



TECHNICAL FILE

EVO® parapet and offset
mounted guardrail

EN ISO 14122-3 : 2017



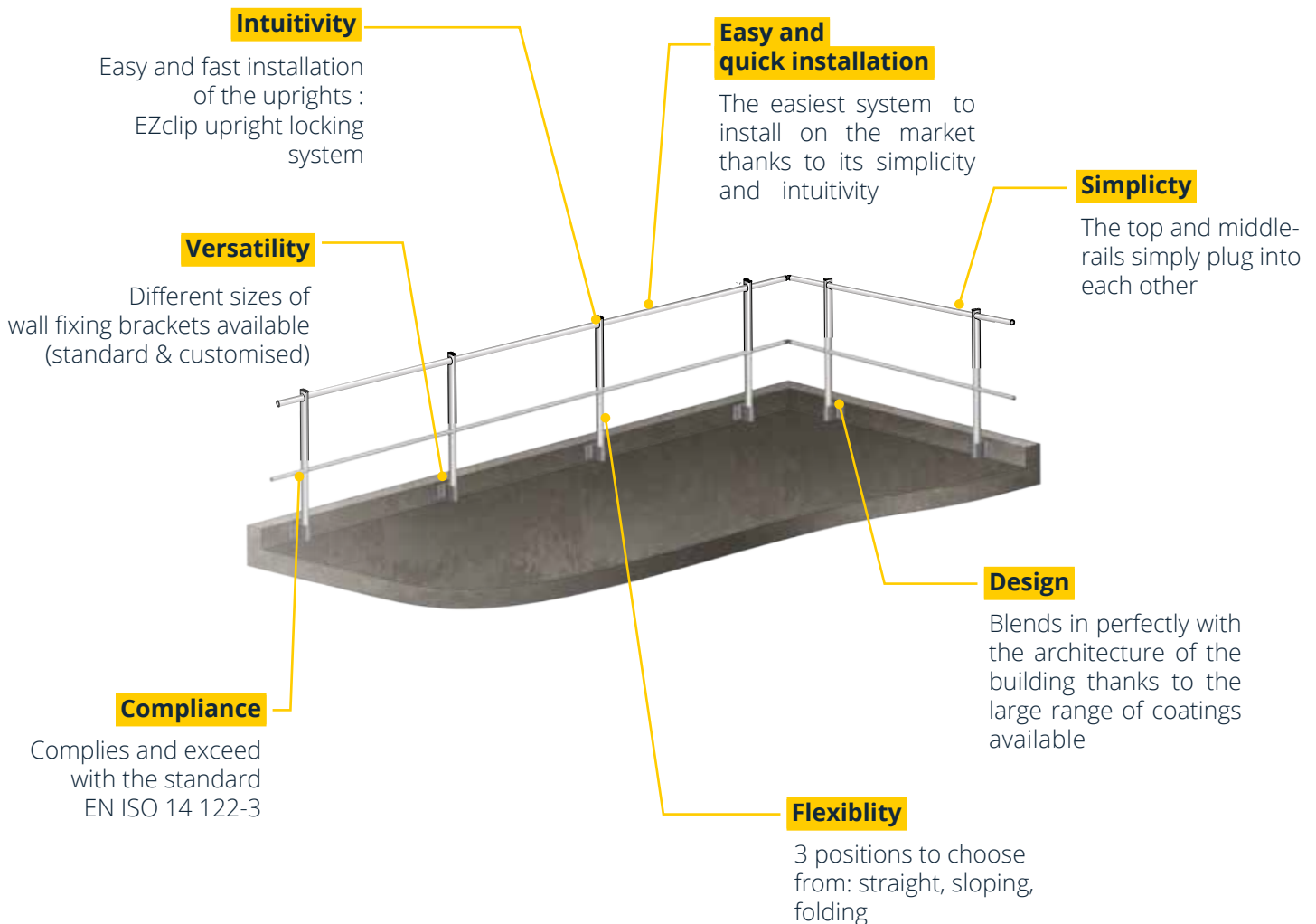
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Parapet guardrail and offset mounted guardrail

EVO®

PRODUCT DEFINITION

The EVO® parapet and offset mounted guardrail is a collective fall protection system designed to protect roof terraces not accessible to the public. The parapet and offset mounted guardrails EVO® may be used as an internal or external fixing on the parapet. When there is an offset (covering, masonry, etc.), we offer a 60 mm offset guardrail version.





