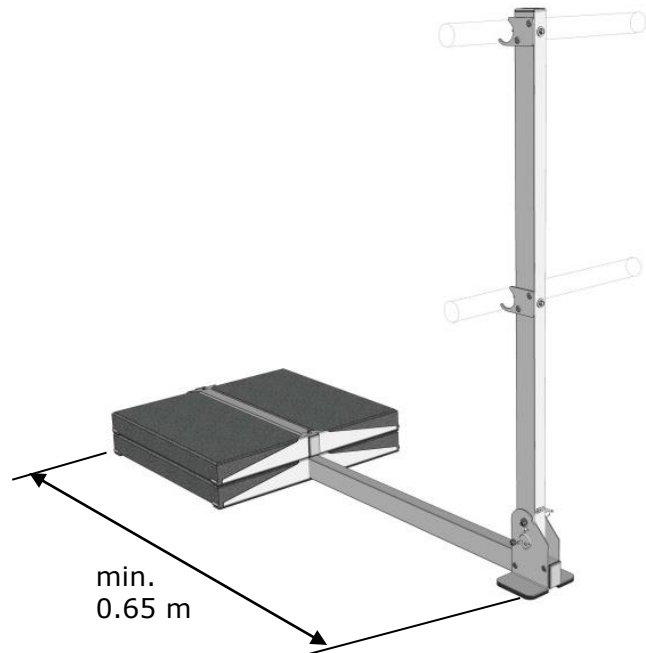




## LUX-top® G-T - G-T counterweight holders one above the other

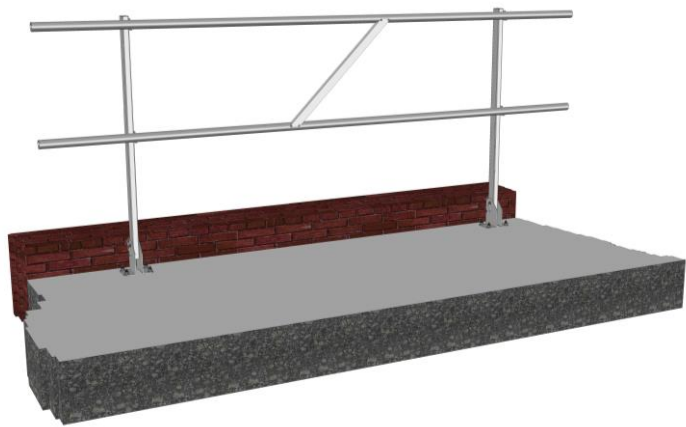
If required by the situation, individual railing outriggers of the basic elements can be shortened to a length of at least 0.65 m.

- Shorten the basic element on site as required
- Push on the LUX-top® G-T counterweight holder** and insert the concrete walkway plates (do not screw).
- Pre-assemble the **LUX-top® G-T counterweight holders one above the other** as shown and screw them into the rectangular tube using the self-drilling stainless steel screws 5.5x70 through the lower counterweight holders.



## LUX-top® G-T DIREKT - basic element

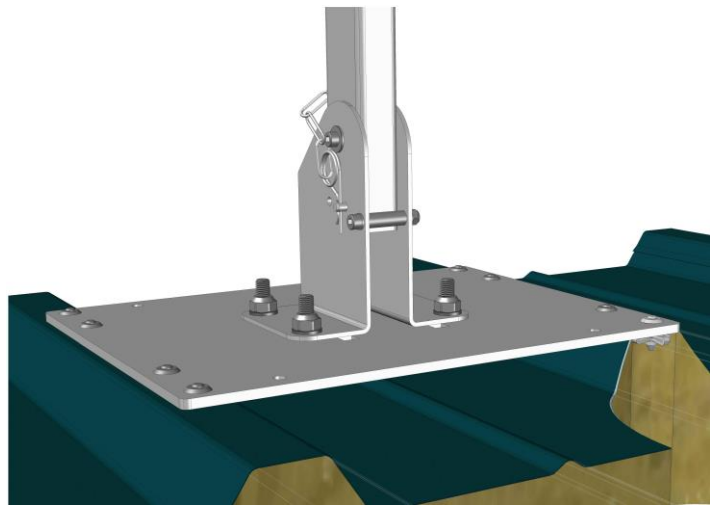
- Measure the positions of the basic elements according to the installation requirements, draw on and drill (clean the drillhole if necessary and apply corrosion protection)
- Mount the basic elements using the appropriate fixings kit:
  - Concrete fixing kit\*
  - Steel fixing kit
  - Adapter plate fixing kit



\*Note and follow the installation instructions of the fixings manufacturer

## LUX-top® G-T DIREKT - RVT adapter plate

- a) Preassemble the basic elements on the adapter plates  
Important: Note the installation direction!
- b) Measure and drawn on the positions of the basic elements according to the installation requirements
- c) Stick the sealing strips onto the underside of the adapter plate
- d) Align the basic elements with the middle and drill through the adapter plate into the top rails (metal drill bit Ø 8 mm)
- e) Set 8 Bulb-Tite rivets using a special tool

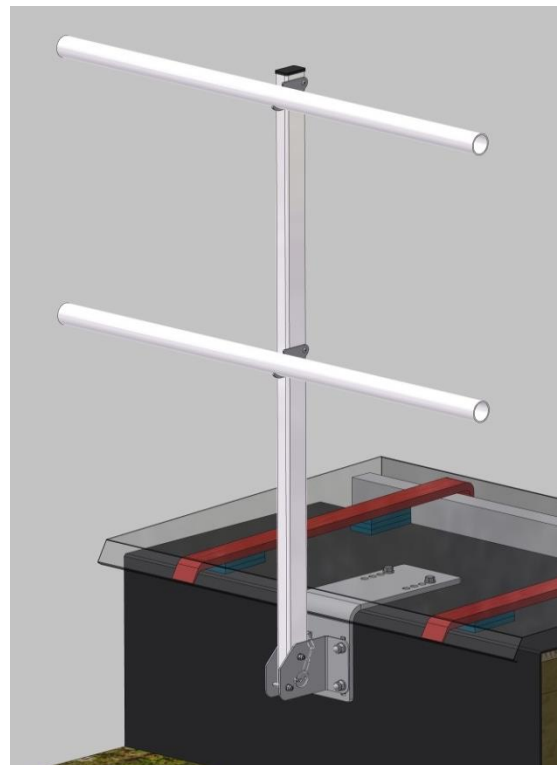


## LUX-top® G-T DIREKT – parapet adapter plate

The prerequisite for mounting the adapter plates on insulated parapets is a sufficiently pressure-resistant insulation layer or sufficient load distribution above the insulation layer (wood-based panel or similar). If necessary, the corresponding mounting positions of the basic elements or their adapter plates must be reinforced with a pressure-resistant intermediate layer (e.g. purenite).

The mounting sequence may vary, but the space required for mounting the basic elements should be checked in advance (if necessary, pre-mount fasteners from the adapter plate mounting set loosely)!

