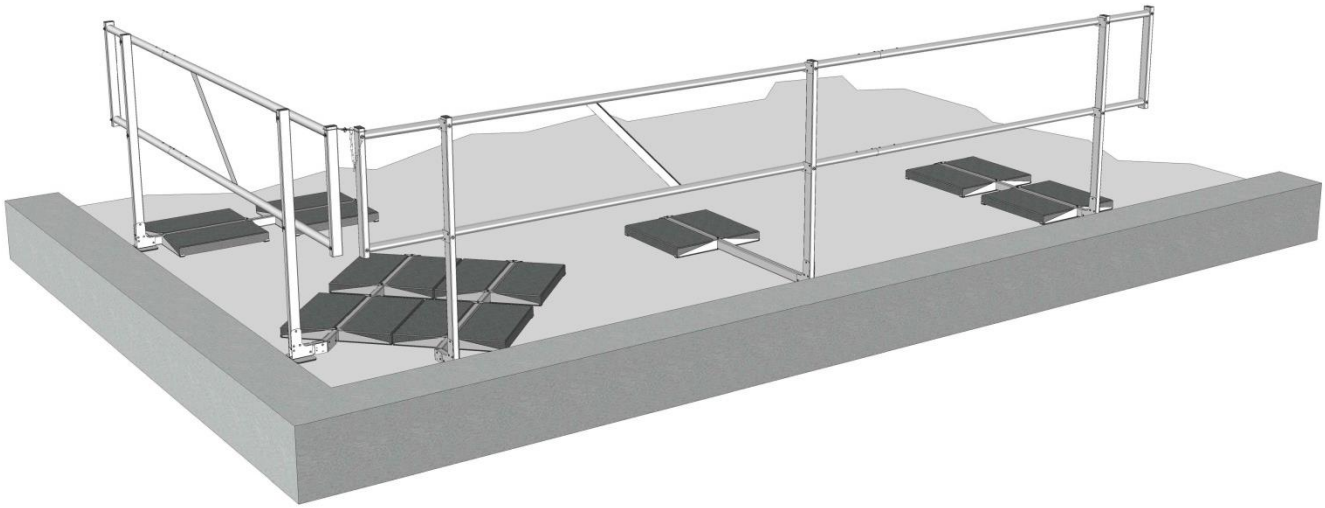
LUX-top®
ABSTURZSICHERUNGEN

Installation and User Instructions

LUX-top® G-T



Aluminium collective protection for use on flat roofs

Meets the requirements of DGUV-I 201-056 and ÖNORM B3417

tested / certified according to:
EN 13374 Class A (temporary edge protection systems)

meets the requirements according to:
DIN 14094-2 6.6.3 (rescue ways)
+ EN ISO 14122-3:2016 8.2.3.1. and 8.2.3.2. (guardrail systems)

by DEKRA Testing and Certification GmbH

These user instructions are supplied with each LUX-top® G-T.
They must be read through carefully before use, stored in an accessible place at all times

Preliminary note

The load-bearing capacity of the roof / substructure must be verified before installing the collective protection. If in doubt, consult with a structural engineer! Comply with the technical building regulations.

All versions of the collective protection run as standard parallel to the installation surface or the fastening surface!

No changes deviating from these instructions may be made to the guardrail system and only original parts of the collective protection may be used.

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 who are physically and mentally fit. Health restrictions (e.g. cardiovascular problems, taking medication) can endanger the safety of the user when working at heights.
- The **LUX-top® G-T** aluminium collective protection is to be used exclusively to secure authorised persons in private areas where there is a risk of falling.
- **LUX-top® G-T** is suitable for installation on bitumen, membrane and concrete roofs with a sufficient load-bearing capacity.
- The installation surface of the **LUX-top® G-T** must be level and free from loose materials, all slippery substances, algae, snow and ice.
- The misuse of the collective protection, e.g. by attaching undefined loads or raising/lowering building materials, for example, is not allowed.
- The **LUX-top® G-T** must be integrated into the lightning protection system in accordance with the national lightning protection regulations.
- In case of inclined surfaces and roofs, snow guards must be installed to prevent snow loads on the **LUX-top® G-T** system!
- The prerequisite for the use of the **LUX-top® G-T** system is the presence of a load-bearing parapet or anchoring at the roof edge.

  Exception: **LUX-top® G-T DIREKT/DIREKT AT/DIREKT WD** with fastening to the substrate.
- Use where there is a risk of frost or in hazardous frosty conditions is forbidden.
- The aluminium collective protection may not be used where wind forces exceed the usual intensities (wind force 10).
- The installation site may not be higher than 40 m above the surrounding terrain.
- Contact the manufacturer if anything is unclear during the installation or use of the **LUX-top® G-T**!

Contents:

Installation information: 4
Instructions for use: 5
Notes on service/care/maintenance/inspection: 6
Miscellaneous: 6
System overview: 7

Standard system components of LUX-top® G-T: 8
LUX-top® G-T basic elements/accessories 8
LUX-top® G-T guardrail tube/accessories 9
LUX-top® G-T starts/ends 9
LUX-top® G-T corners 10
LUX-top® G-T access doors 11
LUX-top® G-T LIKU 11
LUX-top® G-T sundries 11

General installations specifications: 15

Types of use of LUX-top® G-T: 16
LUX-top® G-T as edge protection system 16
LUX-top® G-T as maintenance, escape and rescue route guardrails 16

LUX-top® G-T variants: 16
LUX-top® G-T non-foldable 16
LUX-top® G-T foldable 16

Recommended installation tools: 17
LUX-top® G-T 17
additionally for LUX-top® G-T HA 17
additionally for LUX-top® G-T DIREKT (concrete) 17
additionally for LUX-top® G-T DIREKT (steel) 17
additionally for LUX-top® G-T DIREKT (RVT adapter plate) 17
additionally for LUX-top® G-T DIREKT (parapet adapter plate) 17
additionally for LUX-top® G-T DIREKT AT 17
additionally for LUX-top® G-T DIREKT WD 18
additionally for LUX-top® G-T DIREKT WD II 18
additionally for LUX-top® G-T access door 18
additionally for LUX-top® G-T ECO access door 18

1. Installation instructions for LUX-top® G-T basic elements/accessories: 19
LUX-top® G-T - basic element I 19
LUX-top® G-T QUICK - basic element 19
LUX-top® G-T HA - basic element 19
LUX-top® G-T - counterweight holder 19
LUX-top® G-T - counterweight holders one above the other 20
LUX-top® G-T DIREKT - basic element 20
LUX-top® G-T DIREKT - RVT adapter plate 21
LUX-top® G-T DIREKT - parapet adapter plate 21
LUX-top® G-T DIREKT AT 22
LUX-top® G-T DIREKT WD / DIREKT WD II - retaining foot 23
LUX-top® G-T DIREKT WD - basic element 24
LUX-top® G-T DIREKT WD II - basic element 24
LUX-top® G-T – variable guardrail post 25

2. Installation instructions for LUX-top® G-T guardrail tubes/accessories: 26
LUX-top® G-T - guardrail tube incl. butt connector 26
LUX-top® G-T – QUICK diagonal member 26
LUX-top® G-T - diagonal member 26

3. Installation instructions for LUX-top® G-T starts/ends: 27
LUX-top® G-T - tube end connector (570) 27
LUX-top® G-T – PVC guardrail tube end cap (round) 27
LUX-top® G-T – tube end connector wall connection 27
LUX-top® G-T - shear connector (installation optional) 28

4. Installation instructions for LUX-top® G-T corners: 29
4.1 Foldable version 29
LUX-top® G-T - corner kit 29
4.2 Non-foldable version 30
LUX-top® G-T – 90° corner connector 30
LUX-top® G-T – variable corner connector 30
LUX-top® G-T – conversion kit for variable corner connector 30

5. Installation instructions for LUX-top® G-T access doors: 31
LUX-top® G-T – access door (self-closing) 31
LUX-top® G-T ECO - access door 31

6. Installation instructions for LUX-top® G-T LIKU: 32
LUX-top® G-T LIKU - S (clear width 1.86 x 2.76 m) 32
LUX-top® G-T LIKU - M (clear width 2.66 x 2.66 m) 32
LUX-top® G-T LIKU - L (clear width 2.66 x 4.66 m) 32
LUX-top® G-T LIKU - XL (clear width 4.66 x 4.66 m) 33

7. Installation instructions for LUX-top® G-T sundries: 33
LUX-top® G-T - nameplate 33

LUX-top® G-T installation documentation 34

Confirmation by the installation company 35

APPLICATION 36
STANDARDS 36
SYMBOLS AND MARKINGS 36
MANUFACTURER 36

Notes: 37

Installation information:

- The installers must ensure that the substrate and the building structure are suitable for the installation of the **LUX-top® G-T** system.
- The installation surface must be swept thoroughly and freed from dirt before installing the **LUX-top® G-T** (ask the manufacturer about exceptions).
- In order to protect the roof sealing sheet, it is recommended to install a protective layer of material identical to the roofing sheet material underneath the **LUX-top® G-T** (variants held by applied load).
- The **LUX-top® G-T** may only be installed in accordance with the installation and user instructions using the screws and connectors supplied by the manufacturer!
- All connections of the structure must be properly and conscientiously installed and checked according to the manufacturer's specifications.
- If no all-round parapet with a minimum height of 150 mm exists, a toeboard belonging to the system must be installed.
- The relevant national regulations and accident prevention regulations must be complied with during the installation of the aluminium safety guardrail.
- Depending on the working conditions, the workers must secure themselves against falling by means of additional measures (e.g. the use of PFPE) during the erection/installation of the **LUX-top® G-T**.
- The installers must take measures to ensure that neither components of the aluminium collective protection nor tools can drop from the work site.
- In the case of gravel roofs, the installation surface of the **LUX-top® G-T** must be thoroughly freed from gravel. Permanent security must be guaranteed while carrying out this work. After completing the installation of the collective protection, the gravel can be distributed around the system again.
- Remove any remaining riveting mandrel offcuts and metal swarf after successful installation.