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STANDARDS

- A guardrail must be installed as soon as the possible height of fall is higher than 500 mm.
- The guardrail handrail height must be comprising between 1000 and 1100 mm above the walking area.
- The distance between the handrail and kneerail, as well as between the kneerail and the toeboard must be less than or equal to 500 mm.

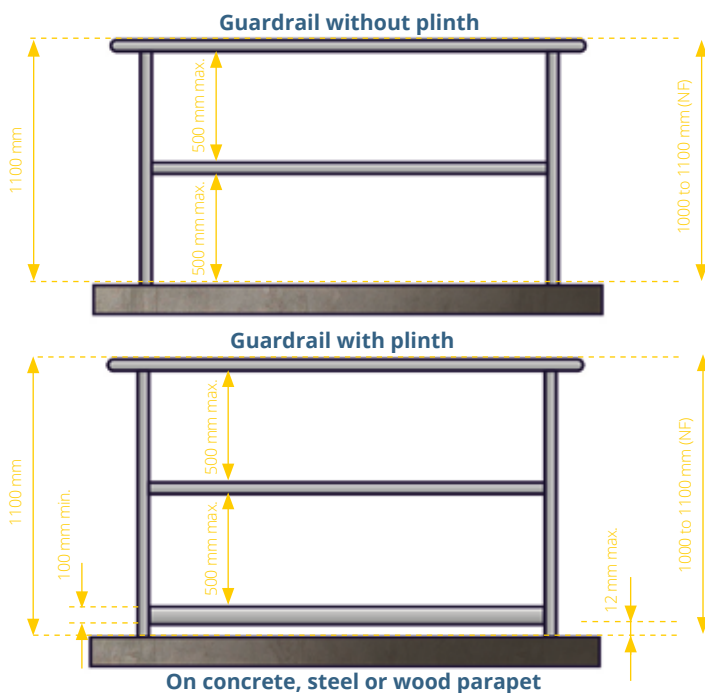
- This space shall be reduced to a maximum of 340 mm between the rail and the middlerail and between the middlerail and the toeboard when the guardrail is installed at the bottom of a slope greater than 15°.

- A toeboard of 100 mm height minimum must be installed at 12 mm maximum from the walking area and the side of the platform.

- The distance between the uprights must be limited to 1500 mm maxi. However, if this distance is greater, particular attention should be paid to the strength of the anchoring of the uprights and the fixing devices: consult our design office.

- If the handrail is interrupted, the free space between two segments of the handrail should be between 75 mm and 120 mm. If there is a larger opening, a gate to ensure the continuity of the fall protection of the guardrail must be installed.

- Foldable: A lifeline must be installed before the foldable guardrail is mounted. This will also be used during installation and handling.



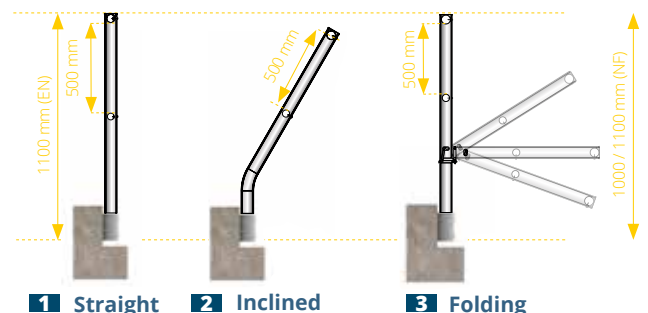
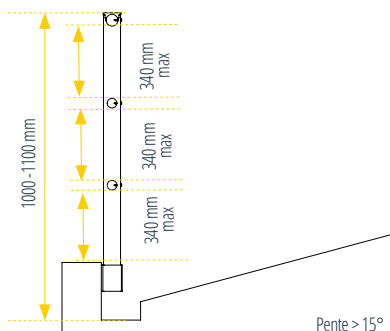
NF : French standard NF E85-015 / EN : European Standard EN ISO 14122-3

REGULATION

The EVO® parapet and offset mounted guardrail complies with the standard EN ISO 14122-3 of March 2017, machines safety - permanent access means to machines – part 3: staircases, step ladders, guardrails – Permanent means of access.