- a) Measure and mark the positions of the adapter plates in accordance with the installation instructions, and drill and install them in accordance with the fasteners used and the fastener manufacturer's instructions (if necessary, clean the drill hole or apply corrosion protection)



- b) Mount base elements with mounting set adapter plate

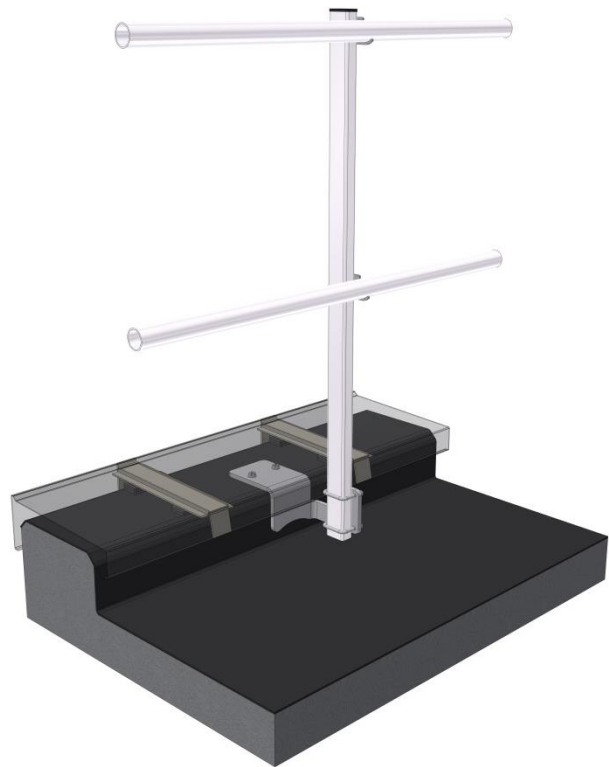
## LUX-top® G-T DIREKT AT

The prerequisite for mounting the brackets on insulated parapets is a sufficiently pressure-resistant insulation layer or sufficient load distribution above the insulation layer (wood-based panel or similar).

If necessary, the corresponding mounting positions of the base elements or their brackets must be reinforced with a pressure-resistant intermediate layer (e.g. purenite).

The assembly sequence may vary, but the space required for the assembly of the basic elements should be checked in advance!

- a) Measure and mark the positions of the brackets in accordance with the installation instructions, and drill (if necessary, clean the drill hole or apply corrosion protection) and install in accordance with the fasteners used and the fastener manufacturer's instructions.
- b) Insert the railing posts and fix them at the desired height with the U-bolts (tightening torque 16Nm)
- c) Secure the railing posts with 5.5x20 drill screws



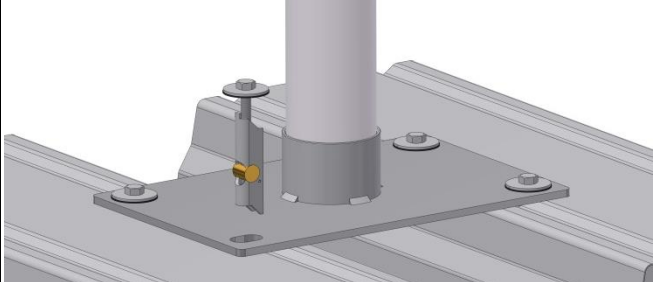
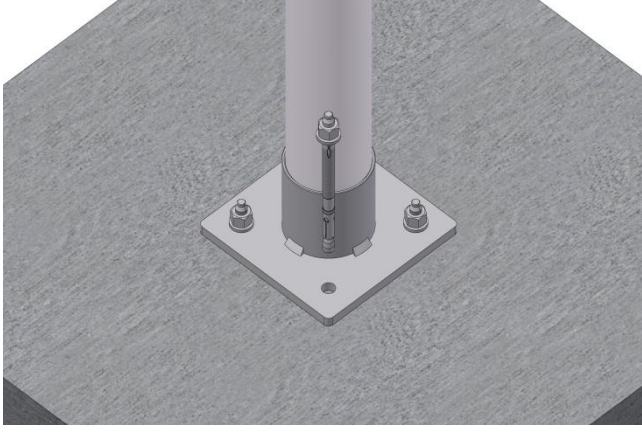




### ATTENTION:

- Clear distance between principal guardrails and parapet or toeboard max. 0.47 m!
- Guardrail height \* from walking surface to top of principal guardrail min.  $H = 1.0$  m for building heights less than/equal to 12 m!
- Guardrail height\* from walking surface to top of principal guardrail min.  $H = 1.1$  m for building heights greater than 12 m!

\*ASR A2.1 "Technische Regel für Arbeitsstätten - Schutz vor Absturz und herabfallenden Gegenständen, Betreten von Gefahrenbereichen" / Technical rules for workplaces - protection against falling and falling objects, accessing danger zones

## LUX-top® G-T DIREKT WD / DIREKT WD II - retaining foot

The **LUX-top® G-T retaining foot** required for assembly is available for a wide variety of mounting substrates - please contact the manufacturer ST Quadrat if necessary!  
Mount the retaining feet according to the installation instructions and then seal in.

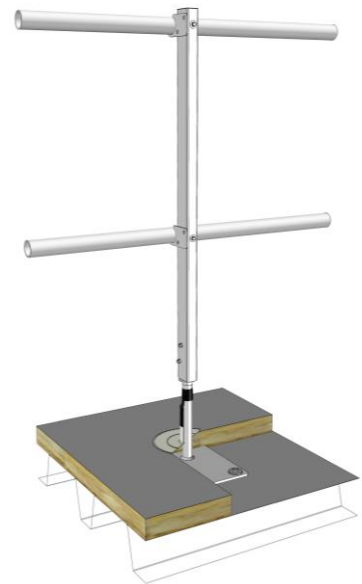
<p><u>Approved fixing surface:</u> Steel trapezoidal profiles (t min = 0.75 mm)</p>	<p><u>Befestigungsuntergrund:</u> Betonbauteile Festigkeitsklasse mind. C20/25 (B25)</p>														
 <div style="border: 2px solid red; padding: 5px; margin-top: 10px;"> <p><b>Depending on static requirements, provide reinforcing plates in accordance with IFBS Chapter 12.2.8 (Figure 12.15)!</b></p> </div>															
<div style="display: flex;"> <div style="flex: 1;">     </div> <div style="flex: 2;"> <p>a) Place the base plate on the raised portions of the trapezoidal sheet.</p> <p>b) Use the base plate as a template for marking the drill holes.</p> <p>c) Drill the attachment holes (Ø 24mm) with an optionally available counterbore.</p> <p>d) Position the base plate's keyholes over the drill holes in the trapezoidal sheet. Feed the folded toggle bolts through the drill holes and unfold them by moving the bolt.</p> <p>e) Tighten the bolts until the toggle bolts firmly sit against the inside of the trapezoidal sheet. Use a torque wrench (13 Nm).</p> </div> </div>	<p>a) Place the retaining foot parallel to the edge of the roof at the desired position.</p> <p>b) Drill holes through the holes in the retaining foot - foot plate. Thoroughly clean the holes. (brushing and blowing out) !!!</p> <p>c) Drive in the concrete anchors and apply the appropriate torque. Use a torque wrench.</p> <table border="1" style="width: 100%; margin-top: 20px;"> <tr> <td>Baseplate dimensions [mm]</td> <td>150x150x6 (4-Loch)</td> </tr> <tr> <td>Anchor bolt</td> <td>FAZ II 10/20 A4</td> </tr> <tr> <td>Drill hole-Ø [mm]</td> <td>10</td> </tr> <tr> <td>Min. drilling depth / depth of anchoring into concrete [mm]</td> <td>75 / 60</td> </tr> <tr> <td>Tightening torque [Nm]</td> <td>45</td> </tr> <tr> <td>Min. component thickness [mm]</td> <td>110</td> </tr> <tr> <td>Min. edge distance anchor bolt [mm]</td> <td>250</td> </tr> </table>	Baseplate dimensions [mm]	150x150x6 (4-Loch)	Anchor bolt	FAZ II 10/20 A4	Drill hole-Ø [mm]	10	Min. drilling depth / depth of anchoring into concrete [mm]	75 / 60	Tightening torque [Nm]	45	Min. component thickness [mm]	110	Min. edge distance anchor bolt [mm]	250
Baseplate dimensions [mm]	150x150x6 (4-Loch)														
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Tightening torque [Nm]	45														
Min. component thickness [mm]	110														
Min. edge distance anchor bolt [mm]	250														