The LUX-top G-T must be integrated into the lightning protection system in accordance with the national lightning protection regulations. Based on EN 62561-1:2017-12, the LUX-top G-T is capable of carrying lightning currents of test class H (100 kA) and can be used as a natural discharge component of a lightning protection system according to EN 62305-3 (see test report DEHN No. 2417_FRM).

Since the implementation depends on the lightning protection concept, we always recommend involving the responsible lightning protection installer/planner!

Instructions for use:

- When used properly, the **LUX-top® G-T** collective protection provides collective protection for authorised workers while carrying out maintenance work on flat roofs with a maximum roof inclination of 10° (approx. 17.6%), which are not accessible to the public.

- Public access to the flat roof must be strictly forbidden and only granted to authorised personnel.

- In conjunction with the use of the **LUX-top® G-T** system, the relevant national laws and regulations as well as the accident prevention regulations and rules of the trade associations must be complied with. For Germany these include, among other things:

  - TRBS 2121
    "Technical rules for health & safety at work - Danger to individuals through falling"
  - DIN 4426
    "Safety requirements for workplaces and accesses"
  - DIN 363
    "Personal fall protection equipment - Personal fall protection systems"
  - DGUV Regulation 38
    "Construction work"
  - DGUV-I 201-056
    "Planning principles for anchor devices on roofs"
  - German Workplaces Ordinance (ArbStättV)
  - ASR A2.1
    "Technical rules for workplaces - Protection against falling and from falling objects, entering danger areas"

- Depending on the local conditions, the workers must secure themselves using additional means (e.g. by means of the use of PFPE) when accessing the system.

- The **LUX-top® G-T** aluminium collective protection must not be used to attach personal fall protection equipment.

- For the purpose of checking the condition of the **LUX-top® G-T** with regard to function and maintenance, the user must carry out a visual inspection each time before use, paying attention, for example, to missing, loose or deformed parts. The collective protection must be withdrawn from use if any such defects are found

- It is forbidden to climb on the guardrail and to lean ladders against the guardrail!

- The **LUX-top® G-T** system may only be used when it is fully loaded with the intended concrete slabs!

Notes on service/care/maintenance/inspection:

- Under normal usage conditions, the **LUX-top® G-T** is permanently weather resistant and requires little maintenance.

- The builder/building operator is obliged to ensure that the aluminium collective protection is in a proper condition at all times. It is therefore recommended, as required, to have it checked by a competent person in strict compliance with the manufacturer's user instructions.

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

- Depending on the conditions of use, the safety guardrail must be cleaned occasionally with a brush and lukewarm water.

- Contact with acids, chloride, paint or aggressive cleaning liquids or chemicals must be avoided.

- Additional protective measures may be required when using the aluminium collective protection in particularly aggressive atmospheres. Please contact the manufacturer in this regard.

- After a person has fallen or an object has fallen against or into the safety guardrail and its accessories, the edge protection component may only continue to be used if it has been checked and approved by a competent person!

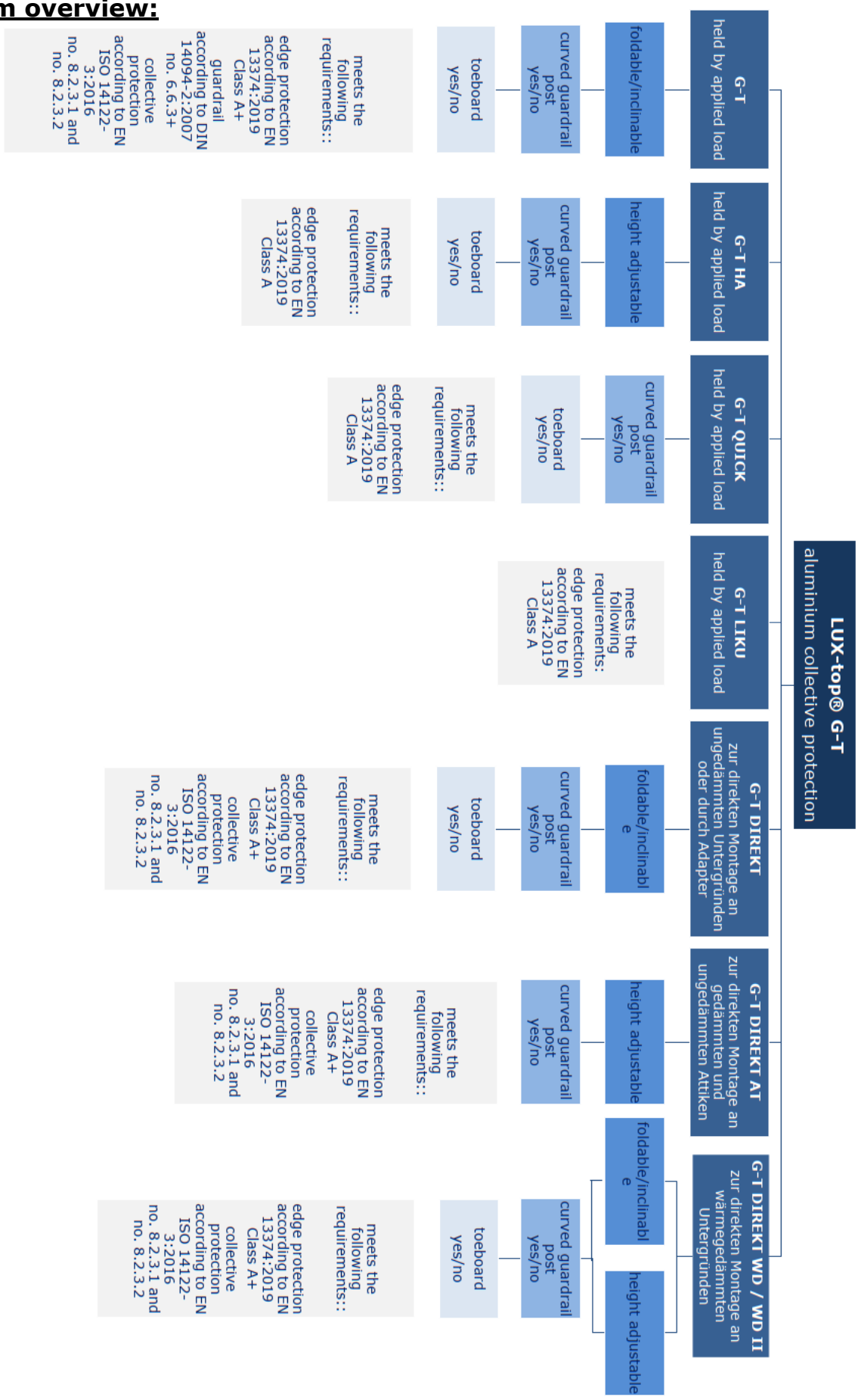
- If there are any doubts regarding the safe condition of the system (e.g. severe deformation, lightning strikes or similar), the system must be withdrawn from further use and checked by a qualified person.

- Damaged parts must be replaced immediately by qualified persons.

Miscellaneous:

Modifications or additions may not be implemented without 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, the reseller must make the instructions for use, maintenance, regular checks and repairs available in the language of the other country in order to ensure the safety of the user.

System overview:

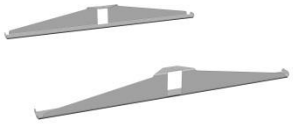


Standard system components of LUX-top® G-T:

LUX-top® G-T basic elements/accessories

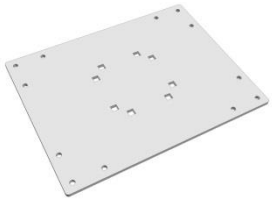
GE-1 LUX-top® G-T
Basic element I

GE-2 LUX-top® G-T QUICK
Basic element



GE-3 LUX-top® G-T
Counterweight holder

GE-4 LUX-top® G-T DIREKT
Basic element



GE-5 LUX-top® G-T DIREKT
RVT adapter plate

GE-6 LUX-top® G-T DIREKT
Parapet adapter plate

GE-7 LUX-top® G-T DIREKT AT
Basic element

GE-8 LUX-top® G-T DIREKT WD
Basic element

GE-9 LUX-top® G-T DIREKT WD II
Basic element

GE-10 LUX-top® G-T
Variable guardrail post

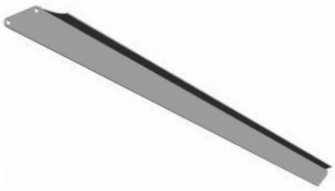
GE-11 LUX-top® G-T
Curved guardrail post

GE-12 LUX-top® G-T HA
Basic element

LUX-top® G-T guardrail tube/accessories

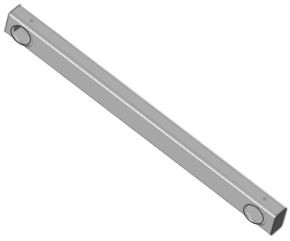
G-1 LUX-top® G-T
Guardrail tube (3 m) + butt connector QUICK

G-2 LUX-top® G-T
QUICK diagonal member

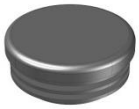


G-3 LUX-top® G-T
Diagonal member

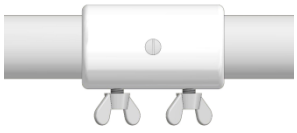
LUX-top® G-T starts/ends



A/E-1 LUX-top® G-T
Tube end connector (570)