The EVO® parapet and offset mounted guardrail passed with success the static and dynamic tests required by the standards EN ISO 14122-3.

UPRIGHT DIMENSIONS





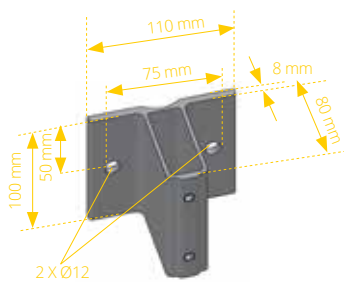
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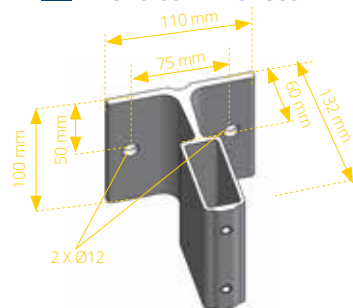
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PARAPET BRACKET DIMENSIONS

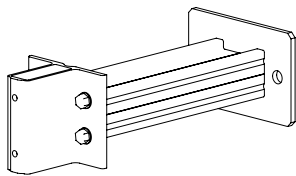
1 Without offset



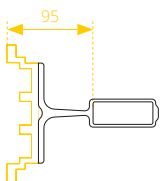
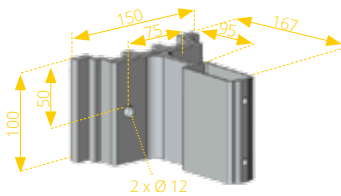
2 With a 60 mm offset



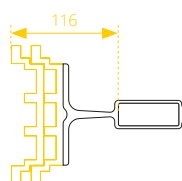
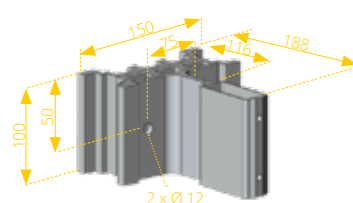
3 Option: anchor post for customised offset



4 Option: spacer for a 95 mm offset



5 Option: spacer for a 116 mm offset



TECHNICAL FEATURES

- Material: aluminium
- Finish: raw or powder coated (ral colours) on request
- Fixings: 2 M10 bolts
- Round rail Ø45 and round kneerail Ø35
- Available in the following versions: straight, inclined & folding
- Compliance : European Standard EN ISO 14122-3 March 2017

INSTALLATION INSTRUCTIONS

- Minimum height of the parapet without offset: 120 mm
- Minimum height of the parapet with offset: 120 mm + 40 mm (roof overhang) i.e. 160 mm
- Drilling at least 75 mm from the top of the parapet
- Maximum distance between uprights: 1500 mm
- Angles of rail and kneerails to plug into each other
- Rail and kneerails to plug into each other thanks to their swaged ends
- Installation with HC screws and self-drilling screws supplied
- Toeboard is mandatory if the wall bracket is fixed at the outside of the parapet
- Each straight section must have at least 3 uprights
- To ensure the conformity of the installation, it must be carried out according to a layout plan drawn up by our configurator or by our design office.



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USE & MAINTENANCE INSTRUCTIONS

- The person performing the installation of EVO® guardrail must be a qualified person and must observe the common rules on working at heights. It must thus ensure his own security (use of a temporary lifeline, PPE, aerial lift, etc)
- Before any use, user must ensure by visual inspection that EVO® guardrail shows no anomaly (shock, distortion, etc.)
- The EVO® guardrail does not require any particular maintenance, however, a visual inspection must be carried out at least once a year by a qualified person
- If the guardrail EVO® is improperly installed, damaged or has been used to arrest a fall, its use must be stopped immediately and it must not be used until a qualified person has authorized in writing its reuse after examination and verification
- If the product is sold outside the first country of destination, it is essential for the safety of the user that the reseller provides the instructions of use in the language of the country of the product use. These documents can be provided upon request by contacting the manufacturer
- EVO® guardrail is a mean of permanent collective protection which must be used by professionals on flat roofs not accessible to the public

- The use of a EVO® toeboard is mandatory if the terrace does not have any parapet or if it is less than 100 mm height
- If EVO® guardrail is installed in a polluted industrial environment, petrochemical, maritime or on seaside, it is compulsory to make a surface treatment appropriated type powder coating, anodizing, etc
- If you have been provided with a layout plan, please refer to it during installation
- If there is no layout plan, please observe the 1,500 mm centre-to-centre distance between each upright and the position of the uprights in relation to the corners of the roofs.