### LUX-top® G-T DIREKT WD - basic element

The **LUX-top® G-T retaining feet** required for installation are available for diverse surfaces – please contact the manufacturer ST Quadrat for information!

Mount the retaining feet according to the installation requirements in the separate installation instructions and seal

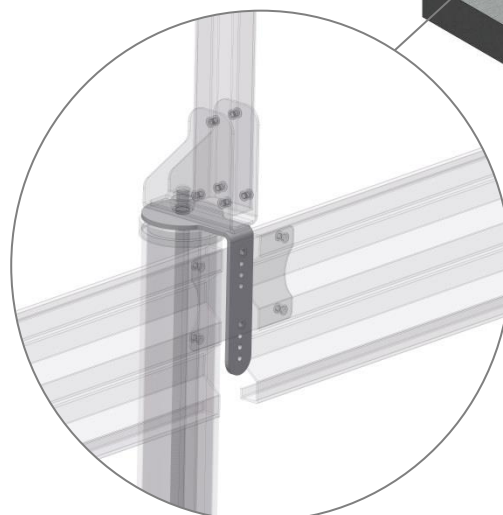
- a) Screw on lock nut
- b) Put on load spreading washer
- c) Screw on and align the guardrail post (preassembled)
- d) Secure the guardrail post with lock nut  
(Open-end spanner A/F size 30)



### LUX-top® G-T DIREKT WD II – basic element

Mount the retaining feet according to the assembly instructions and then seal in.

- a) Loosen cap nut and lock washer Form S  
(if necessary fork wrench SW 19)
- b) For railing systems with toe board.  
Place the LUX-top® G-T DIREKT WD II toe board adapter  
(see illustration below) on the railing system.
- c) Mount and align railing posts (pre-assembled)
- d) Secure railing posts with lock washer Form S and cap nut  
(ratchet with extension and SW 19)

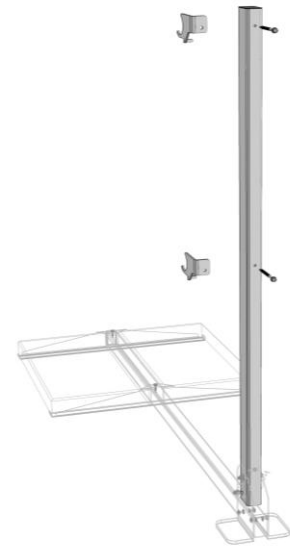


## LUX-top® G-T - guardrail tube bracket, variable

- a) Measure and draw on the required height
- b) Drill into guardrail tube bracket using self-drilling screw 5.5x70
- c) Clip into guardrail tube
- d) Self-drilling screw through screwing

Alternatively:

- a) Clip into guardrail tube
- b) Adjust the guardrail tube so that it is horizontal
- c) Screw the guardrail tube bracket and guardrail tube using self-drilling screw 5.5x70



### ATTENTION:

- Clear distance between principal guardrails and parapet or toeboard max. 0.47 m!
- Guardrail height \* from walking surface to top of principal guardrail min. H = 1.0 m for building heights less than/equal to 12 m!
- Guardrail height\* from walking surface to top of principal guardrail min. H = 1.1 m for building heights greater than 12 m!

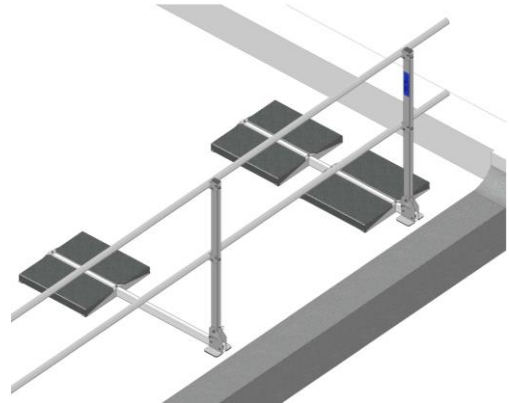
\*ASR A2.1 "Technische Regel für Arbeitsstätten - Schutz vor Absturz und herabfallenden Gegenständen, Betreten von Gefahrenbereichen" / Technical rules for workplaces - protection against falling and falling objects, accessing danger zones



## **2. LUX-top® G-T principal guardrails/accessories installation instructions:**

### **LUX-top® G-T - guardrail tube incl. butt connector**

- a) Clip guardrail tubes onto the start, end or corner posts with the required lateral overhang (max. 0.4 m) and screw onto the guardrail post with the help of the stainless steel self-drilling screws 5.5x70
- b) Use 2 blind rivets 4.8x10 A2 each to rivet preassembled and predrilled guardrail tubes at the joints
- c) Cut guardrail tubes to individual required length (overhang max. 0.4 m)



### **LUX-top® G-T - diagonal member**

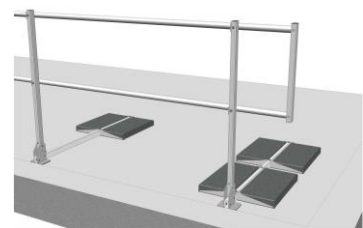
- a) Align diagonal members in the middle between two basic elements and drill (metal drill bit 5 mm)
- b) Fix by means of 4 blind rivets 4.8x10 A2



## **3. LUX-top® G-T start/end elements installation instructions:**

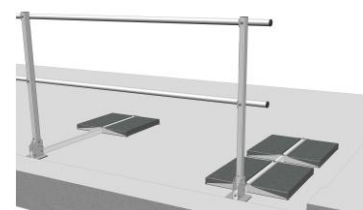
### **LUX-top® G-T - tube end connector 570**