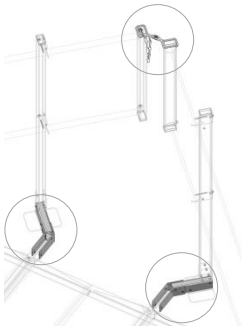
A/E-2 LUX-top® G-T
PVC guardrail tube end cap (round)



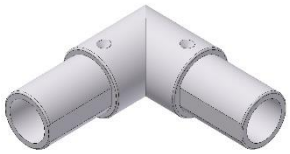
A/E-3 LUX-top® G-T
Shear connector

A/E-4 LUX-top® G-T
Tube end connector wall connection

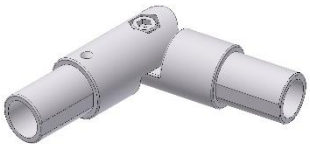
LUX-top® G-T corners



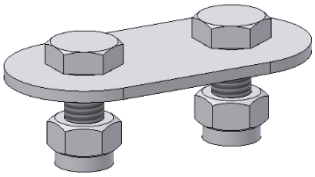
E-1 LUX-top® G-T
Corner kit



E-2 LUX-top® G-T
90° corner connector



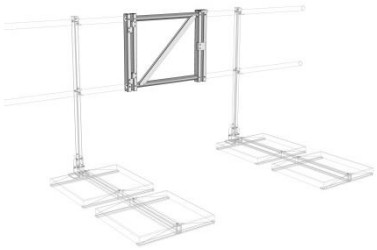
E-3 LUX-top® G-T
Variable corner connector



E-4 LUX-top® G-T
Conversion kit - variable corner connector

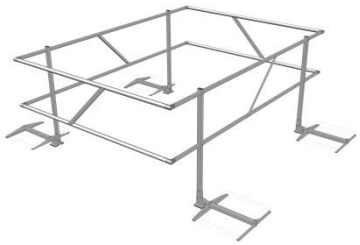
LUX-top® G-T access doors

ZT-1 LUX-top® G-T Access door



ZT-2 LUX-top® G-T ECO Access door

LUX-top® G-T LIKU



Set-1 LUX-top® G-T LIKU

LUX-top® G-T sundries

S-1 LUX-top® G-T Nameplate

S-2 LUX-top® G-T Spare parts kit

GE-1 **LUX-top® G-T basic element I**
Foldable post combination, adjustable inclination, held by applied load, for accepting guardrail tubes.

GE-2 **LUX-top® G-T QUICK basic element**
Post combination held by applied load, for accepting guardrail tubes.

GE-3 **LUX-top® G-T counterweight holder**
Holder for accepting concrete slabs.

GE-4 **LUX-top® G-T DIREKT basic element**
Post combination for direct installation on uninsulated concrete or steel substrates.

GE-5 **LUX-top® G-T DIREKT RVT adapter plate**
Adapter for installing the LUX-top® G-T DIREKT basic element on sandwich elements or steel trapezoidal profiles.

GE-6 **LUX-top® G-T DIREKT parapet adapter plate**
Adapter for installing the LUX-top® G-T DIREKT basic element on insulated and uninsulated concrete or steel parapets.

GE-7 **LUX-top® G-T DIREKT AT basic element**
Post combination for direct installation on insulated and uninsulated concrete or steel parapets.

GE-8 **LUX-top® G-T DIREKT WD basic element**
Post combination for direct installation on insulated substrates made of concrete, wood, steel trapezoidal profile, etc.

GE-9 **LUX-top® G-T DIREKT WD II basic element**
Preassembled post combination for direct installation on insulated substrates made of concrete, wood, steel trapezoidal profile, etc.

GE-10 **LUX-top® G-T variable guardrail post**
Preassembled kit as supplement to the LUX-top® G-T basic elements for variable height adjustment of the guardrail tubes.

GE-11 **LUX-top® G-T guardrail tube bracket, bent**
As supplement for a curved guardrail post (factory preassembled) for the LUX-top® G-T basic elements.

GE-12 **LUX-top® G-T HA basic element**
Height-adjustable post combination held by applied load, for accepting guardrail tubes.

G-1 **LUX-top® G-T guardrail tube (3 m) + butt connector QUICK**
Aluminium tube for guardrail/intermediate guardrail tube, incl. connector.

G-2 **LUX-top® G-T QUICK diagonal member**
For stiffening guardrail sections and guardrail modules.

G-3 **LUX-top® G-T diagonal member**
For stiffening guardrail sections and guardrail modules.

A/E-1 **LUX-top® G-T tube end connector (570)**
As closure of guardrail tube ends with a protrusion of > 100 mm.

A/E-2 **LUX-top® G-T PVC guardrail tube end cap (round)**
As closure of guardrail tube ends with a protrusion of ≤ 100 mm.

A/E-3 **LUX-top® G-T shear connector**
Ensures foldability on long guardrail sections that cannot be used individually.

A/E-4 **LUX-top® G-T tube end connector wall connection**
As closure of guardrail tube ends with a protrusion of > 100 mm.

E-1 **LUX-top® G-T corner kit**
End closure/connection of guardrail tubes to rising building parts.

E-2 **LUX-top® G-T 90° corner connector**
For forming corners.

E-3 **LUX-top® G-T variable corner connector**
For forming corners and for compensating for larger gradient changes.

E-4 **LUX-top® G-T conversion kit for variable corner connector**
Kit for converting the variable corner connector for use at acute angles

ZT-1 **LUX-top® G-T access door**
Self-closing safety door for LUX-top® G-T systems.

ZT-2 **LUX-top® G-T ECO access door**
Safety door for LUX-top® G-T collective protection according to EN 13374 Class A.

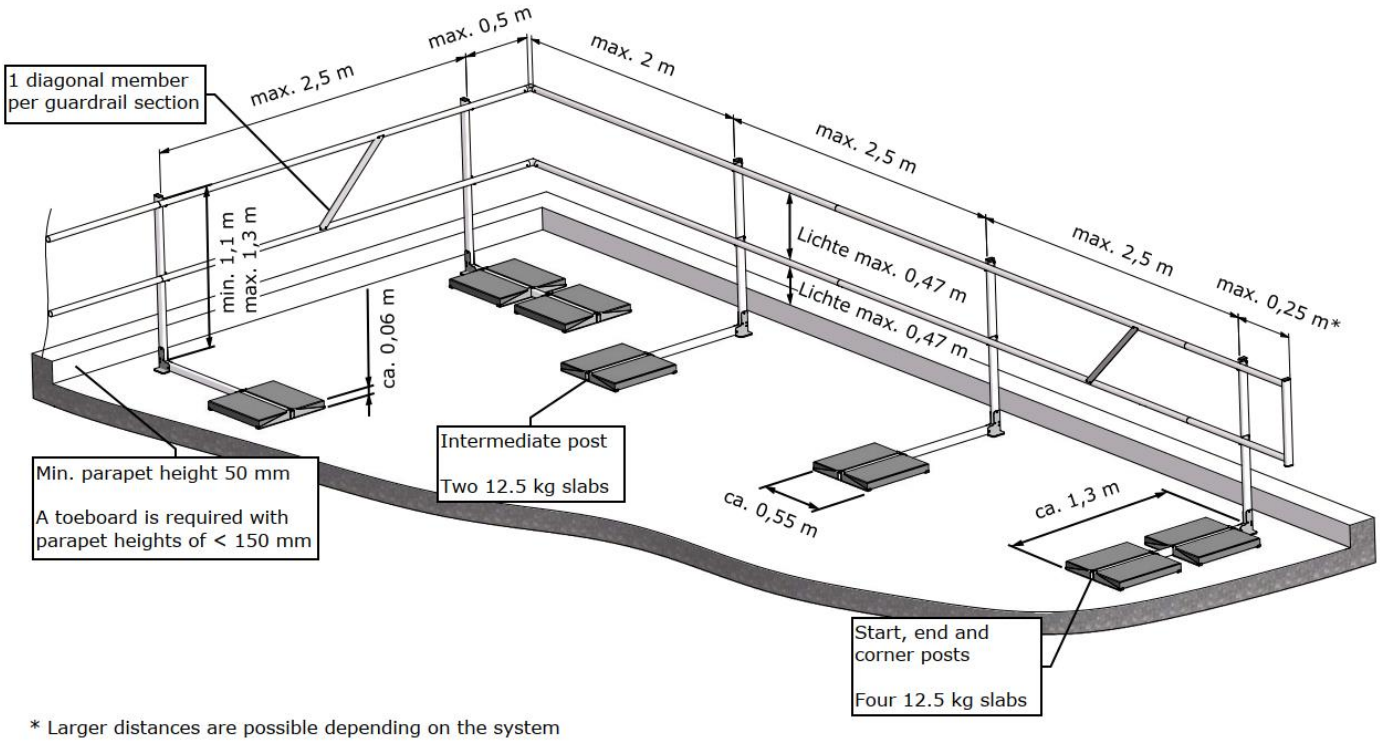
Set-1 **LUX-top® G-T LIKU**
Complete kits for securing rooflights.

Standard sizes:
S (clear width 1.86 x 2.76 m)
M (clear width 2.66 x 2.66 m)
L (clear width 2.66 x 4.66 m)
XL (clear width 4.66 x 4.66 m)

S-1 **LUX-top® G-T nameplate**
Contains important information about the system.

S-2 **LUX-top® G-T spare parts kit**
Spare parts kit containing fasteners, which is supplied with every LUX-top® G-T.