STORAGE

Raw aluminum components are packaged in contact with each other. The action of the rain on the unopened package will facilitate the oxidation of these components. Surface stains may occur. They do not degrade the quality of aluminum but can spoil the appearance of the railings.

We recommend you to unpack the package and to store the components separated from each other (no contact between them), or to store the packages still packed in a dry place.

CHOICE OF FIXINGS* ON CONCRETE SUPPORT

2 bolts M10 on non-cracked concrete parapet C20/25.

Distance parapet edge	Solution	Zinc model	A4 stainless steel model
A ≥ 50 mm	Chemical	HIT-HY 200-A 330/2 injection mortar with HAS-U 5.8 M10x115 with anchor bolt	HIT-HY 200-A 330/2 injection mortar with HAS-U 5.8 M10x115 with anchor bolt
A ≥ 60 mm	Mechanical	HST3-R M10x90 30/10 male dowel	HST3-R M10x90 30/10 male dowel
A ≥ 75 mm	Mécanique	HST3-R M10x90 30/10 male dowel	HST3-R M10x90 30/10 male dowel

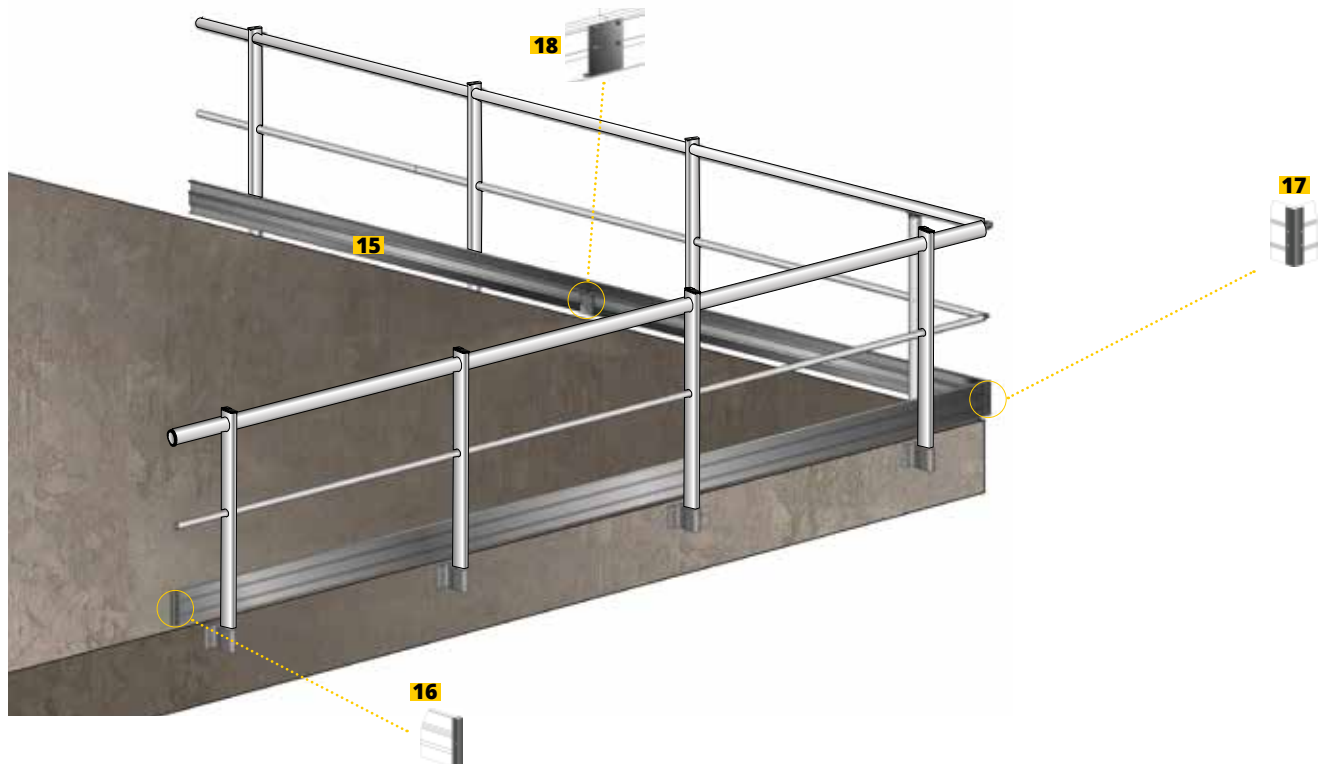
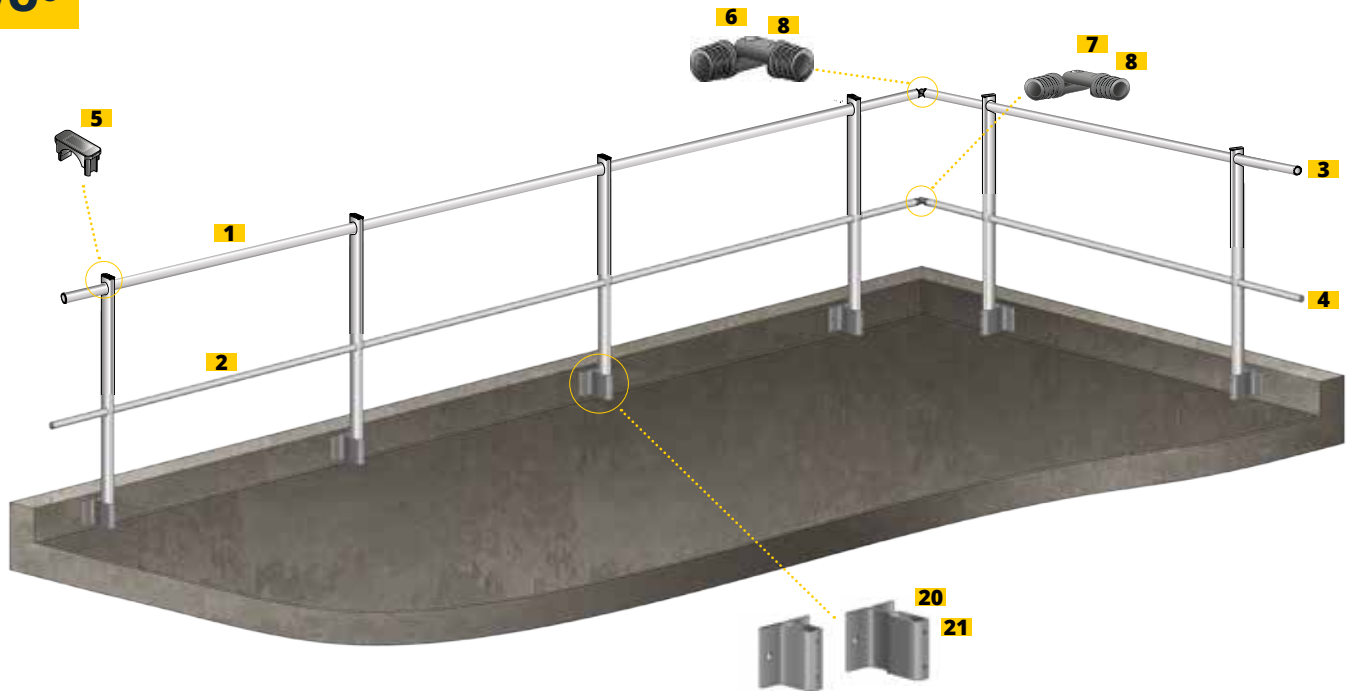
Table given as a reference for concrete C20/25. Hilti *fixings (supplied upon request)



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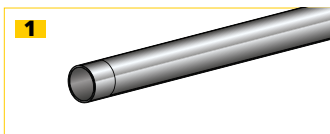


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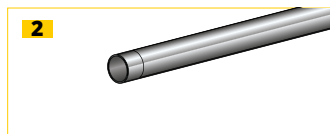
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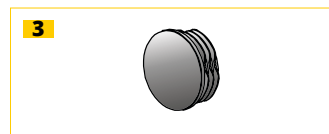
GENERAL COMPONENTS