- a) Unscrew loose self-drilling screws
- b) Push the tube end connector 570 onto the ends of the guardrail tubes until it stops
- c) Screw on using the self-drilling screws 5.5x20



### **LUX-top® G-T - PVC end cap**

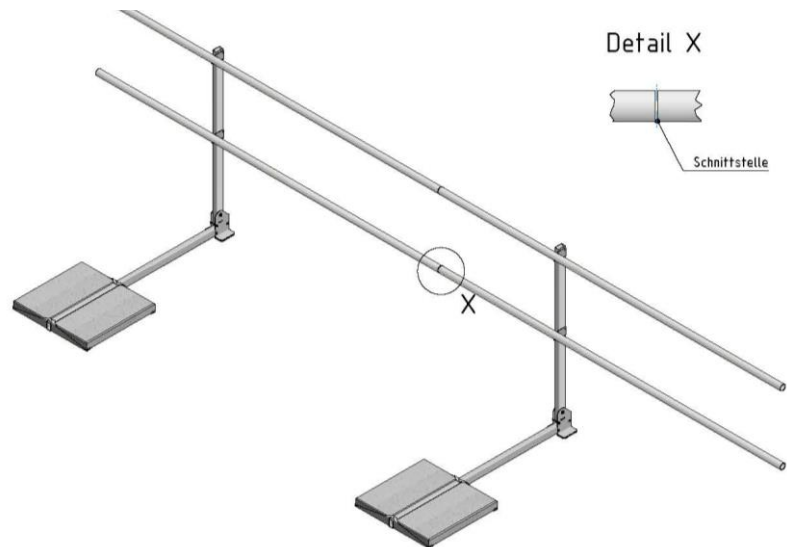
Up to 100 mm cantilevered guardrail tube ends can also be optionally closed off using PVC end caps



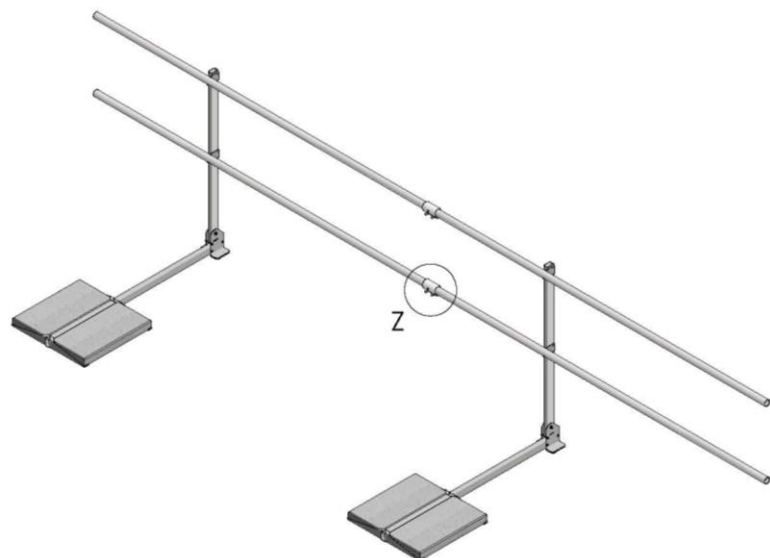


## LUX-top® G-T – shear connector (installation optional)

- a) After the guardrail has been fully assembled, divide the guardrail sections into the required individual lengths
- b) Cut the guardrail tube in the relevant section after approx. 1/3 of the section/span distance using pipe cutters or a metal saw and deburr if necessary



- c) Push on **LUX-top® G-T shear connector** and fix in the middle over the joint by means of the wing screws (middle alignment achieved using the middle hole)



User instruction:

To foldaway/collapse the system, undo the wing screws of the **LUX-top® G-T shear connector**, push the shear connector to the side and fix there using the wing screws to prevent sliding.

## **4. LUX-top® G-T corners installation instructions:**

### **4.1 Hinged version**

#### **LUX-top® G-T - corner kit**

- a) Position the preassembled corner according to the required corner geometry

Installation area 90°-180°

- b) Attach the corner lock in the corner and secure with a chain on one of the tube end connector screws (see detail)

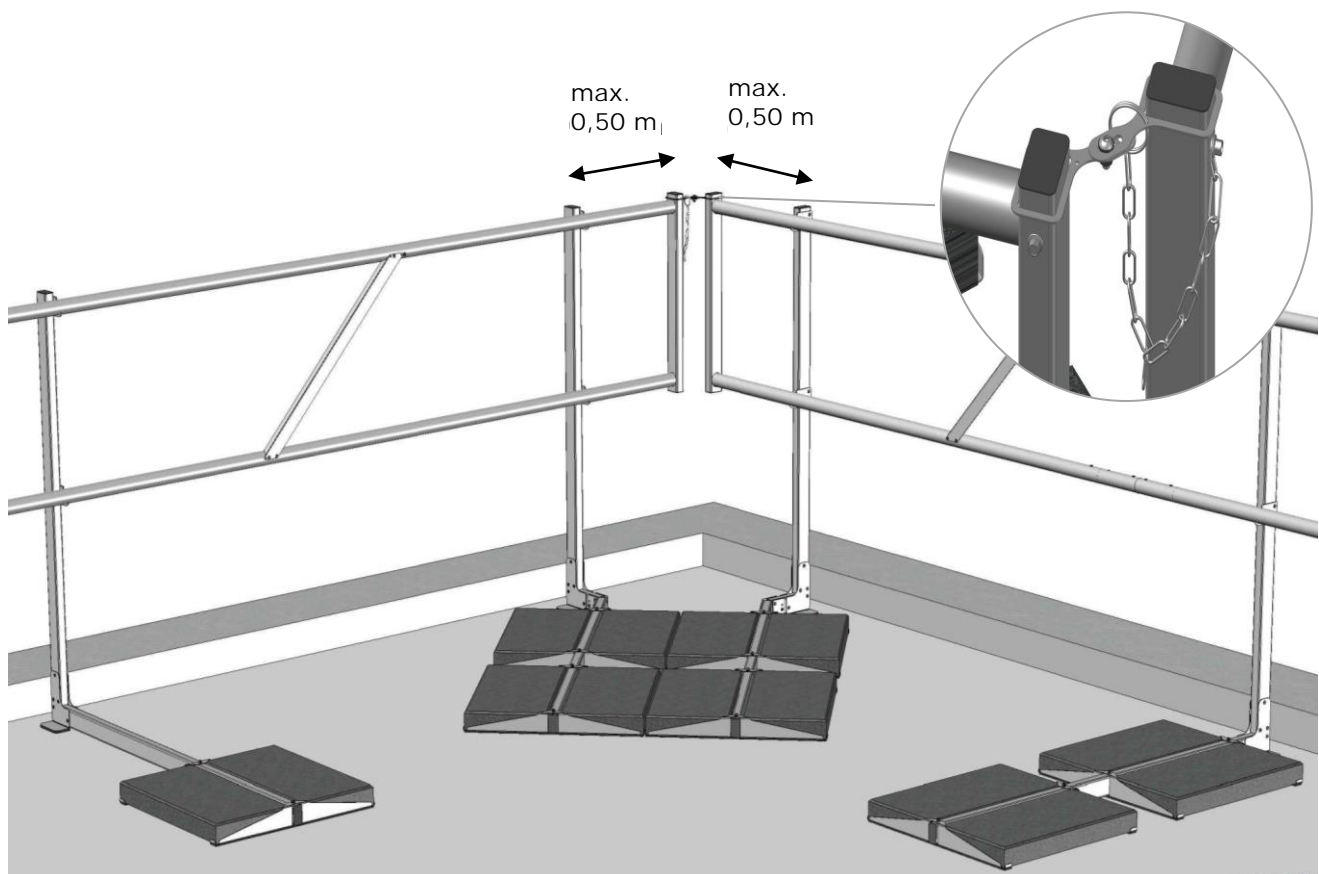
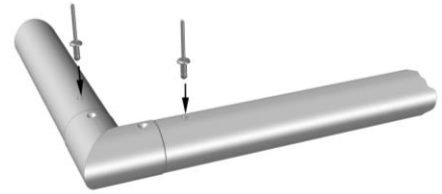


