



Edge protection systems
for collective fall
protection according to
DIN EN 13374:2013
Class A

- ▶ Dimensional accuracy
- ▶ Form and position
stability
- ▶ Strength

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Fallnet® ASG

Installation, maintenance and user manual
for the Fallnet® ASG maintenance guardrail

Life on Roofs



Maintenance guardrail Fallnet® ASG

Assembly



- 1.-2.
Loosen transport safety device
Position the post at the required angle



3.
Fix the position of the post



- 4.-5.
Lay the protection mat
Install the post module



6.
Mount the handrail + mid rail



- Fit the corner piece



7.
Install the green roof to provide static equilibrium

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Important assembly and maintenance instructions:

The ZinCo Fallnet® ASG, together with a ballast in the form of a green roof as static equilibrium with a minimum of 80 kg/m² (dry weight), provides a collective edge protection system for temporary maintenance work in accordance with EN 13374 Class A.

Installing a green roof, ensuring static equilibrium:

The green roof is used as a counter weight for the Fallnet® ASG guardrail. For this reason, special attention must be paid to ensure the stable positioning of the green roof. Angular, broken and specific heavy material with a bulk weight of at least 1000 kg/m³ is the main component to be used in the vegetation substrate. The minimum area load of the green roof in an installed, dry condition is 80 kg/m². The rooting aspect of the greening measure itself provides additional protection. If there is a risk of wind erosion between applying the bulk material (= the substrate) and the greening measures, additional counter measures have to be taken, for example, the use of pre-cultivated mats or elements or even an anti-erosion net. Annual care and maintenance is vitally important. It is important to ensure that there is permanent extensive growth and therefore root penetration = static equilibrium. The required minimum layer thickness, which will depend on the substrate used, is to be spot-checked and documented during annual maintenance.

- The ZinCo Fallnet® ASG must be assembled and checked by instructed, qualified professionals and in compliance with this manual.
- Prior to installation, all parts of the ZinCo Fallnet® ASG are to be checked for defects. All damaged parts are to be replaced.
- The roof pitch must not exceed 5°.
- The ZinCo Fallnet® ASG is only to be used on roofs with a parpet. The height of the parpet in this case must be at least 50 mm. If the difference between the substrate surface and the upper edge of the parpet is less than 150 mm, toe boards are to be used in addition.
- The max. distance between posts is 2.6 m.
- There must always be a post module mounted at the start/end of the ZinCo Fallnet® ASG. The maximum projection of the handrail or of the mid rail is 0.3 m here.
- The handrail or the mid rail can be extended by locking one element into another. The connectors are to be inserted as far as possible.
- The connectors for the handrails, mid rails and corner connectors are secured with a drilling screw.
- Corner joints are to be used for the corners of the handrail and mid rail. The distance between the corner joint and the post is max. 0.44 m on one side and max. 1.65 m on the other side.
- The posts are height-adjustable. The space between mid rail and toe board and also between mid rail and the upper edge of the parpet must each not exceed 470 mm.
- All nuts and bolts are to be tightened to 10 Nm. A suitable lubricant is to be applied to connecting parts to stop them "getting jammed".

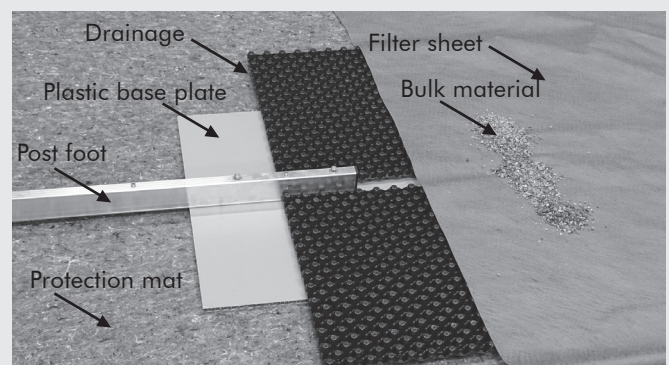
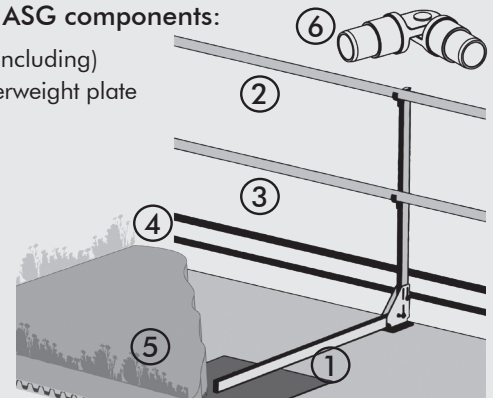
- Please ensure that any openings between the edge protection system and other structures at the roof edge are as small as possible and do not exceed 120 mm at the handrail / mid rail and 20 mm at the toe board.
- The handrail has to be at least 1000 mm above the planned substrate surface.