1
Shrunken rail Ø45 mm
WV830450
Length 3000 mm



2
Shrunken middle-rail Ø35 mm
WV830350
Length 3000 mm



3
Rail cap Ø45 mm
WV830451



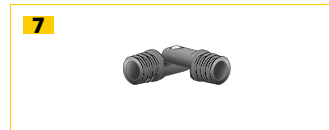
4
Middle-rail cap Ø35 mm
WV830351



5
EZclip plastic cap
WV820000



6
Rail angle Ø45 mm
WV830450



7
Middle-rail angle Ø35 mm
WV830352



8
Aluminium middle-rail angle Ø35 an 45 mm - WV830453



9
Wall fixing bracket for rail Ø45 mm - WV830454



10
Wall fixing bracket for middle-rail Ø35 mm
WV830354



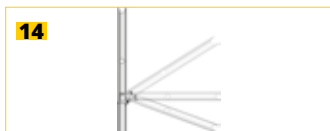
11
Wall fixing aluminium bracket for rail and middle-rail
WV830455



12
Straight upright
H : 1105 and 1182 mm



13
Folding upright
H : 1105 - aluminium joint
WV8201105F



14
Folding upright
H : 1010 - aluminium joint
WV8201010F



15
Toeboard
L : 3000 x 150 x 9 mm
WV840000



16
Cap for toeboard
H : 150 mm
WV840001



17
Angle kits for toeboard (interior/
exterior)
H : 150 mm
WV840003



18
Toeboard straight connector
H : 150 mm
WV840005



19
Toeboard bracket support
for parapet / offset mounted
guardrail and guardrail on metal
deck to be sealed
H : 150 mm
WV844001



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COMPONENTS: FIXING BRACKETS



20
Parapet bracket without offset
WV812001



21
Wall parapet with 60mm offset
WV812002

COMPONENTS: FIXINGS



22
Stainless steel self-drilling screw
4.8x16 TH - ZOSYSBVHF48016



23
Stainless steel self-drilling screw
4.8x25 TH - ZOSYSBVHF48025



24
Stainless steel self-drilling
screw 4.8x32 TH - ZOSYSBVHF48032



25
STHC screw M08x10i DINI913
WV844001



26
TH tip
For guardrail installation



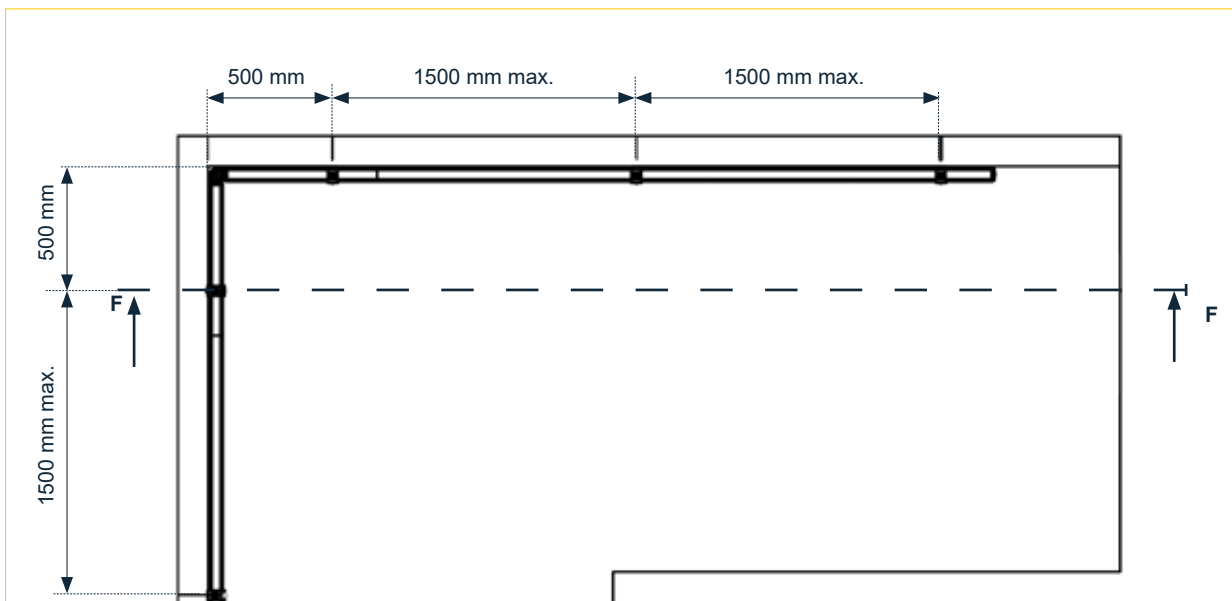
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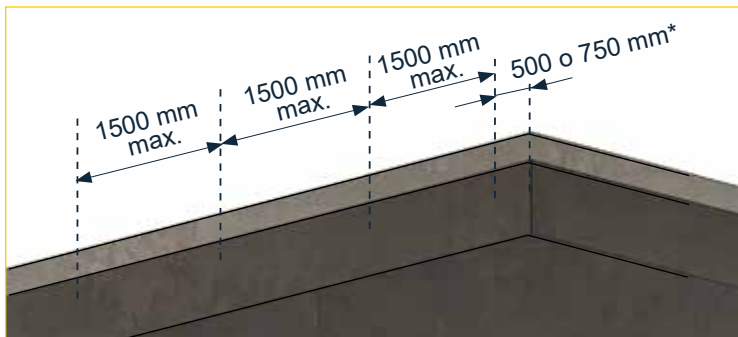
IMPLEMENTATION