Figure by way of example

## 4.2 Unhinged version

### LUX-top® G-T - 90° corner connector

- Push 90° corner connector onto the guardrail tubes
- Make a hole  $\varnothing$  5 mm through the guardrail tube and the corner connector at a distance of 25 mm each from the end of the tube
- Set blind rivet 4.8x10 A2



### LUX-top® G-T - variable corner connector

- Push the variable corner connector onto the guardrail tubes
- Make a hole  $\varnothing$  5 mm through the guardrail tube and the corner connector at a distance of 25 mm each from the end of the tube
- Set blind rivet 4.8x10 A2

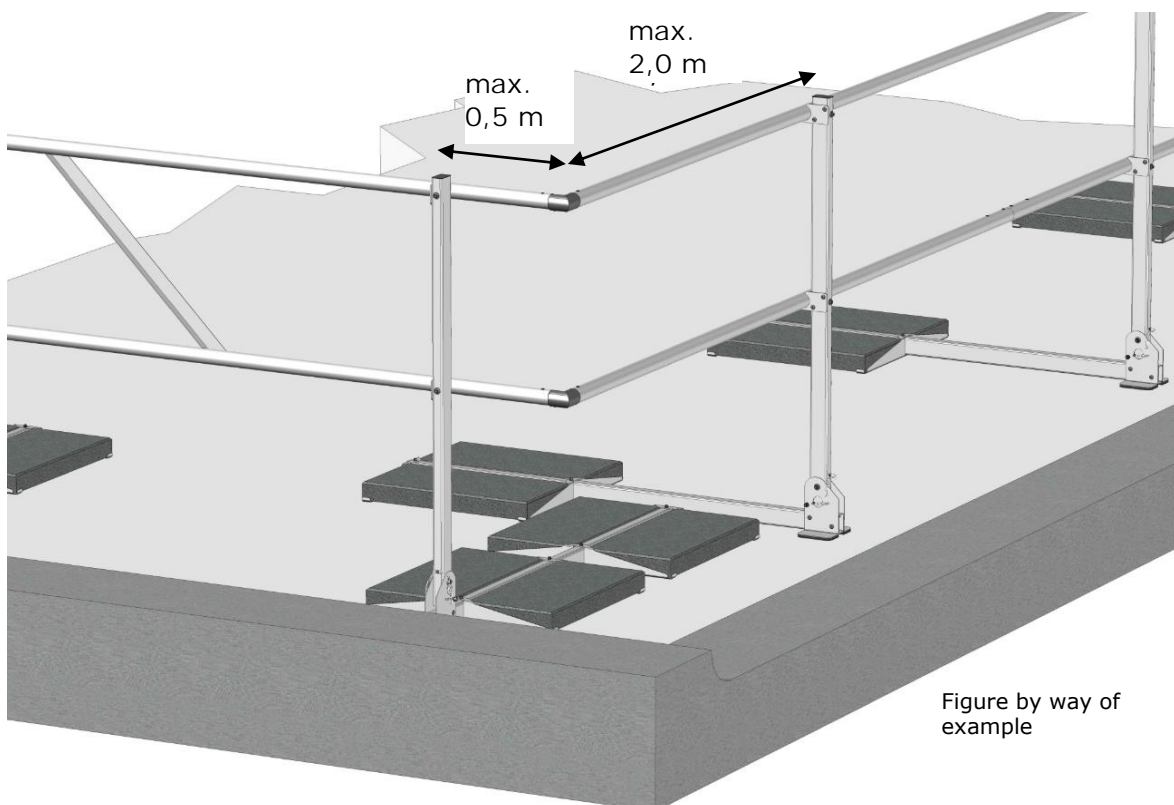
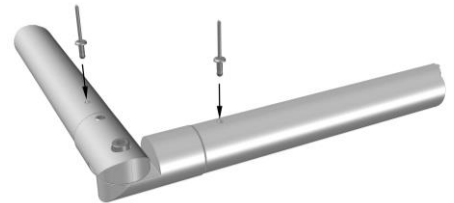
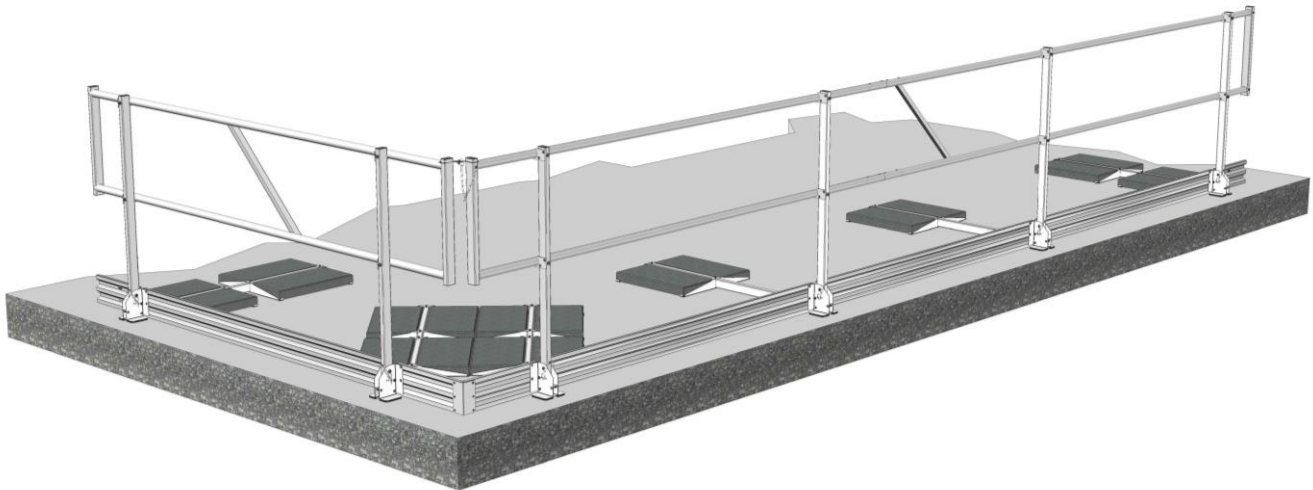