Safety instructions and general guidelines:

- Prior to installation, please ensure that all parts are included.
- Only undamaged, original components may be used.
- Changes should not be made to the product that might affect the proper functioning or the safety of the product.
- For all works, it is important to observe the generally applicable rules of engineering, employee regulations (AUV), Industrial Health and Safety Regulation in relation to the use of work equipment (BetrSichV) in addition to the information, rules and requirements of the trade associations.
- When assembling the ZinCo Fallnet® ASG, please ensure that the installers are protected from falling.
- In the event of a person or an object falling against or into the ZinCo Fallnet® ASG, the guardrail may only be used again once it has been checked and approved for use by a qualified professional.
- Please ensure that after assembly and prior to the start of the works, the ZinCo Fallnet® ASG is tested to ensure that it is securely installed on the roof. In particular, the stable positioning of the green roof should be examined. If erosion is evident, the minimum thickness of the vegetation layer is to be examined and, where necessary, the guardrail is to be locked until the defect has been dealt with.

ZinCo Fallnet ASG components:

- 1 post module (including foot and counterweight plate)
- 2 handrail
- 3 mid rail
- 4 toe board
- 5 ballast
- 6 corner joint



Installing the Fallnet® ASG

Tools required:



Wrench AF 13



Tighten nuts to a torque of 10 Nm



Cordless screw driver

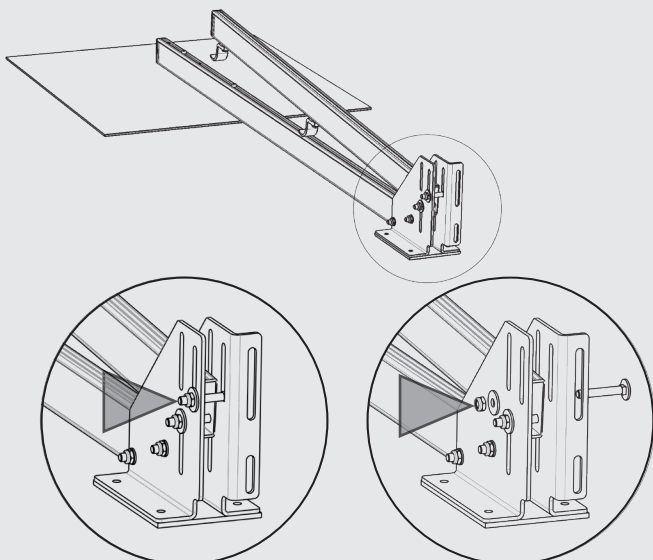
Drill 3.5 mm in diameter

Mitre saw suitable for aluminium,
alternatively a 2" pipe cutter

Setting up the posts:

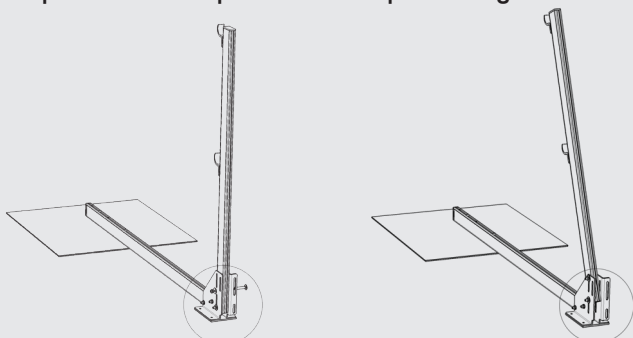
There are two possible angles for assembling the guardrail:
90° or 67.5°. Please see the relevant column below for the
steps required for each individual application.