General installations specifications:



* Larger distances are possible depending on the system

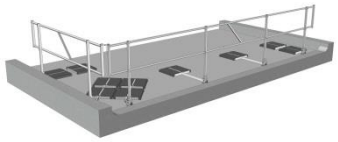
Illustration is exemplary for all G-T variants

- Openings between edge protection systems and other structures must be as small as possible, but must not exceed 120 mm for guardrail tubes and 20 mm for the toeboard.
- Only concrete pavement slabs measuring 50 x 25 cm with a maximum thickness of 5 cm and a weight of at least 12.5 kg per slab may be used as weighting material.
- The **LUX-top® G-T / QUICK / HA** must always consist of at least one start and end post. These must be loaded with double weight (see schematic diagram).
- In the preparation phase: Roughly distribute the basic elements, counterweight holders and concrete slabs along the installation route of the guardrail according to the installation specifications.

Types of use of LUX-top® G-T:

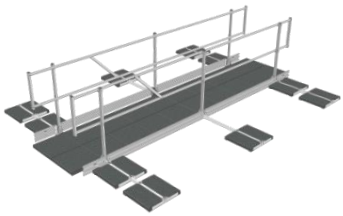
LUX-top® G-T as edge protection system

Temporary edge protection system for the safety of authorised persons in areas of flat roofs that are not accessible to the public where there is a risk of falling.



LUX-top® G-T as maintenance, escape and rescue route guardrails

By using the **LUX-top® G-T toeboard** and a reversed guardrail tube holder, the guardrail system can be set up as an "escape route variant", the guardrail tubes being located on the user side (in the walkway).
The minimum width of the escape route depends on the maximum number of people who will use the escape route if necessary!
The counterweight slabs and the slab covering of the escape route are not included in the scope of delivery.



LUX-top® G-T variants:

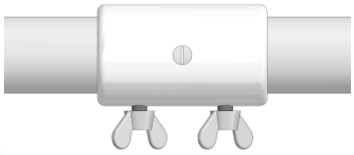
LUX-top® G-T non-foldable

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

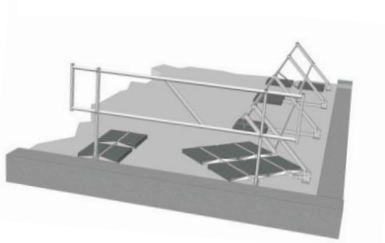
LUX-top® G-T foldable

This version is used if a fixed guardrail system is not desired for visual reasons or is out of the question, e.g. due to the shading of photovoltaic systems.

Optionally, foldability can be improved by installing **LUX-top® G-T shear connectors** (see illustration on right) at regular distances. These allow easy separation for the folding process.



If the guardrail is also to be erected and used in short individual sections, the modular design with individually usable guardrail modules is recommended.
The maximum module length is 13 m (can be folded by a single person). Larger or smaller module lengths are also possible.



Recommended installation tools:

LUX-top® G-T

1. Chalk line/plumb line
2. Folding rule
3. Marker pen
4. Cordless screwdriver with 8 AF bit set and 5 mm metal drill bit
5. Riveter (e.g. Gesipa "Akkubird") or riveting pliers (e.g. Gesipa "HN2")
6. Pipe cutter/metal saw
7. Hand-held deburring tool/round or half-round file
8. Hammer

additionally for LUX-top® G-T HA

9. 13 AF ring or open-ended spanner or ratchet wrench set

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

9. Hammer drill and 10 mm masonry drill bit
10. Blow-out pump and brush
11. Hammer
12. 17 AF ring or open-ended spanner or ratchet wrench set

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

9. Drill and 11 mm metal drill bit
10. 17 AF ring or open-ended spanner or ratchet wrench set

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

9. Drill and 8 mm metal drill bit
10. Special riveting tongs Gesipa "HN 2-BT" or "Powerbird"
11. 17 AF ring or open-ended spanner or ratchet wrench set

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

9. Tools for installing adapter plate depending on fastening surface and fasteners (enquire to the manufacturer ST Quadrat if necessary)
10. 17 AF ring or open-ended spanner or ratchet wrench set

additionally for LUX-top® G-T DIREKT AT

9. Tools for installing the fastening brackets depending on fastening surface and fasteners (enquire to the manufacturer ST Quadrat if necessary)
10. 13 AF ring or open-ended spanner or ratchet wrench set

additionally for LUX-top® G-T DIREKT WD

9. Tools for installing the retaining feet depending on fastening surface (enquire to the manufacturer ST Quadrat if necessary)
10. 30 AF open-ended spanner

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

9. Tools for installing the retaining feet depending on fastening surface (enquire to the manufacturer ST Quadrat if necessary)
10. Ratchet wrench set with extension and 19 AF

additionally for LUX-top® G-T access door

9. Drill and 8 mm metal drill bit
10. 5 AF hexagonal wrench

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

9. 10 AF ring or open-ended spanner or ratchet wrench set

1. Installation instructions for LUX-top® G-T basic elements/accessories:

LUX-top® G-T - basic element I

a) Remove cotter pin and bolt

b) Place the guardrail post in the desired position

c) Secure the guardrail post with attached bolt and cotter pin

LUX-top® G-T QUICK - basic element

a) Depress the pushbuttons

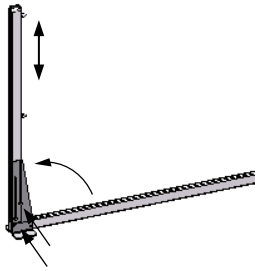
b) Erect the guardrail post until both sides snap in

LUX-top® G-T HA - basic element

a) Insert the post into the foot

b) For the time being, only screw loosely with the screws supplied

c) Tighten screws after aligning the entire system

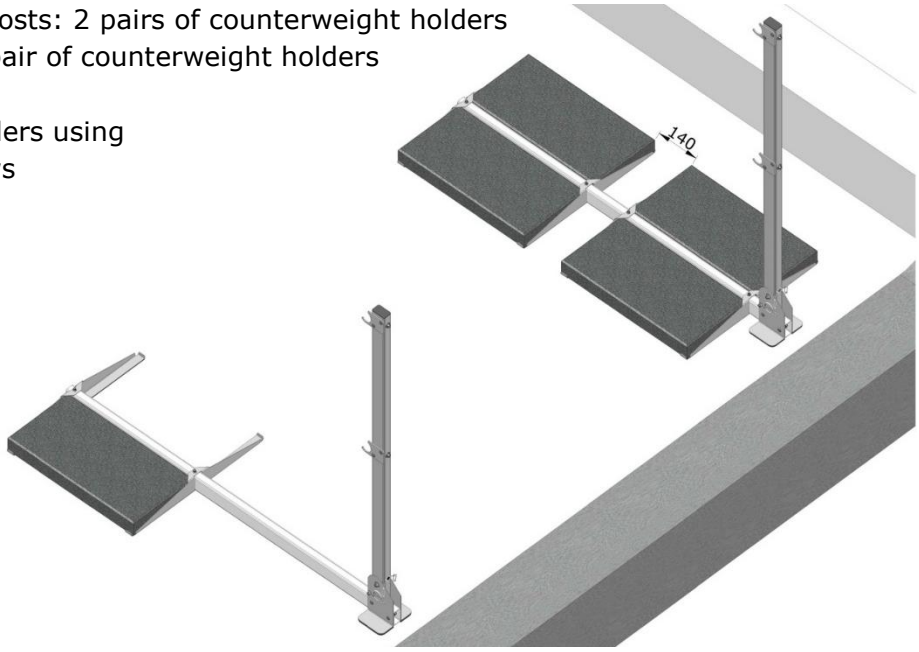


LUX-top® G-T - counterweight holder

a) Push the counterweight holder on and align it

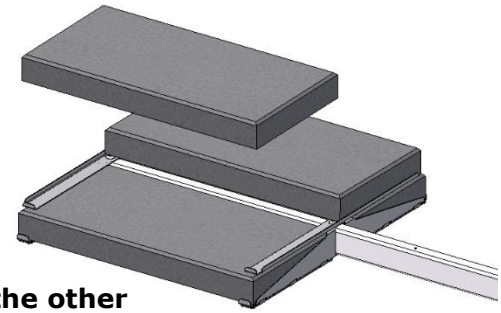
- Start, end and corner posts: 2 pairs of counterweight holders
- Intermediate posts: 1 pair of counterweight holders

b) Fix the counterweight holders using
5.5 x 20 self-drilling screws



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

If the situation requires it, individual guardrail booms of the basic elements can be shortened in length (minimum length 77.5 cm).



a) Shorten the guardrail booms on site as required (also available already shortened)

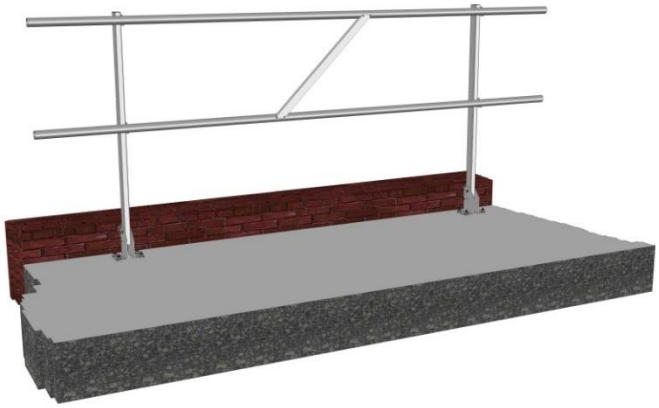
b) Push the **LUX-top® G-T counterweight holder** on

c) **LUX-top® G-T counterweight holders one above the other**
Place on top of the counterweight holder and fasten both to the rectangular tube using 5.5 x 20 self-drilling screws

d) Insert concrete slabs
the counterweight holders on top of each other can be rotated in order to insert the lower slabs