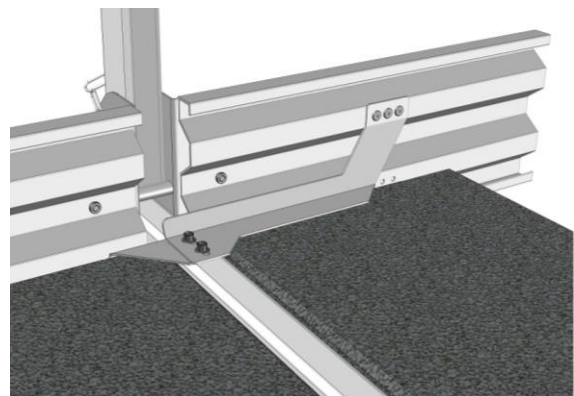
Figure by way of example

## 5. LUX-top® G-T toeboard/accessories installation instructions:

Where parapet heights are less than 150 mm, a toeboard is required to prevent objects from falling off the roof!

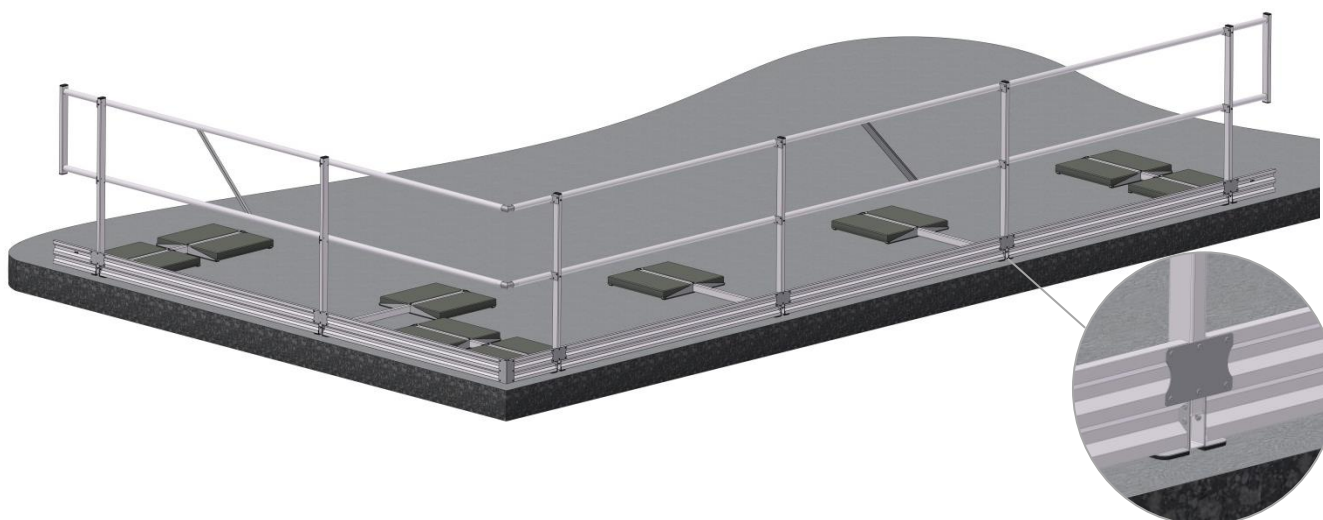


- a) Begin installing the guardrail at corners or ends
- b) Align the basic elements using the toeboards or toeboard corner version.  
(The toeboards dictate the post spacings)
- c) Use blind rivets 4.8x10 A2 to fix the toeboards on the spreader side  
(Toeboard can be moved upwards using multiholes, e.g. if gravel cover is present)
- d) the length of the last toeboard or the last two toeboards (depending on the installation situation) must be adjusted
- e) Cantilevered toeboard start and end elements must be stabilised using the **LUX-top® G-T toeboard cross-strut**
- f) Use the self-drilling stainless steel screws 5.5x20 to screw the toeboard cross-strut onto the counterweight holder and use 3 blind rivets 4.8x10 A2 each to rivet onto the start/end of the toeboard

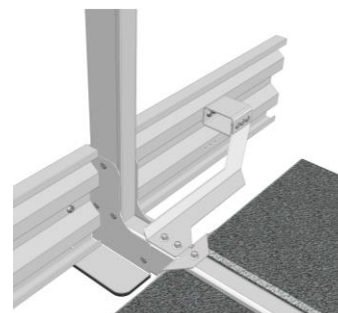


## 6. LUX-top® G-T ECO toeboard/accessories installation instructions:

For parapet heights less than 150 mm and for escape routes according to DIN 14094-2, a toe board is required to prevent objects from falling off the roof surface!



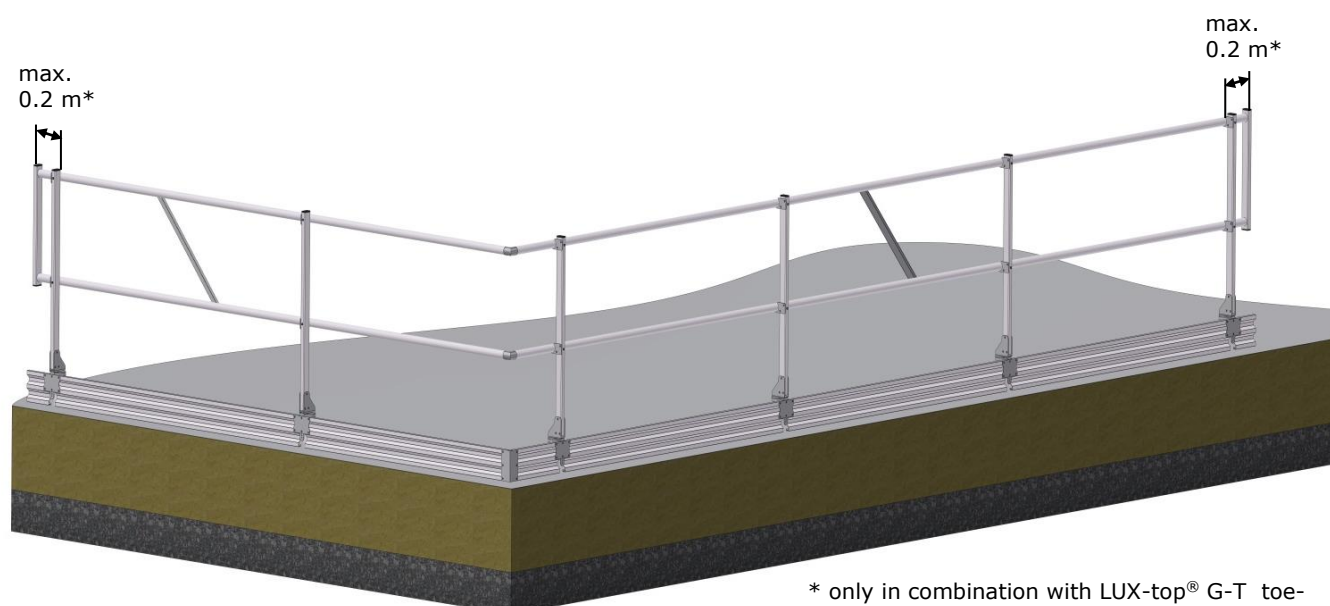
- a) Fix the **LUX-top® G-T ECO toeboard adapter** onto the basic element at the required height using blind rivets 4.8x10 A2  
(Toeboard adapter can be moved upwards using multiholes in the basic element, e.g. if gravel cover is present)
- b) Begin installing the guardrail at corners or start/ends
- c) Align the basic elements using the toeboards or toeboard corner version.  
(The toeboards dictate the post spacings)
- d) Use blind rivets 4.8x10 A2 to fix the toeboards on the spreader side
- e) the length of the last toeboard or the last two toeboards (depending on the installation situation) must be adjusted
- f) Cantilevered toeboard start and end elements must be stabilised using the **LUX-top® toeboard cross-strut/adapter**
- g) Use the self-drilling stainless steel screws 5.5x20 to screw the toeboard cross-strut onto the counterweight holder and use 3 blind rivets 4.8x10 A2 each to rivet onto the start/end of the toeboard