Step 1: Loosen the transport safety device on the post module.



Loosen the marked nuts and remove the bolt.

Step 2: Place the post at the required angle:



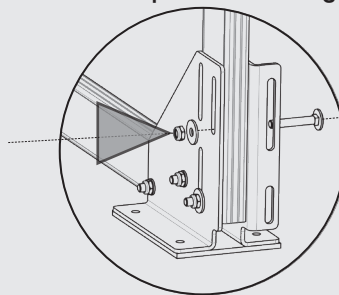
Draw up the post to 90° and
insert the screw.

Draw up the post to 67.5°
and insert the screw.*

* If the posts are installed with an inclination, please check if the distance
between the top edge of the ground covering material and the top edge of the
handrail is in accordance with the German workplace regulations ASR.

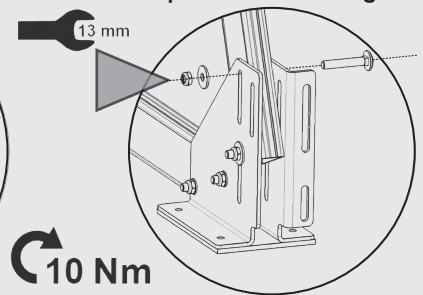
Step 3: Fixing the posts

for a post at 90° angle



Fit washer and nut
and tighten.

for a post at 67.5° angle



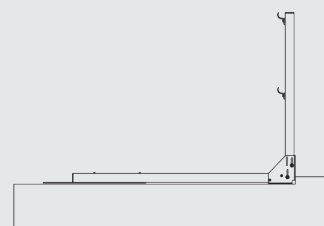
Fit washer and nut
and tighten.

Step 4: Installing a protection mat on the roof.

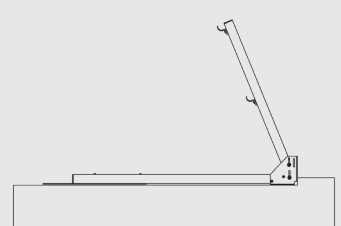
Regardless of the required angle of the post on the guard-
rail, a protection mat with at least 300 g/m² is installed
across the entire area in line with the required green roof
build-up.

Step 5: Setting up the post module.

for a post at 90° angle

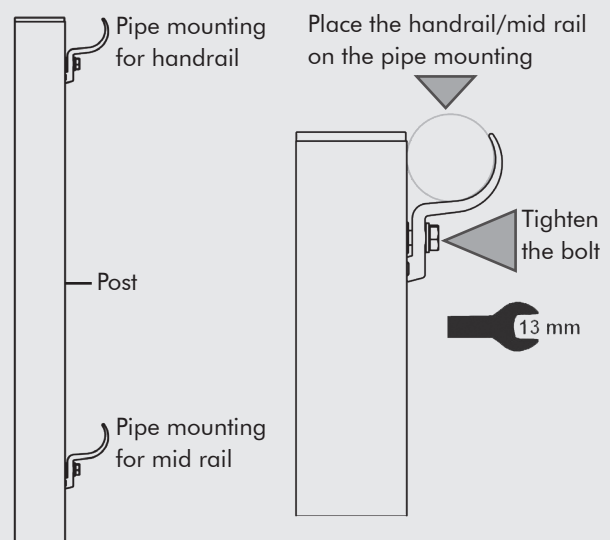


for a post at 67.5° angle



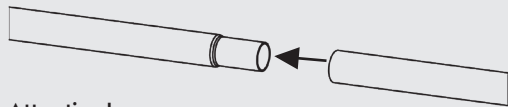
In each case, push the post right up against the parapet!