LUX-top® G-T DIREKT - basic element

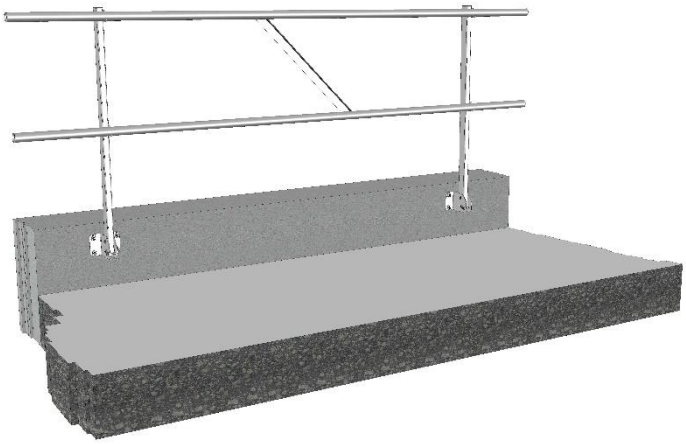
a) Measure, mark and drill the positions of the basic elements according to the installation specifications (if necessary, clean the drill hole or apply corrosion protection)



b) Install the basic elements with the appropriate fastening kit:

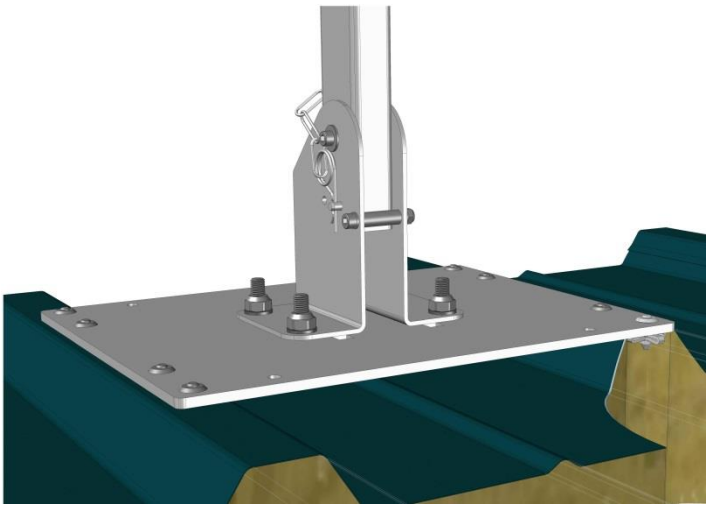
- Fastening kit for concrete*
- Fastening kit for steel
- Fastening kit for adapter plate

*Observe the fastener manufacturer's assembly instructions



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

a) Preassemble basic elements on adapter plates
Important: Pay attention to the installation direction!



b) Measure and mark the positions of the basic elements according to the installation specifications
(Max. post spacing 2.5 m with sheet steel substrates)

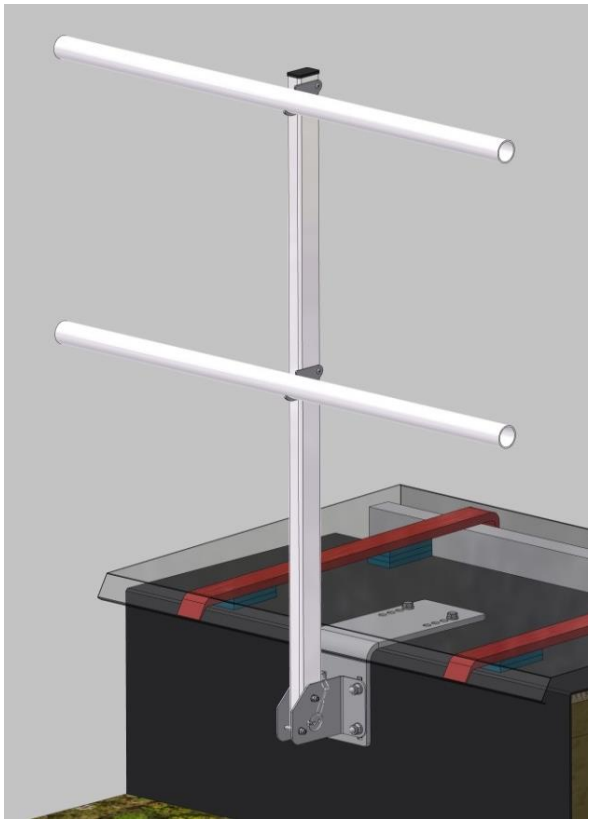
c) Adhere the sealing strips to the underside of the adapter plate

d) Align the basic elements centrally and drill through the adapter plate into the top flanges (Ø 8 mm metal drill bit)

e) Rivet with 8 Bulb-Tite rivets using the special tool

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

The prerequisite for the installation of the adapter panels 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 installation positions of the basic elements or their adapter plates must be strengthened with a pressure-resistant intermediate layer (e.g. Purenit). The order of installation may vary, but the space required for installing the basic elements should be checked in advance (if necessary, loosely preassemble fasteners from the adapter plate fastening kit)!

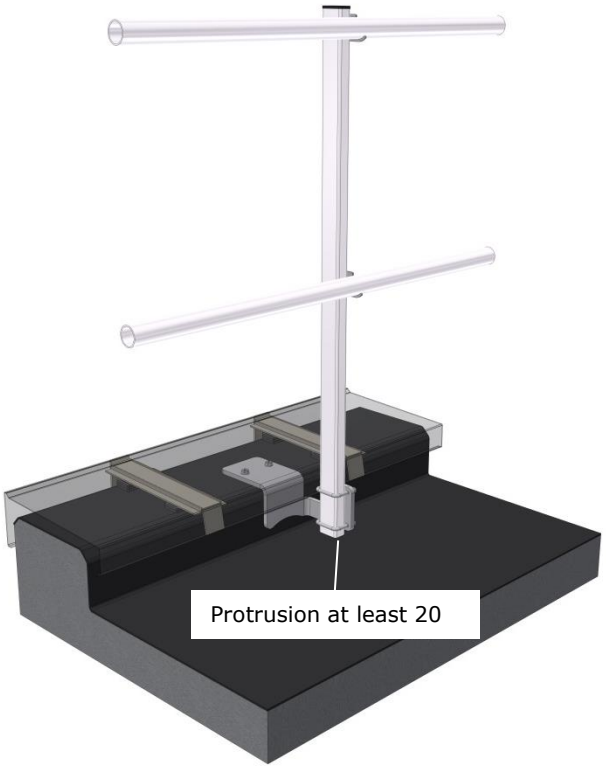


a) Measure and mark the positions of the adapter plates according to the installation specifications and drill according to the fasteners used and the fastener manufacturer's specifications (if necessary, clean the drill hole or apply corrosion protection) and install

b) Install the basic elements with the adapter plate fastening kit

LUX-top® G-T DIREKT AT

The prerequisite for the installation of 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 installation positions of the basic elements or their brackets must be strengthened with a pressure-resistant intermediate layer (e.g. Purenit).
The order of installation may vary, but the space required for installing the basic elements should be checked in advance!



a) Measure and mark the positions of the brackets according to the installation specifications and drill according to the fasteners used and the fastener manufacturer's specifications (if necessary, clean the drill hole or apply corrosion protection) and install

b) Insert the guardrail posts and fix at the desired height with the U-bolts (tightening torque 16 Nm)

c) Secure the guardrail posts using 5.5 x 20 self-drilling screws

d) Cut off the protruding post tube as necessary

IMPORTANT:

- Make sure that the guardrail post is sufficiently far away from the roof cladding!

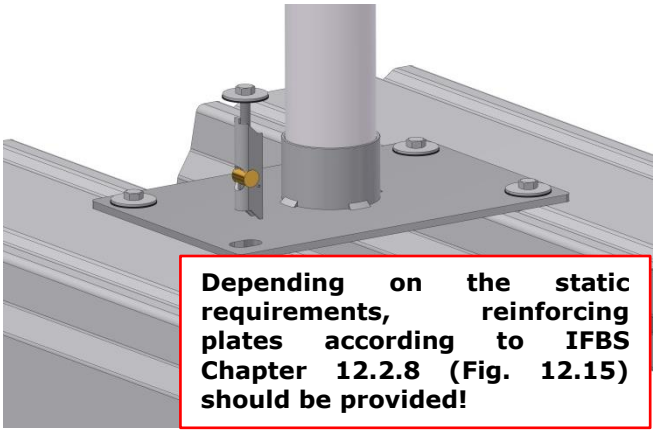
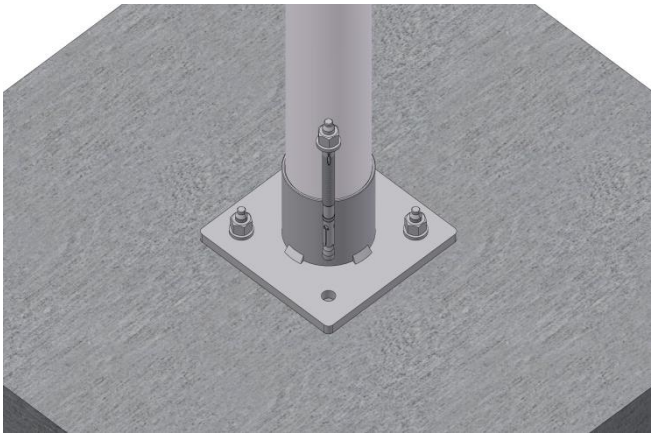
- Max. clearance between guardrail tubes and parapet 0.47 m!