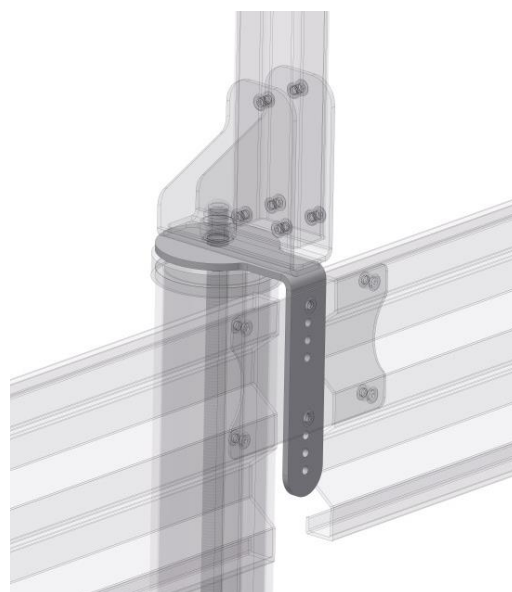


## **7. LUX-top® G-T DIREKT WD/WD II toeboard/accessories installation instructions:**

For parapet heights less than 150 mm and for escape routes according to DIN 14094-2, a toe board is required to prevent objects from falling off the roof surface!



- a) Pre-assemble a toe board or a toe board corner version incl. adapter as a template for aligning the retaining feet as follows
- b) Fix the **LUX-top® G-T ECO toe board adapter** to the **LUX-top® G-T DIREKT WD II toe board adapter** at the required height using 4.8x10 A2 blind rivets
- c) Start mounting the retaining feet at the corners or ends
- d) Align the mounting feet with the toe boards or the toe board corner version and after assembly (the toe boards determine the post spacing)
- e) Fasten toe boards on the outrigger side using 4.8x10 A2 blind rivets  
NOTE: Due to the fact that the basic elements cannot be moved freely, it cannot be ruled out that toe boards may have to be redrilled!
- f) last toe board or the last two toe boards (depending on the installation situation) must be adjusted in length



## 7. LUX-top® G-T access doors installation instructions:

The **LUX-top® G-T access doors** are only approved for use with the **LUX-top®G-T** collective protection!

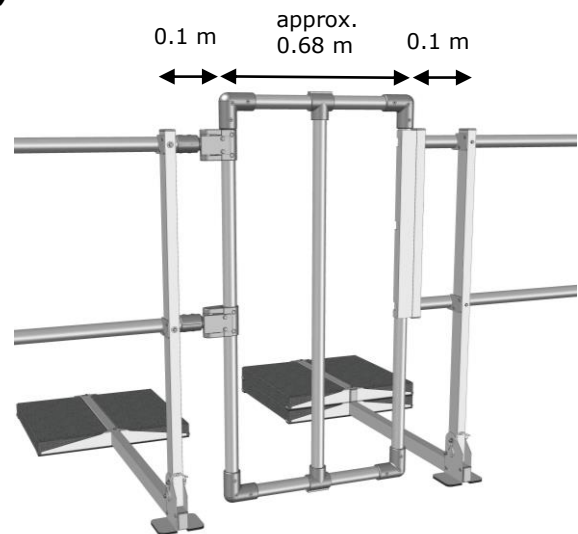
ATTENTION:

Define the position of the access doors, taking into consideration of the fall protection concept.

### LUX-top® G-T - access door (self-closing)

- tested and certified to DIN 13374 Class A,  
DIN 14094-2

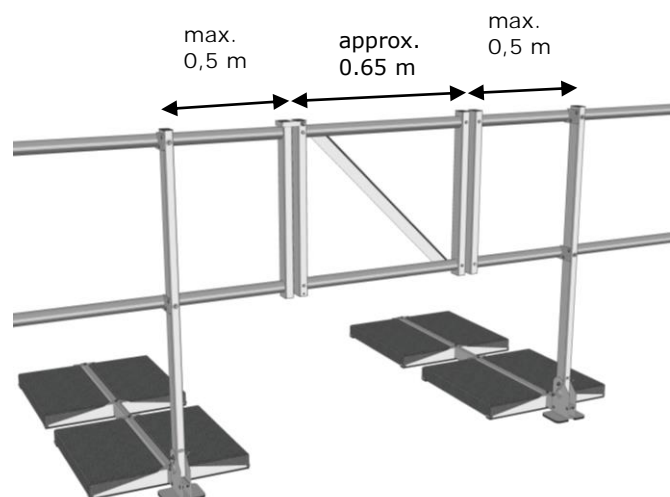
- remove loose screws of the hinges
- Push door hinges onto ends of the tube
- Drill hinges with guardrail tubes (metal drill bit 8 mm)
- Screw on the hinges
- Unscrew loose screws of the tube end connector of the door stop
- Push on the tube end connector until it stops and drill by means of the self-drilling screws 5.5x20
- The counterweights must be arranged on top of each other on the door stop side as shown
- Use the self-drilling stainless screws 5.5x70 to screw through the additional rectangular tube and the bottom counterweight holder



### LUX-top® G-T ECO - access door

- tested and certified to DIN 13374 Class A

- Push on tube end connector of access door until it stops
- Use metal drill bit to make hole  $\varnothing$  5 mm
- Fix by means of 4 blind rivets 4.8x10 A2

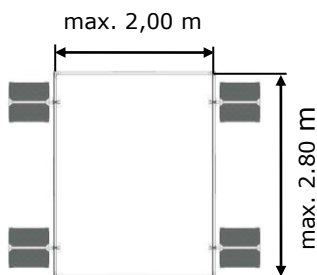
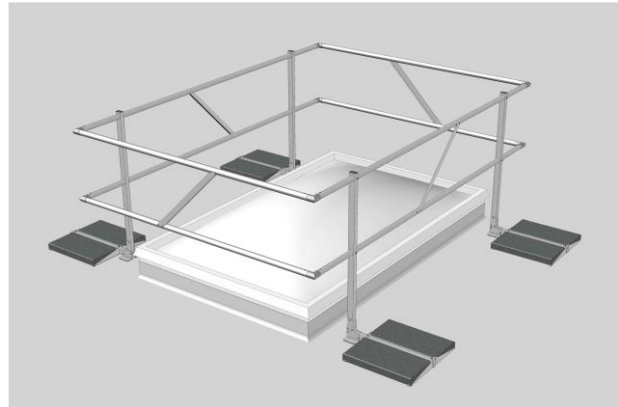


## 8. LUX-top® G-T LIKU installation instructions:

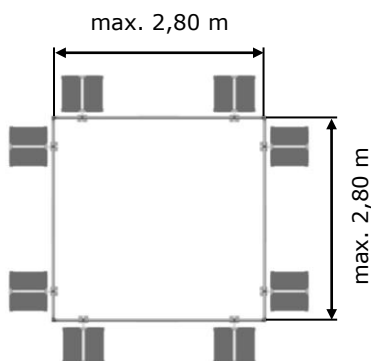
**LUX-top® G-T LIKU** are to be installed as closed systems according to the general installation requirements and taking into account the figures below.  
The rooflight modules are to be shortened as required.

### ATTENTION:

According to DIN 4426:2017, a minimum spacing of 0.5 m must be maintained between the **LUX-top® G-T LIKU** and the lighting elements/SHEVS or their open flaps!



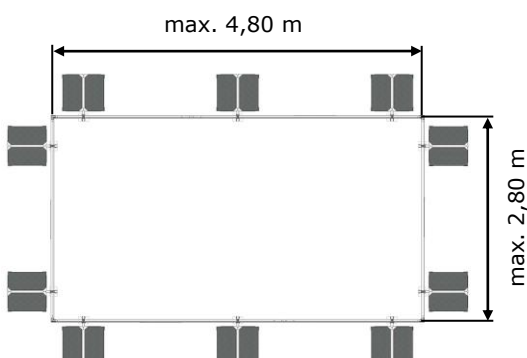
**LUX-top® G-T LIKU - S**  
(clear size 1.95x2.75 m)



**LUX-top® G-T LIKU - M**  
(clear size 2.75x2.75 m)

taking into consideration the installation spacings combinable with **LUX-top® G-T ECO - access door**

Only use system if closed!



**LUX-top® G-T LIKU - L**  
(clear 2.75x4.75 m)

taking into consideration the installation spacings combinable with **LUX-top® G-T ECO - access door**

Only use system if closed!

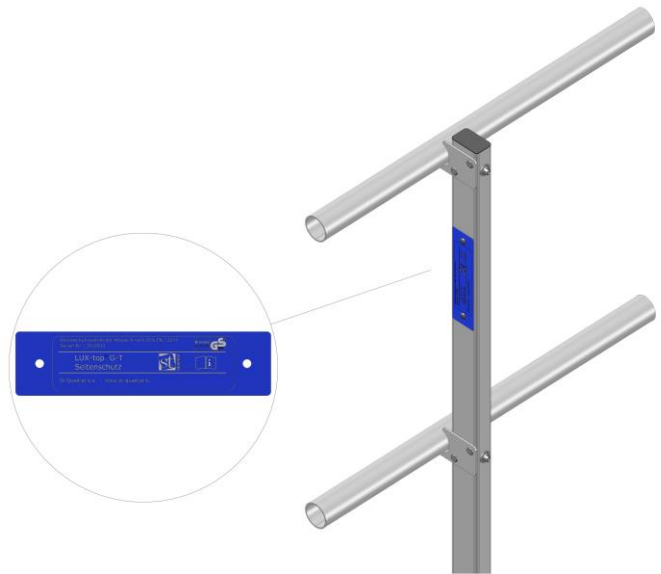


## **9. LUX-top® G-T miscellaneous installation instructions:**

### **LUX-top® G-T - nameplate**

After completing the installation of the guardrail the **LUX-top® G-T nameplate** supplied must be attached to a clearly visible place on the guardrail system or on each standalone guardrail module!

We recommend positioning the nameplate, as shown in the figure to the side, on the side of the system start post by means of the 2 blind rivets 4.8x10 A2 enclosed.



## Assembly documentation LUX-top® G-T

### Object data

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Building/Construction project

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Street/Zip Code/City

---

### Installation Company

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Company

---

Street/Zip Code/City

---

Contact person/Phone

---

Installer

---

Date of completion

---

### Information LUX-top® G-T DIREKT/DIREKT AT/DIREKT WD/ DIREKT WD II

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Fixing surface/Construction material

---

roof layer structure

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Fixation (+declaration of torque)

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### Sketch if necessary

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## Confirmation by the assembly company

### Assembly LUX-top® G-T general

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- The LUX-top® G-T aluminium collective protection have been installed in accordance with the installation guidelines issued by ST QUADRAT Fall Protection s.a.
  - The installation and operating instructions as well as the technical documentation have been to the client and are to be made available to the user.
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### Assembly LUX-top® G-T DIREKT/DIREKT AT/DIREKT WD/DIREKTWD II

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- The fasteners used were processed in accordance with their manufacturer's guidelines (proper cleaning of the drilled holes, edge distances, inspection of the substrate, etc.).
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In case of LUX-top® G-T DIREKT variants, where the fastening cannot be seen afterwards, it is recommended to document the correct installation additionally by means of photos and, if necessary, other important installation data.

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### Responsible Installer LUX-top® G-T:

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**Name**

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**Date / Signature**

# LUX-top® G-T

## USE

As collective protection on flat roofs not accessible to the public.



## STANDARDS

LUX-top® G-T has been tested and certified to:

- EN 13374:2013 Class A "Temporary edge protection systems"
- DIN 14094-2:2007 6.6.3 "Rettungswege auf flachen und geneigten Dächern" (Firefighting purposes - Escape ladder installations - Part 2: Rescue ways on flat and inclined roofs)

## SYMBOLS AND MARKINGS

The system nameplate supplied must be attached in a clearly visible position for identification purposes and must contain the following information:

- Type designation: **LUX-top® G-T**
- Number of the relevant standard: **EN 13374:2013 Class A  
DIN 14094-2:2007 6.6.3**
- Name or logo of the manufacturer: 
- Manufacturer's serial number / year made: **XX/20XX**
- Symbol indicating that the user instructions must be noted and followed: 

The legibility of this product marking must be checked following installation!

## MANUFACTURER

**ST Quadrat s.a.  
11, rue Flaxweiler  
L-6776 Grevenmacher / Potaschberg  
Luxembourg**

Notified body used for the type test:

DEKRA Testing and Certification GmbH  
Dinnendahlstraße 9  
D – 44809 Bochum

**Notes:**