Step 6: Mount the handrails and the mid rails



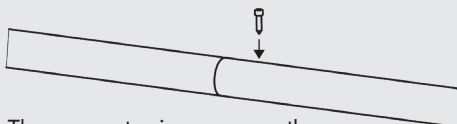
Connecting the handrail or mid rail:

The handrail and the mid rail are extended by attaching the individual elements to each other, one after the other.



Attention!

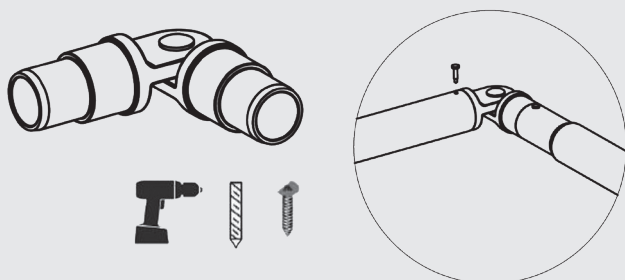
Please ensure that the plug connectors are inserted as far as possible.



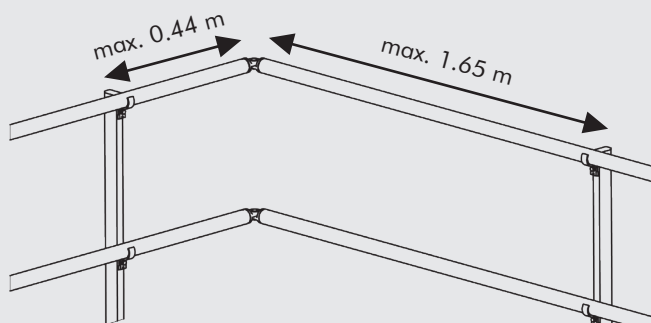
The connector is permanently secured using a drilling screw.

Corner:

Insert the cast joint into the handrail / mid rail, in each case pre-drilling a bore hole with a diameter of 3.5 mm approx. 15 mm from the edge, and fix the joint with self-tapping drilling screws. We recommend fixing the cast joint on one side of the rail before mounting the rail, in order to prevent anything dropping to the ground (roof edge!).



Assembled corner joint with maximum permissible dimensions



The distance from the joint to the post is max. 0.44 m on the one side and max 1.65 m on the second side.

Step 7: Install the green roof to provide static equilibrium

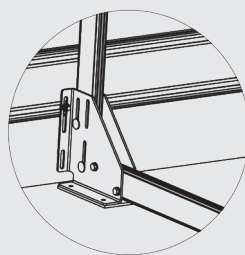
In line with the instructions at the start of this document on providing static equilibrium by means of the green roof, the green roof is to be installed across the entire roof. In doing this, the green roof will also cover the counterweight base plate of the post foot, therefore providing the required ballast!

Step 8: Installing the toe boards

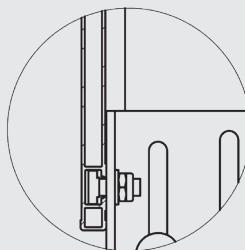
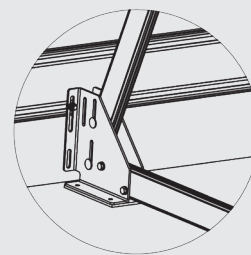
This step is only necessary if the distance between the working surface and the upper edge of the parpet is less than 15 cm. Please ensure that the space between the lower edge of the toe board and the surface of the substrate is always less than 20 mm. There are two types of mounting here, depending on the height of the green roof build-up;

Case 1: Using the upper slotted hole at the post foot

for a post at 90° angle



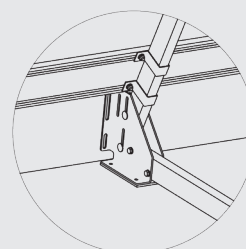
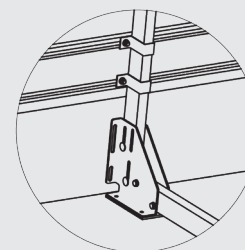
for a post at 67.5° angle