- Min. guardrail height* H from walking surface to top edge of guardrail tube is 1.0 m in case of building heights less than/equal to 12 m!
- Min. guardrail height* H from walking surface to top edge of guardrail tube is 1.1 m in case of building heights greater than 12 m!

*ASR A2.1 "Protection against falls and falling objects, entering hazardous areas"

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

The **LUX-top® G-T retaining feet** required for the installation are available for the most diverse fastening substrates – enquire if necessary to the manufacturer ST Quadrat!
Install the retaining feet according to the installation specifications and then seal.

Fastening surface: Steel trapezoidal profile support shells (t min = 0.75 mm)	Fastening surface: Concrete structural elements Strength class at least C20/25 (B25)
 **Depending on the static requirements, reinforcing plates according to IFBS Chapter 12.2.8 (Fig. 12.15) should be provided!**	
a) Place the base plate on the top flanges of the trapezoidal profiles. b) Use the base plate as a template to mark the drill holes. c) Drill the fastening holes (Ø 24mm) using a suitable conical drill bit. d) Place the base plate with its slotted holes on top of the drill holes in the trapezoidal profile. Then push the toggle bolts in the folded state through the drill holes and move them to make the screw unfold. e) Tighten the screws with a screwdriver and torque wrench (13 Nm) so that all tilting elements are firmly contacting the inside of the trapezoidal profile.	a) Place the retaining foot in the desired place parallel to the edge of the roof. b) Drill holes through the holes of the retaining foot base plate. Thoroughly clean the drill holes. (Brush and blow out) !!! c) Hammer in the concrete anchors and apply the appropriate torque. Use a torque wrench.

Base plate dimensions [mm]	150 x 150 x 6 (4-hole)
Anchor bolt	FAZ II Plus 10/20 K R
Drill hole Ø [mm]	10
Min. drill hole depth / anchoring depth in concrete [mm]	55 / 40
Tightening torque [Nm]	45
Minimum structural element thickness [mm]	80
Minimum edge distance anchor bolts [mm]	150

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

Install and seal the retaining feet according to the separate installation instructions

a) Screw the lock nuts on

b) Place the load distribution washer on top

c) Screw on and align the guardrail post (preassembled)

d) Secure the guardrail post with the lock nuts
(30 AF open-ended spanner)

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

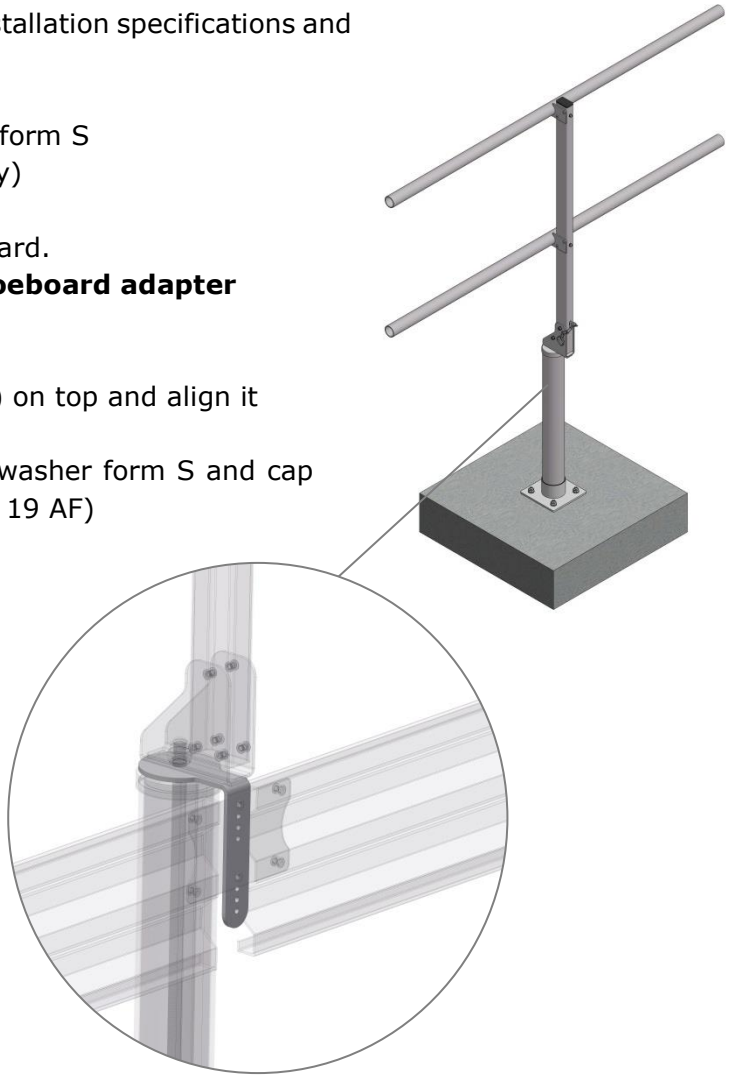
Install the retaining feet according to the installation specifications and then seal

a) Loosen the cap nut and locking washer form S
(19 AF open-ended spanner if necessary)

b) In case of guardrail systems with toeboard.
Place **LUX-top® G-T DIREKT WD II toeboard adapter**
(see illustration below) on top

c) Place the guardrail post (preassembled) on top and align it

d) Secure the guardrail post with locking washer form S and cap nut (ratchet wrench with extension and 19 AF)



LUX-top® G-T – variable guardrail post

a) Measure and mark the desired height

b) Drill into the guardrail tube bracket with a 5.5 x 70 self-drilling screw

c) Snap in the guardrail tube

d) Screw the self-drilling screw through

Alternatively:

a) Snap in the guardrail tube

b) Align the guardrail tube horizontally

c) Screw the guardrail tube bracket and the guardrail tube together using a 5.5 x 70 self-drilling screw

IMPORTANT:
- Max. clearance between guardrail tubes and parapet or toeboard is 0.47 m!

- Min. guardrail height* H from walking surface to top edge of guardrail tube is 1.0 m in case of building heights less than/equal to 12 m!
- Min. guardrail height* H from walking surface to top edge of guardrail tube is 1.1 m in case of building heights greater than 12 m!

*ASR A2.1 "Protection against falls and falling objects, entering hazardous areas"

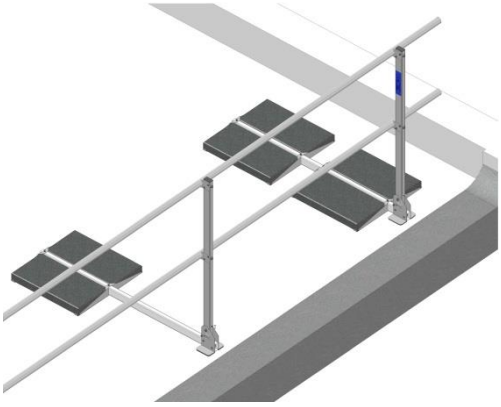
2. Installation instructions for LUX-top® G-T guardrail tubes/accessories:

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

a) Snap the guardrail tubes into the start, end or corner post with the desired lateral protrusion and screw them to the guardrail post using the 5.5 x 70 stainless steel self-drilling screws

b) Push the preassembled and pre-drilled guardrail tubes together so that they visually and audibly snap in

c) Cut off the excess guardrail tubes at the end



LUX-top® G-T – QUICK diagonal member

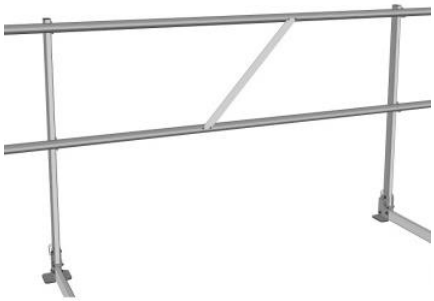
a) Hook the diagonal member into the lower guardrail tube from underneath

b) Fix to the upper tube using 5.5 x 20 self-drilling screws

LUX-top® G-T - diagonal member

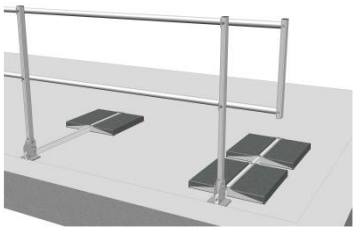
a) Align the diagonal member centrally between two basic elements

b) Fix using four 5.5 x 20 self-drilling screws



3. Installation instructions for LUX-top® G-T starts/ends:

LUX-top® G-T - tube end connector (570)

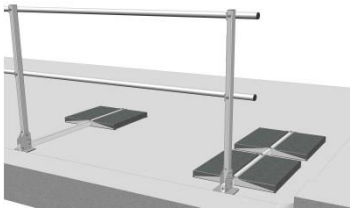


a) Unscrew loose self-drilling screws

b) Push butt connectors as far as they will go onto the guardrail tube ends

c) Screw with the 5.5 x 20 self-drilling screws

LUX-top® G-T – PVC guardrail tube end cap (round)



Guardrail tube ends freely protruding up to 100 mm can also optionally be closed using PVC end caps

LUX-top® G-T – tube end connector wall connection

a) Installation on guardrail tubes such as LUX-top® G-T - tube end cor

b) Fastening to rising wall using fasteners selected by the customer (2 pieces)