Installation of the straight parapet guardrail - External angle



INSTALLATION

The installation of EVO® freestanding guardrail must be done by a minimum of two people. It is recommended to start installation in an angle.



1 - Draw a mark each 1500mm as a maximum.

*The dimension between the upright and the edge of the parapet must be 500 mm for the straight guardrail and 750 mm for the inclined guardrail

2 - Fix and tighten the parapet brackets on the parapet every 1500 mm maximum, in accordance to recommendations (choice of fixings)

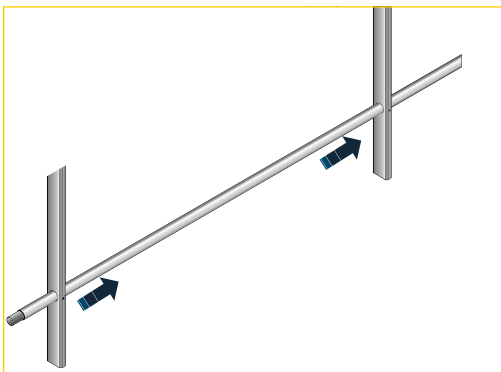


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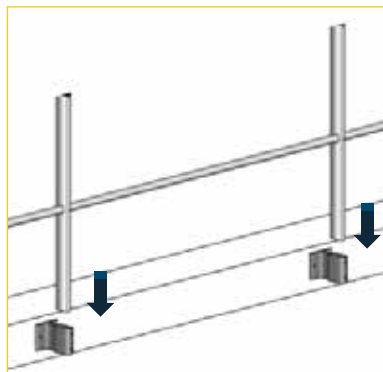
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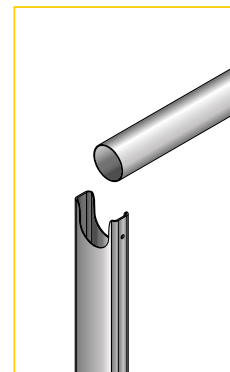
INSTALLATION



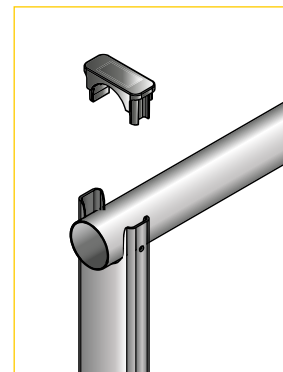
3 - Insert a middlerail through 2 uprights



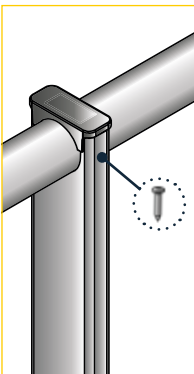
4 - Insert the set into the parapet brackets



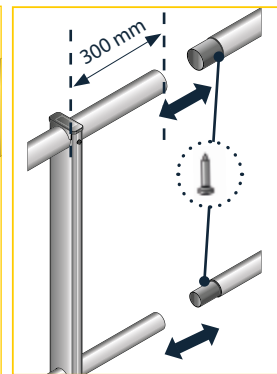
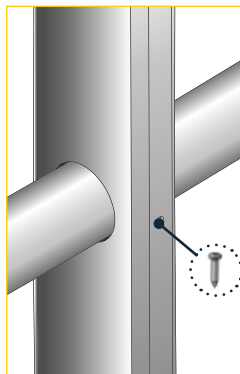
5 - Put the rail on the uprights



6 - Clip EZclip to the top of the upright



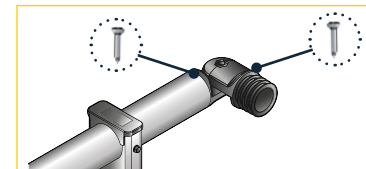
7 - Tighten self-drilling screws 4,8 x 25 on upright, where rail and middlerail are positioned



8 - Plug together rails and middlerails, and fix them with 4,8x16 screws



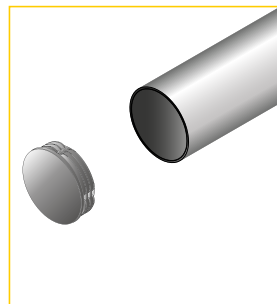
9 - Clip rail and middlerail angles



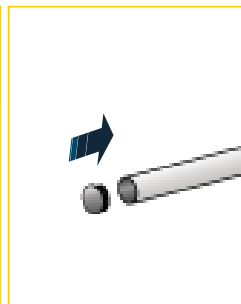
10 - Tighten angles with self-drilling 4.8 x 25 screws



11 - Adjust last section by sawing swagged extra



12 - Clip caps and wall brackets to rails and middlerails



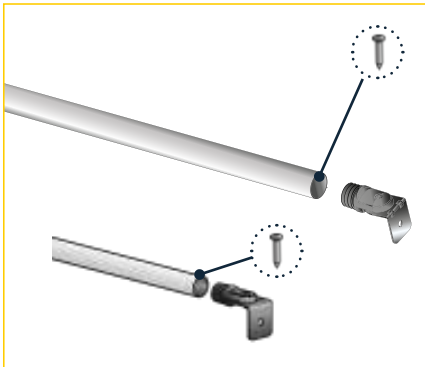


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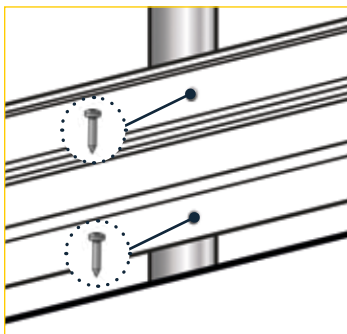
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INSTALLATION: WALL BRACKETS

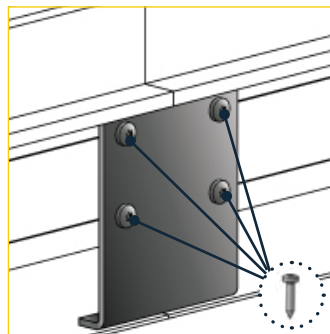


1 - Fix wall brackets using self-drilling 4.8 x 25 screws

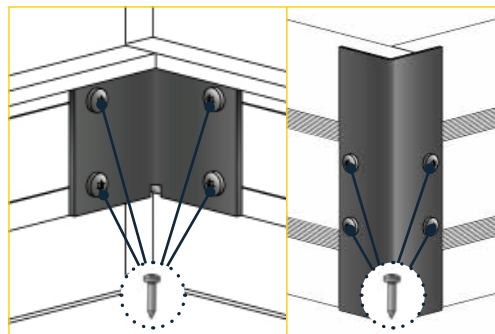
INSTALLATION: TOEBOARD



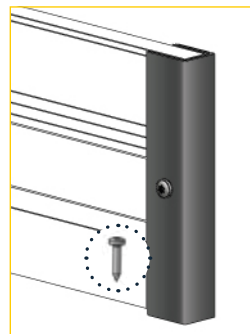
1 - Fix the toeboard to the upright with 2 * 4.8 x 16 screws



2 - Attach the toeboard lengths between them through the toeboard connectors and 4 self-drilling screws TH 4.8 x 16



3 - For angles, secure the inner and external connectors with 8 self-drilling screws T25 4.8 x 16



4 - Finally, fix the toeboard plugs with one self-drilling screw T25 4.8 x 16