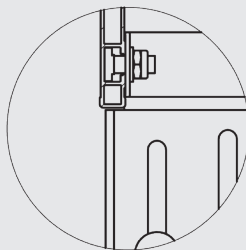
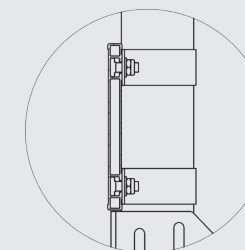
Insert two hammer head bolts per post into the lower T-groove of the toe board, thread into the slotted holes of the foot of the post, fit the nuts and tighten.

Case 2: Using 2 metal brackets per post

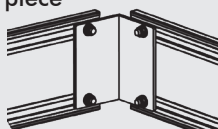
Where the green roof build-up is accordingly high, the toe board is fixed directly to the guardrail post.



Insert four hammer head bolts into the T-groove of the toe board and insert into the drill holes of the metal brackets on the post. Then, fit the nuts and tighten.



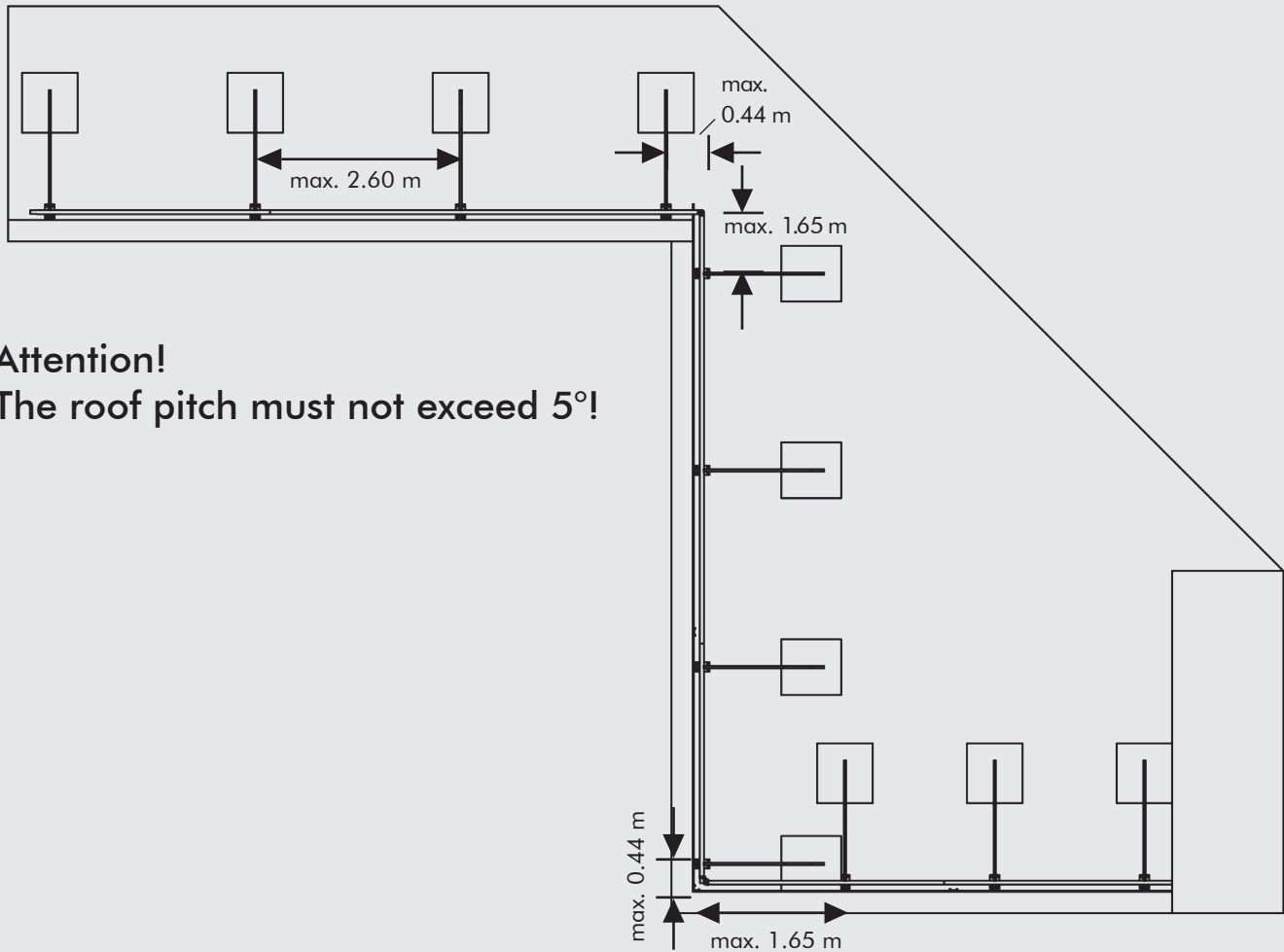
Connecting toe board and corner piece



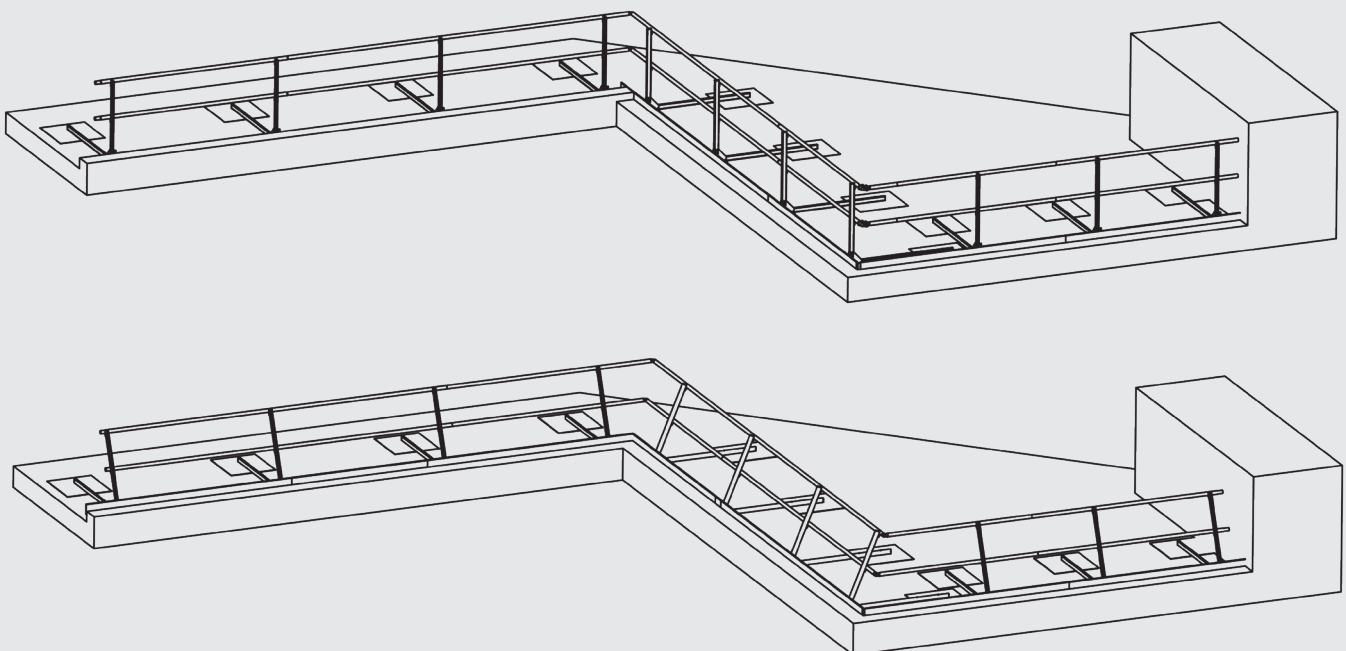
Insert four hammer head bolts into the toe board guide, insert into the holes of the butt or corner connector, fit washers and nuts and tighten.