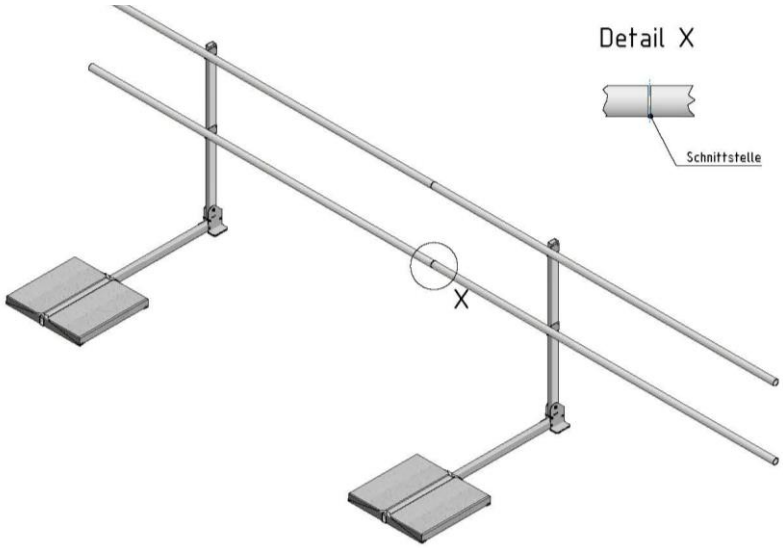
   min. shear load per fastener 0.3 kN

c) Close openings in the butt connectors with end caps

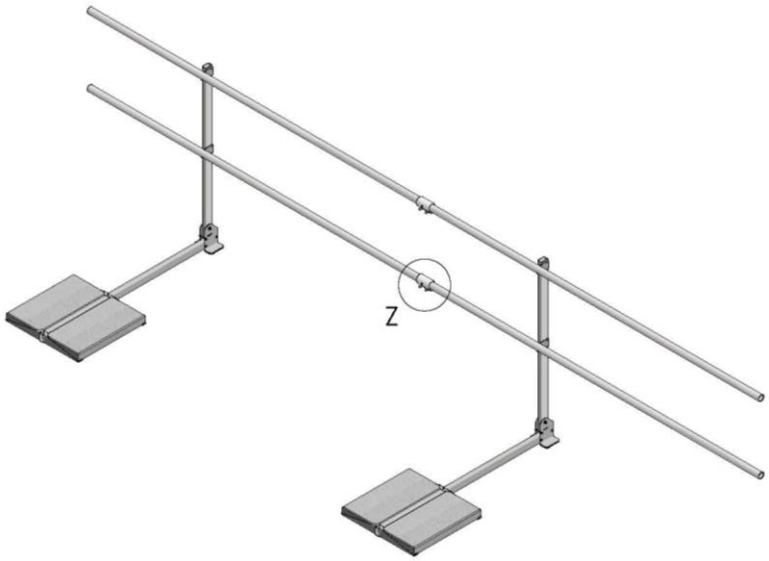
LUX-top® G-T - shear connector (installation optional)

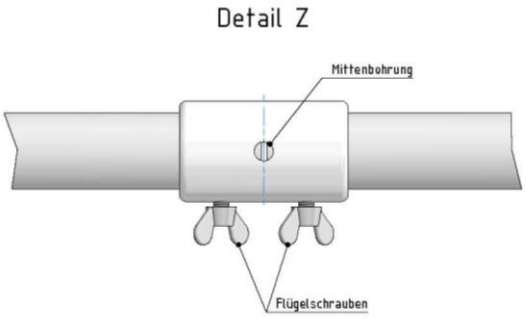
a) After completion of the guardrail assembly, subdivide the guardrail sections into desired individual lengths

b) Cut the guardrail tubes in the respective field at approx. 1/3 of the field width using a pipe cutter or hacksaw and deburr if necessary



c) Push the **LUX-top® G-T shear connector** on and fix it centrally over the butt joint using the wing screws (use the centre hole for the central alignment)





Instructions for use:
To fold the system, loosen the wing screws of the **LUX-top® G-T shear connector**, push the butt connector to the side and fix it there with the wing screws to prevent it slipping.

4. Installation instructions for LUX-top® G-T corners:

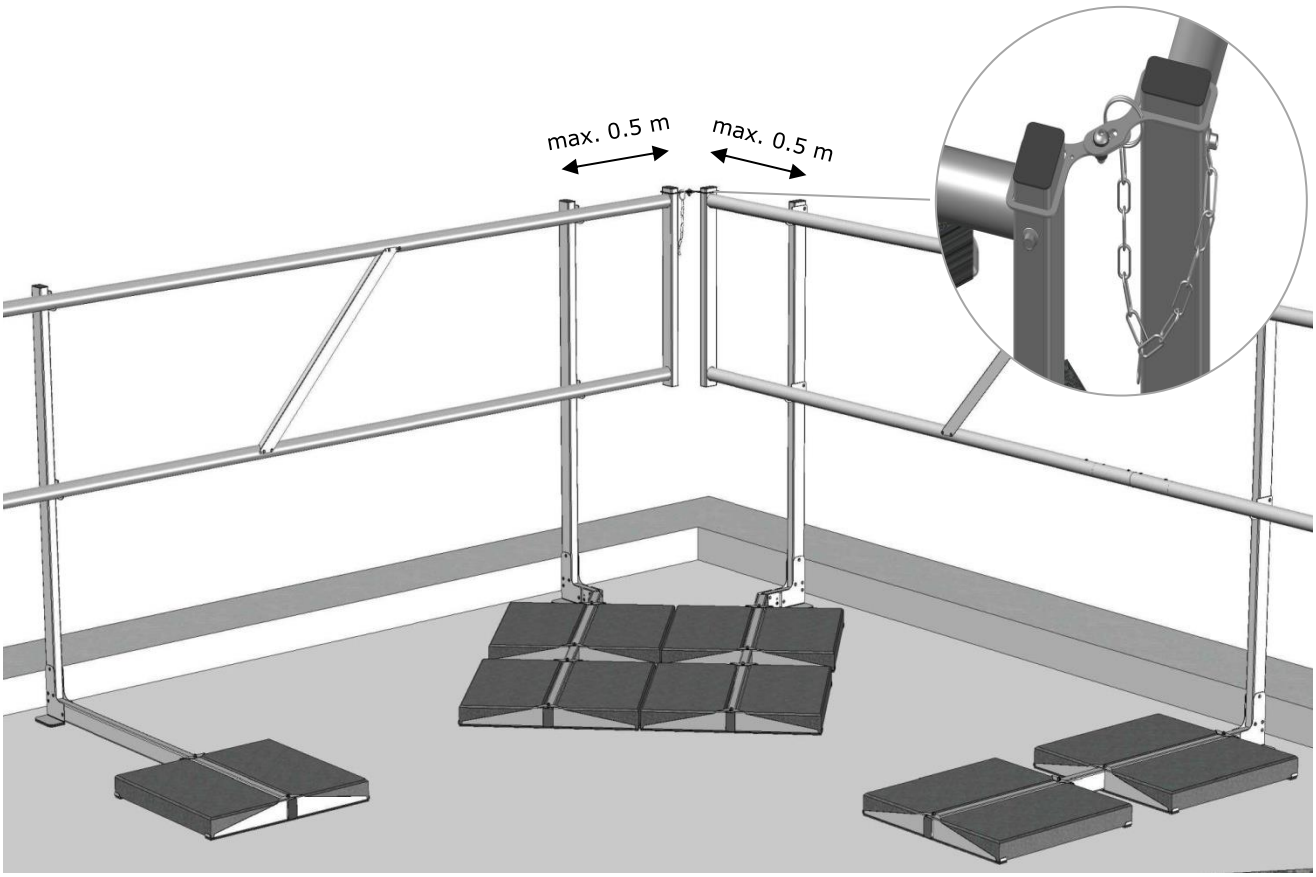
4.1 Foldable version

LUX-top® G-T - corner kit

a) Arrange the preassembled corner formation according to the desired corner geometry

   Installation range 90°-180°

b) Attach the corner lock in the corner and fasten it to one of the tube end connector screws by means of a chain (see detail)



Exemplary illustration

4.2 Non-foldable version

LUX-top® G-T – 90° corner connector

a) Push 90° butt connector onto the guardrail tubes

b) screw tight with a 5.5 x 20 self-drilling screw 25 mm from the end of each tube

LUX-top® G-T – variable corner connector

a) Push variable butt connector onto the guardrail tubes

b) screw tight with a 5.5 x 20 self-drilling screw 25 mm from the end of each tube

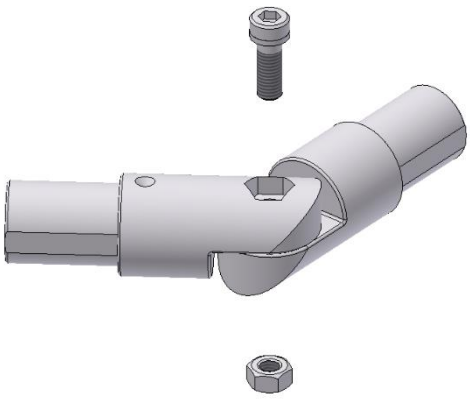
c) tighten the screws after aligning

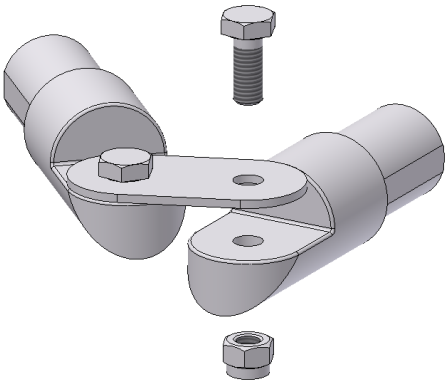
LUX-top® G-T – conversion kit for variable corner connector

a) Dismantle the variable butt connector

b) Assemble the conversion kit as shown

c) Install on the guardrail tube end as described for the variable butt connector





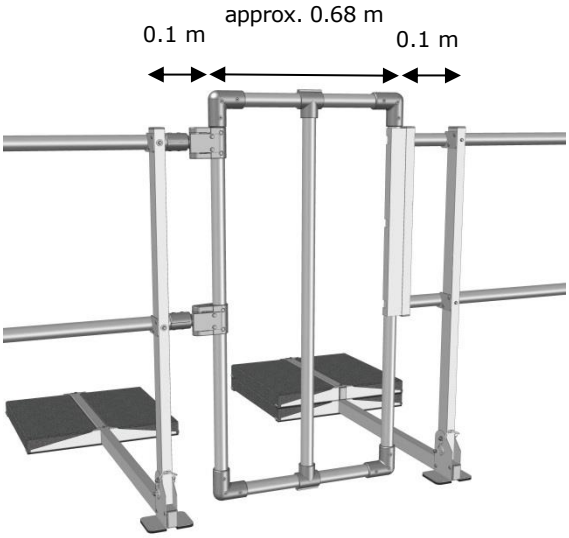
5. Installation instructions for LUX-top® G-T access doors:

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

IMPORTANT:
The positions of the access doors must be defined taking into consideration the fall protection concept.