Layout example

The height of the attica has to be at least 150 mm above the upper edge of the working area, otherwise toe boards are to be installed.



Attention!
The roof pitch must not exceed 5°!



Maintenance and service, storage

- The ZinCo Fallnet® ASG is designed to be low maintenance.
- The ZinCo Fallnet® ASG components must not be used or stored in an aggressive environment (road salt, cement, etc.).
- This product must only be used as described in this installation and user manual. Any other type of use is deemed not to be the intended use. We shall assume no liability for damage that occurs due to incorrect use and this will result in the warranty being cancelled.

The static equilibrium of the green roof that is used as ballast is to be maintained at all times. Where there are signs of erosion, they are to be removed, and using suitable measures, it is important to ensure that this will be avoided in the future. The minimum ballast of 80 kg/m² (dry condition) is to be maintained.

In addition to checking the static equilibrium, the guard-rail system is to be checked once a year to ensure that it is complete and that the connections are tight and to check for possible corrosion. Defective or missing components are to be replaced.

Loose connections are to be tightened!

Disposal

- Where they are no longer required, the components of the ZinCo Fallnet® ASG have to be disposed of professionally.
- When disposing of the product, priority should be given to recycling the raw materials (as per Directive 75 /439 / EEC, as amended by 87 / 101/ EEC).
- The ZinCo Fallnet® ASG consists to a large extent of recyclable materials. Please observe the country-specific disposal requirements when disposing of the product
- Clean the ZinCo Fallnet® ASG.
- Remove all detachable components from the ZinCo® Fallnet ASG.
- Break down components comprising different types of materials into individual parts.
- Sort the dismantled parts according to material type.
- Dispose of the different types of material professionally and in line with local requirements.



User manual and manufacturers specifications

Your roof protects the building, furnishings and assets. In order for you to be able to enjoy a fully functional roof in the long-term, it has to be installed professionally and maintained at regular intervals during use and, where necessary, repaired. In order to do this it is important to ensure that works carried out on a roof can be carried out safely. The client and (perhaps later on) the owner is also under obligation here and is responsible for ensuring compliance with all specifications relating to occupational safety on a roof.

ZinCo Fallnet® ASG, in conjunction with a green roof serving as ballast, is a collective edge protection system for temporary maintenance works in accordance with EN 13374 Class A.

Scope and requirements for use

Fallnet® ASG may only be used for its intended purpose as an edge protection system for temporary maintenance work. Any changes or additions to the system components may not be carried out without the prior written permission of the manufacturer.

- The Fallnet® ASG may be used up to a maximum roof pitch of 5° in the direction of the falling edge.
- The edge protection system may be used during frosty conditions provided the edge protection system was installed in frost-free conditions.

Requirements relating to use and the users of Fallnet® ASG

The Fallnet® ASG collective edge protection system offers the advantage that it protects everyone working on a roof without them having to take special measures.

The user is to be instructed to carry out the following visual and manual checks prior to starting work at the edge of a roof:

- visual check of the visible parts (e.g. for deformation, corrosion)
- visual check of the ballast depth

Evidence of restricted functioning could be, where:

- parts are deformed, weakened or very dirty and if they are not in their original state,
- an uneven substrate height is established, e.g. due to drifting,
- the horizontal foot of the post module is visible.

If there is any doubt as regards the safe condition or proper functioning of the product, the client/the owner should be informed and the product must not be used until the matter is clarified.

Label

A label is attached to each post, handrail and mid rail and to the toe board with the following information:

Manufacturer:

ZinCo GmbH, Type Fallnet® ASG

Standard: Collective edge protection system for temporary maintenance work as per EN 13374 Class A

Year and month of manufacture in that order.



Authority used for certification

Details of the manufacturer and of the testing body

Manufacturer:

ZinCo GmbH

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72622 Nuertingen, Germany

Tel. +49 7022 9060-770

info@zinco-greenroof.com

www.zinco-greenroof.com

Testing body:

DEKRA Testing and Certification GmbH

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