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

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



a) Remove loose screws from the hinges

b) Push the door hinges onto the tube ends

c) Drill the hinges with the guardrail tubes (8 mm metal drill bit)

d) Screw the hinges on

e) Unscrew the loose screws of the tube end connector of the door stop

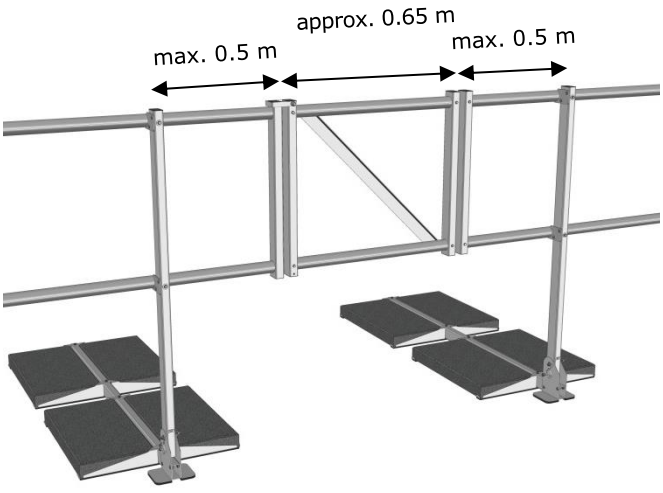
f) Push the tube end connector on as far as it will go and fasten with the 5.5 x 20 self-drilling screws

g) On the door stop side, the counterweights must be arranged on top each other as shown

h) Screw through the additional rectangular tube and the lower counterweight holder using the 5.5 x 70 stainless steel self-drilling screws

LUX-top® G-T ECO - access door

- tested and certified according to DIN 13374 Class A



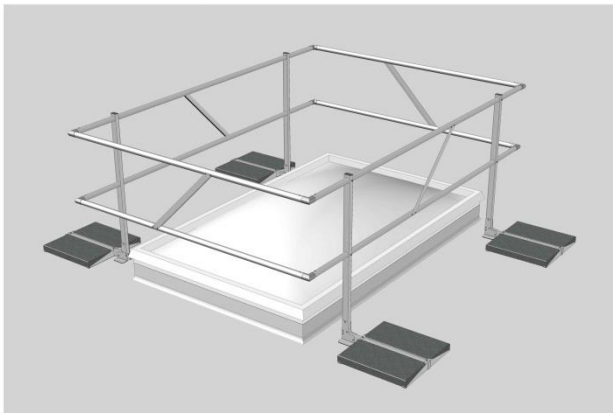
a) Push the access door tube end connector on as far as it will go

b) Drill a Ø 5 mm hole using a metal drill bit

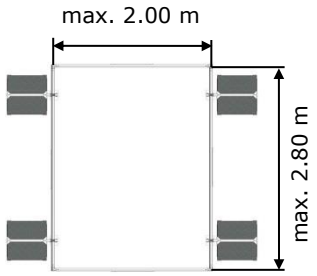
c) Fix with four 4.8 x 10 A2 blind rivets

6. Installation instructions for LUX-top® G-T LIKU:

LUX-top® G-T LIKU must be installed in accordance with the general installation specifications as a closed system, taking into account the illustrations below.
The rooflight modules must be shortened as necessary.



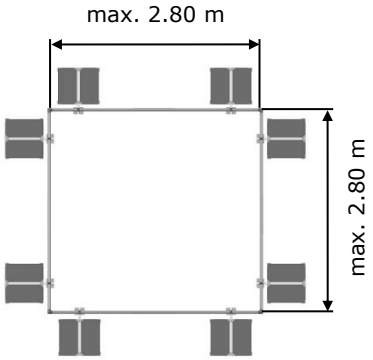
IMPORTANT:
According to DIN 4426:2017, a minimum distance of 0.5 m must be maintained between **LUX-top® G-T LIKU** and rooflight elements/SHEVs or their open flaps!



LUX-top® G-T LIKU - S
(clear width 1.86 x 2.76 m)

Can be combined with **LUX-top® G-T ECO - access door**, taking into account the installation distances and additional basic elements

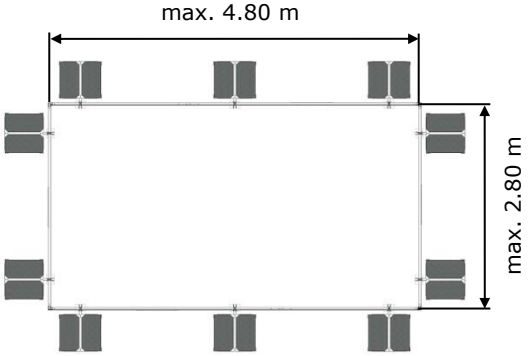
Use the system only when closed!



LUX-top® G-T LIKU - M
(clear width 2.66 x 2.66 m)

Can be combined with **LUX-top® G-T ECO – access door**, taking into account the installation distances

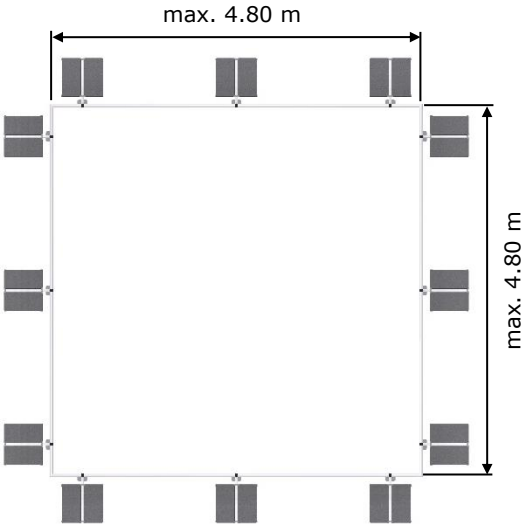
Use the system only when closed!



LUX-top® G-T LIKU - L
(clear width 2.66 x 4.66 m)

Can be combined with **LUX-top® G-T ECO – access door**, taking into account the installation distances

Use the system only when closed!



LUX-top® G-T LIKU - XL
(clear width 4.66 x 4.66 m)

7. Installation instructions for LUX-top® G-T sundries:

LUX-top® G-T - nameplate

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

We recommend placing the nameplate on the side of the starting post of the system using the two 5.5 x 20 self-drilling screws enclosed, as shown in the adjacent illustration.

LUX-top® G-T installation documentation

Object data

Building/Construction project

Street/Post code/Place

Installation company

Company

Street/Post code/Place

Contact /Phone number

Installer

Date of completion

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

Fastening surface

Roof layer structure

Fasteners, if applicable with torque specification

Sketch if applicable

Confirmation by the installation company

LUX-top® G-T installation in general

- ☐ The installation of the LUX-top® G-T guardrail systems was carried out in accordance with the installation guidelines of ST QUADRAT Fall Protection S.A.
- ☐ The installation and user instructions as well as the technical documentation have been given to the customer and must be provided to the user.

Installation of LUX-top® G-T DIREKT/DIREKT AT/DIREKT WD/DIREKT WD II

- ☐ The fasteners used were processed according to the manufacturer's guidelines (proper cleaning of the drill holes, edge distances, inspection of the substrate, etc.).

In the case of LUX-top® G-T DIREKT versions where the fastening is not visible afterwards, we recommend documenting the professional installation additionally using photos and other important installation data.

Responsible installer of LUX-top® G-T:

Name **Date / signature**

LUX-top® G-T

APPLICATION

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

STANDARDS

LUX-top® G-T was tested / certified according to:

- EN 13374:2013 Class A "Temporary edge protection systems"

meets the requirements according to:

- DIN 14094-2 6.6.3 "Rescue ways on flat and inclined roofs"
- EN ISO 14122-3:2016 8.2.3.1. and 8.2.3.2 "Permanent means of access to machinery"

SYMBOLS AND MARKINGS

For identification purposes, the system nameplate supplied must be attached in a clearly visible place and must contain the following information:

The legibility of this product identification must be checked after completion of the installation!

MANUFACTURER

ST QUADRAT Fall Protection S.A.
45, rue Fuert
L-5410 Beyren
Luxembourg

Notified body used at the time of the type test:

DEKRA Testing and Certification GmbH
Dinnendahlstrasse 9
D - 44809 Bochum

Notes: