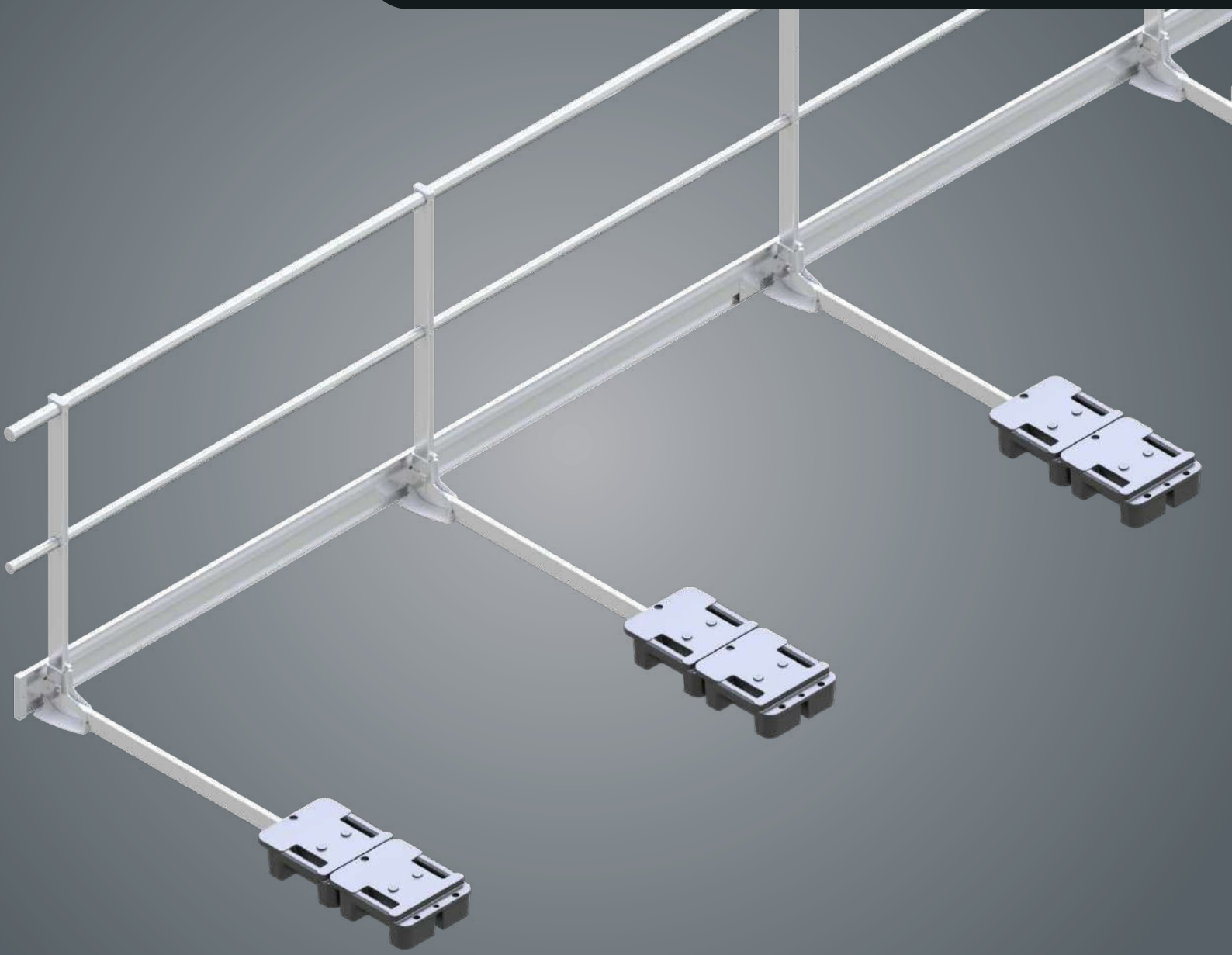


SOPRASAFE GUARDRAIL ECO

Collective protection system



Introduction, Planning

Product description

The SOPRASAFE GUARDRAIL ECO is a self-supporting, quick and easy to install collective fall protection system for flat roofs without penetrating the waterproofing layer, certified according to EN ISO 14122-3. The system is ideal for securing roof gardens, escape and service routes. Anchoring by ballast avoids damage to the roof structure and the parapet wall. It can be installed easily and rapidly.

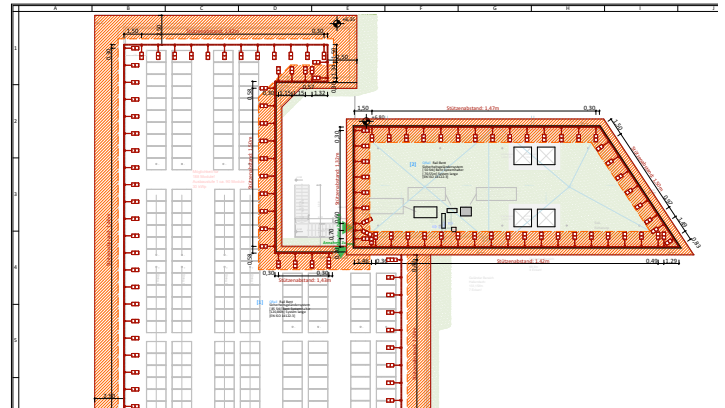
Legal requirements

Anyone working at heights needs to be secured against fall. This is the responsibility of the employer, and/or the owner of the premises. It is also the architect's responsibility, in designing the building, to meet the relevant regulations. SafetyPro complies with the latest EU standards.



Basic principles of planning

The required materials and the installation plan for the SOPRASAFE GUARDRAIL ECO systems are supplied by the Soprema planning team. When planning, the utilisation requirements, characteristics of the building and local conditions must always be taken into account. If the installation deviates from the installation plan, the deviation must always be discussed and documented.



Requirements for planning

Roof plan view with indication of the railing installation line

Facade and section drawings with height measures (in dwg format for faster planning - pdf, if dwg is not available)

Inclination of the roof [the SafetyPro Guardrail system can be installed on a roof of 10 / 15° (EN 13374 / EN ISO 14122-3)]

Placement of superstructures or elements to be installed later (solar panels, air conditioners' outdoor unit etc.)

Skylight protection

Specific local weather conditions (wind, snow, etc.)

Collective protection system

SOPRASAFE GUARDRAIL ECO 90

SOPRASAFE GUARDRAIL ECO 90 is the simplest version of the guardrail system family. Due to its simplicity, this type is advantageous when the safety of people working on the roof needs to be solved quickly. However, simplicity is not at the expense of customised solutions, be it the geometry of the guardrail, design combinations or a roof in a special design. The Soprema team also offers solutions for individual situations.



SOPRASAFE GUARDRAIL ECO 25

The SOPRASAFE GUARDRAIL ECO 25 differs from the ECO 90 in that its posts are inclined by 25° in relation to the vertical plane. This has several advantages. First and foremost ergonomic, as the handrails are closer to the user, making the guardrail more comfortable to use. Secondly, aesthetically, because the system is less recognisable from outside the building and thus fulfils certain expectations of building aesthetics.



SOPRASAFE GUARDRAIL ECO FLEX

The special feature of the SOPRASAFE GUARDRAIL ECO FLEX is that the posts can be folded down so that the entire guardrail system remains invisible and the appearance of the building is not affected. The folded up post during maintenance work ECO FLEX railing fulfils all the requirements of a collective protection system.



	ECO 90 (EN 13374)	ECO 90 (EN ISO 14122-3)	ECO 25 (EN ISO 14122-3)	ECO FLEX (EN ISO 14122-3)
System height (cm)	110	118		110
Toe board	Obligatory if the parapet is lower than 15 cm		Obligatory if the parapet is lower than 10 cm	
Max. distance between uprights (cm)	250		150	140
Weight (kg / lm)	12-14		19-21	
Max. inclination (°)	10°		15	
Counterweight (kg / base element)			2 x 12,5	
Material		Aluminium		

Advantages, Components

Advantages

The parts / elements of the SOPRASAFE GUARDRAIL ECO product family are easy to transport and simple to assemble and disassemble, partly due to their minimal weight.

The systems are discreet and aesthetic as ECO 25 is barely visible from outside the building, while ECO FLEX is not visible at all when folded down

The systems consist of just a few components, making them easy to install, requiring only four tools, with the right expertise, installation takes only a short time

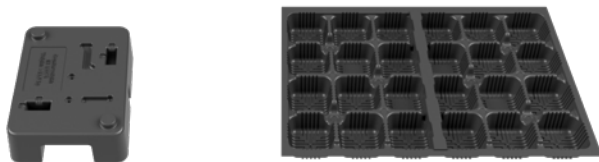
The SOPRASAFE GUARDRAIL ECO guardrail can be installed on substructures such as waterproofing, drainage board, gravel, substrate, etc. The prerequisites are compliance with the minimum heights and gaps defined in the standards and the standing surface must be permanently stable so that the guardrail posts cannot sink in

The SOPRASAFE GUARDRAIL ECO railing systems can be customised in terms of colour by powder coating and can therefore be tailored to the client's wishes and requirements

Components

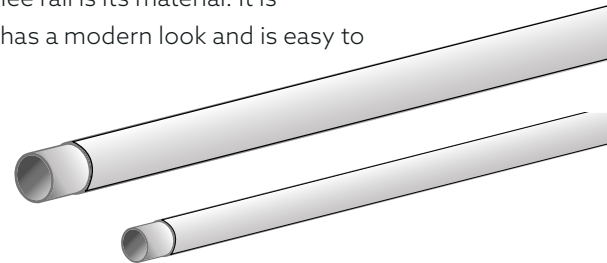
Counterweights

The specially designed 13 kg counterweight is ergonomic and easy to use. The ballasting drainage board integrates into the green roof build-up and is loaded with bulk material (substrate, gravel).



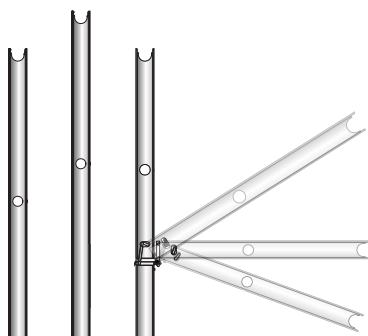
Handrail and knee rail

The advantage of the 3-metre-long aluminium hand- and knee rail is its material. It is lightweight, has a modern look and is easy to work with.



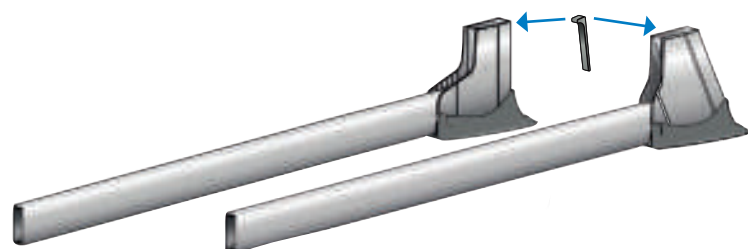
Railing posts

As solid support elements, the railing posts provide a high level of stability for the entire railing system. Available in three variations: ECO 90, ECO 25 and ECO FLEX.



Base element with blocking wedge

The foundation of the SOPRASAFE GUARDRAIL ECO systems are the 1.3 m long base elements, which main function is to ensure that the individual guardrail posts are held in place by the blocking wedges and counterweights, thus ensuring a high level of stability for the entire guardrail system.



Accessories

Accessories

Safety gate

The self-closing safety gate complies with the EN 13374 and EN ISO 14122-3 standards and allows passage along the railing.



Toe board

If the height of the parapet is lower than 15 cm (EN 13374) or 10 cm (EN ISO 14122-3), a toe board is required to prevent building materials or tools, for example, from falling off the roof.



Wall connector*

The element connected to the hand- and knee rails is intended to increase the stability of the system and close the gap between the wall and the railing. This ensures that the guardrail provides continuous, uninterrupted protection for people working on the roof.



Corner- and plug set (60° - 300°)*

Caps and corner pieces for handrails and knee rails for an aesthetic finish and for connecting railing sections.



*as a set

System documentation

The **SOPRASAFE GUARDRAIL ECO system documentation** is the normative when installing the system.



system-documentation.com/soprema

Good to know

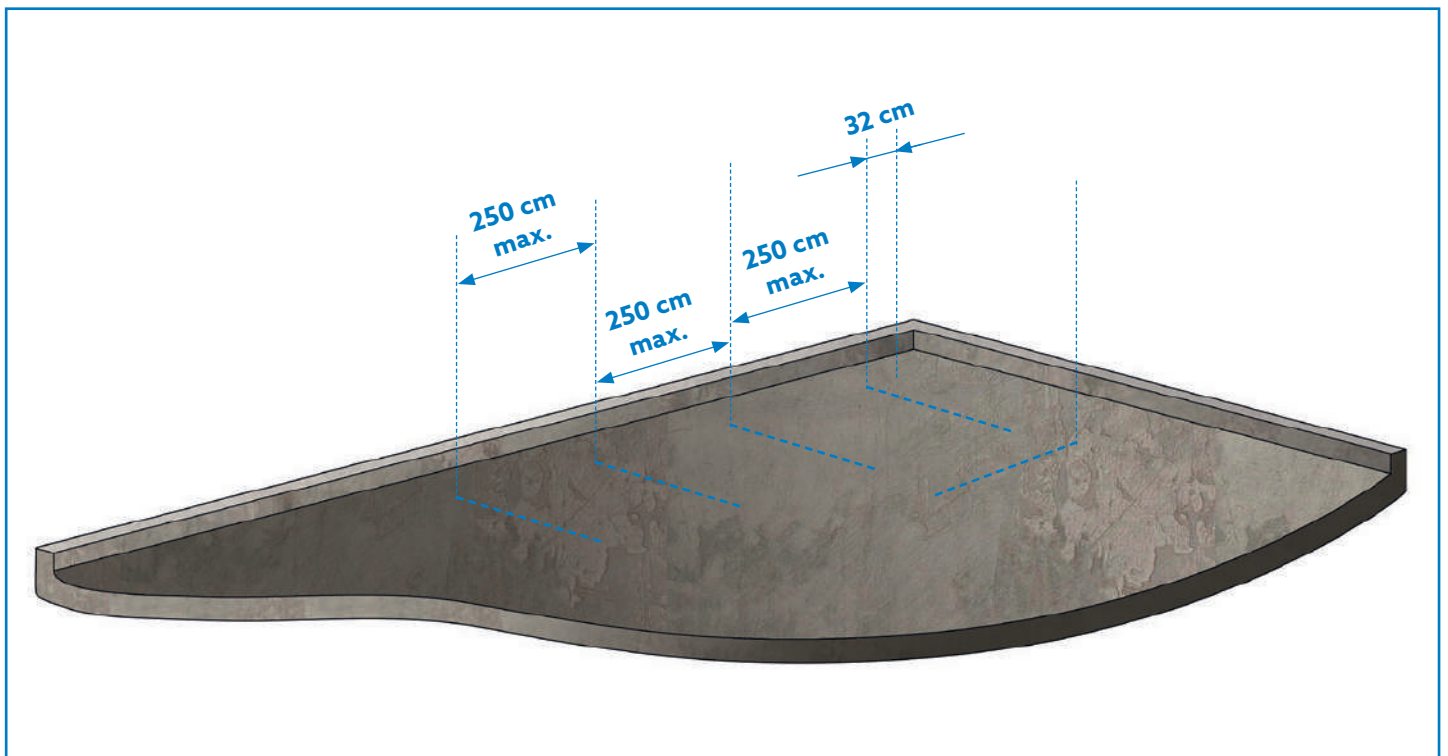
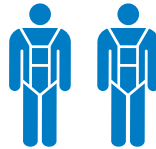
Thanks to special additional parts (safety gate-, wall connector, corner element, toe board) **individual wishes can also be realised.**

Assembly

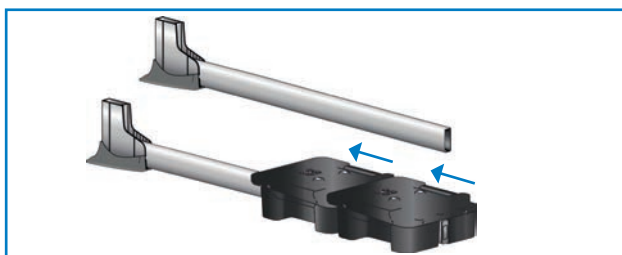
Infinitely simple

The biggest advantage of SOPRASAFE GUARDRAIL ECO systems lies in their quick and easy installation. Due to the low weight of the components, no special equipment is required to install the system at its destination.

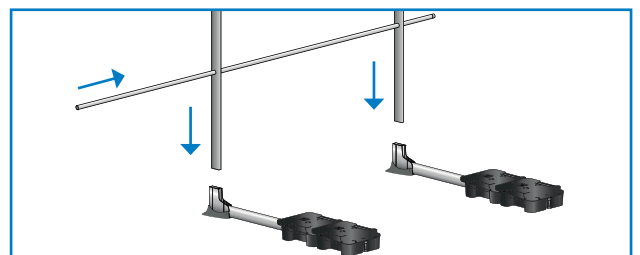
For quick and effective installation, please refer to the installation instructions supplied with the systems.



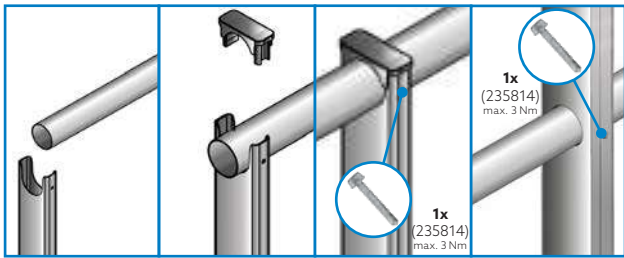
Mark the position of the base elements according to the installation plan. Remove foreign objects and unevenness to ensure the stability of the system.



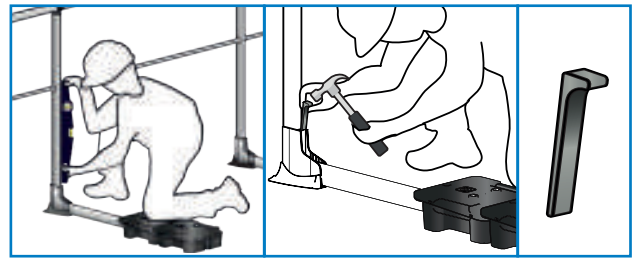
Place the weights on the base element and make sure both are positioned on a level surface.



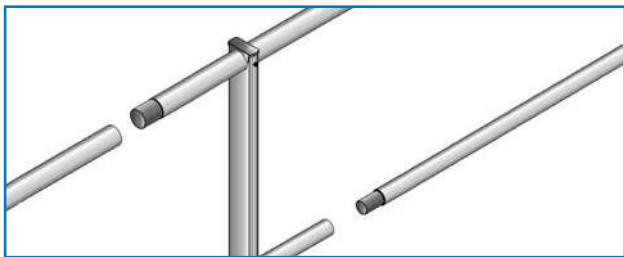
Insert the railing section into the prepared base elements and slide the knee rails into the posts.



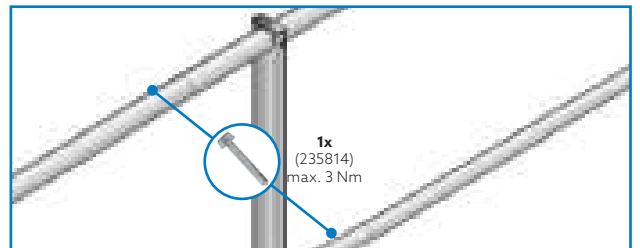
Place the handrail onto each post, put on the fixing cap and fix it in place with a self drilling screw. Fix the kneerail to each post in the same way, with a self-drilling screw.



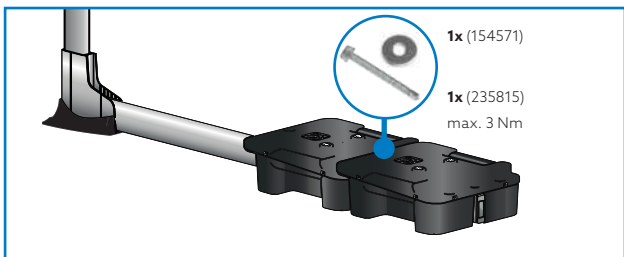
The mounted system should be aligned vertically. Use a hammer to drive the fixing wedge between the upright and the base element.



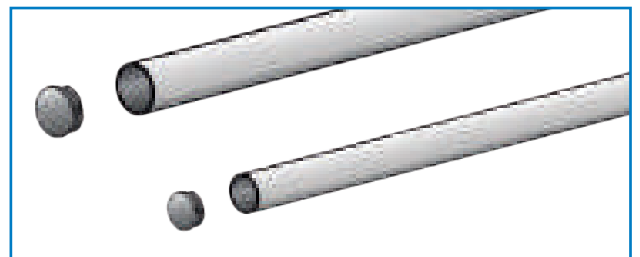
Insert the hand and knee rails into each other. Note that this connection must be in separate fields.



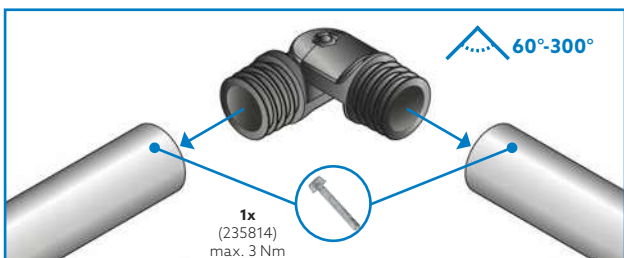
Secure the connection with the self-drilling screws (4.8 x 25 mm).



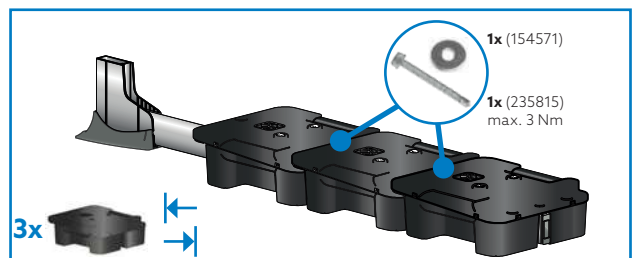
After assembling the complete railing system, also tighten the self-drilling screws (4.8 x 50 mm) to the counterweights.



If there are no wall connections, attach the plastic caps to the ends of the hand- and knee rails.

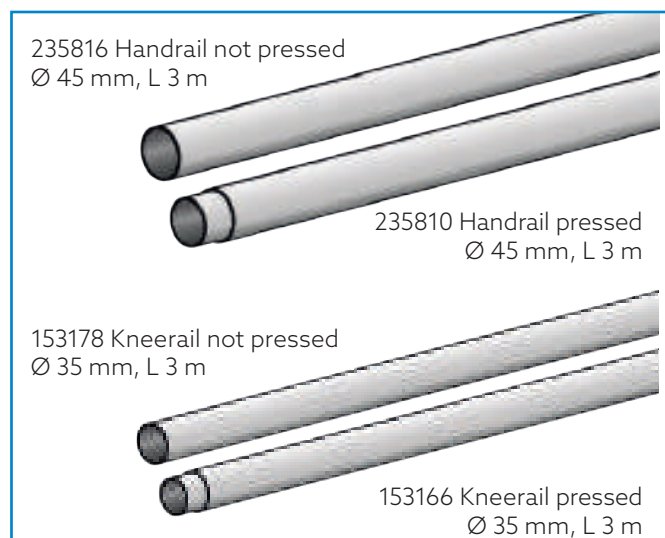
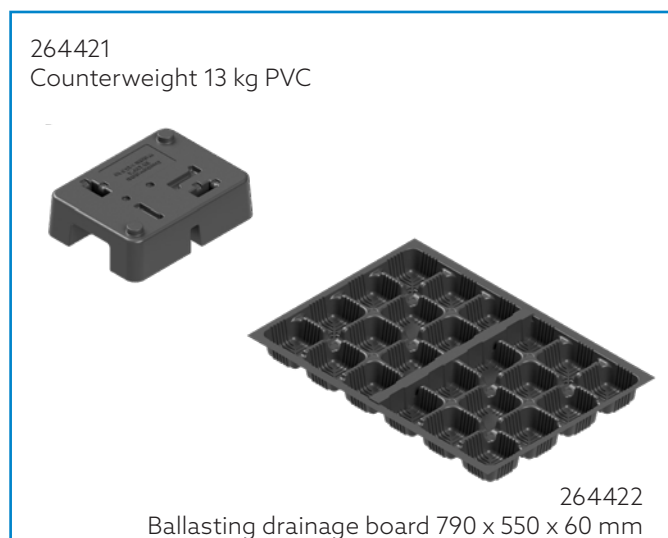
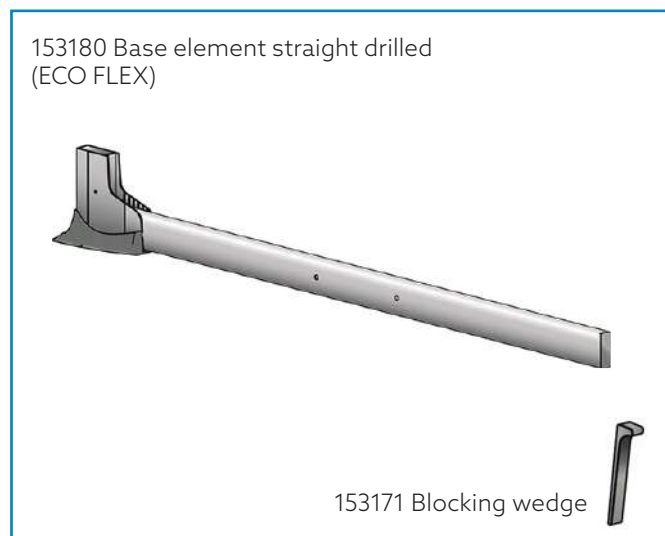
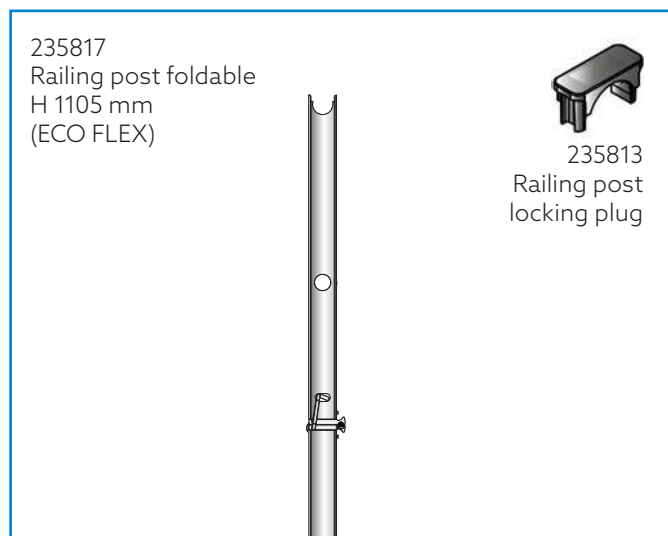
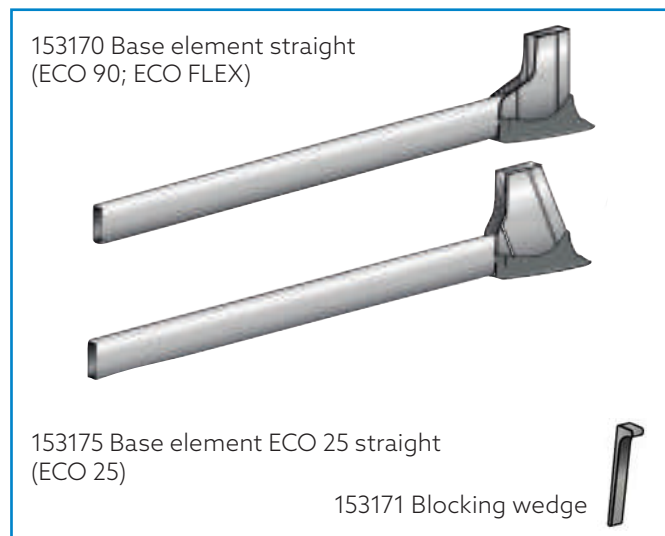
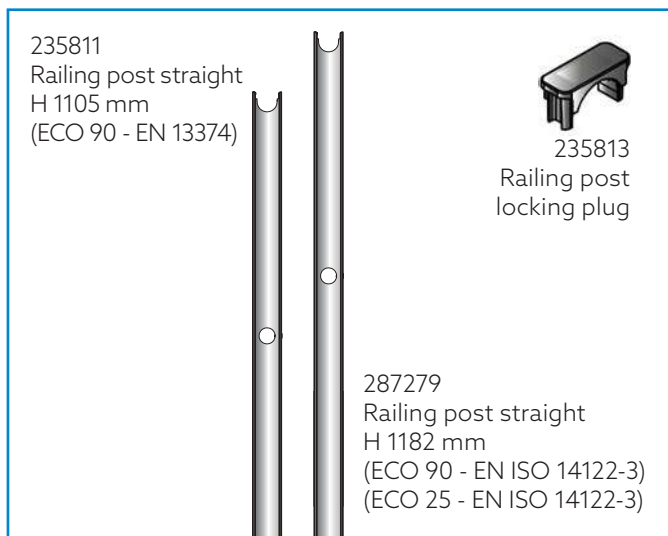


To create corner areas, attach the plastic corner elements to the end of the hand- and knee rails. These must be fastened with two stainless steel self-drilling screws (4.8 x 25 mm). You can set the desired angle individually and fix it with the integrated screw.



3 counterweights must be mounted on the base element at each start and end point of the system.

Components



235824 Safety gate set 90° EN ISO 14122-3

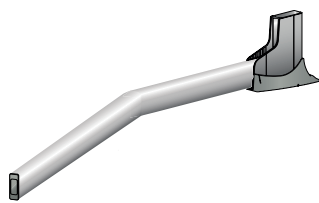


235826 Safety gate set 25°

235825 Safety gate set 90° EN 13374



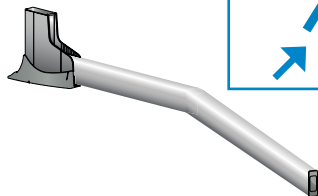
160729 Base element to right 32°, L 890 mm



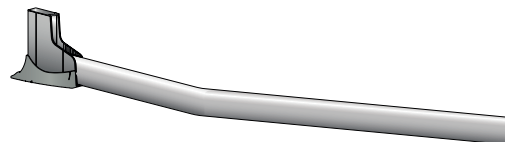
ONLY FOR ECO FLEX



160730 Base element to left 32°, L 890 mm



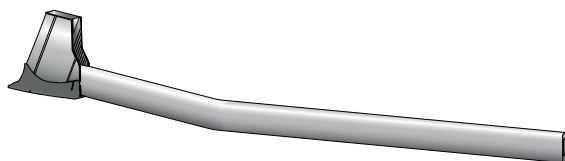
153199 Base element to right 25°, L 1310 mm



153200 Base element to left 25°, L 1310 mm



153203 Base element 25 to right 25°, L 1310 mm



153204 Base element 25 to left 25°, L 1310 mm



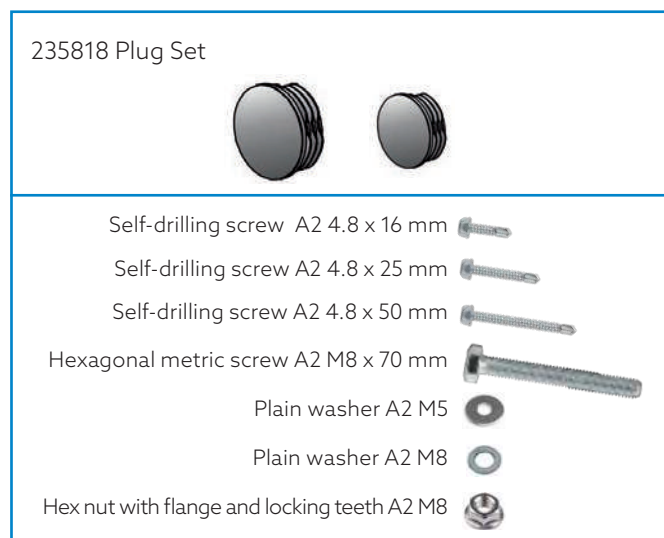
153181 Base element Z-shape to right



153182 Base element Z-shape to left



Components, Specifications



Specifications

SOPRASAFE GUARDRAIL ECO 90

Self-supporting safety railing system without penetrating the waterproofing layer, made of aluminium as a collective protection system on flat roofs, certified according to EN 13374 and EN ISO 14122-3, (EN 13374: H=110 cm, EN ISO 14122-3: H=118 cm) with handrail, kneerail and toe board, with straight guard-railing posts, two 12.5 kg counterweights per base element, stainless steel self drilling screws. Installation according to the manufacturer's instructions, and based on the installation guide and the construction plan. Accessories: closing cap set, corner set, wall connection set, safety gate set, toe board, toe board corner set, toe board end set (toe board is obligatory if the parapet is lower than 15 cm according to EN 13374 or 10 cm according to EN ISO 14122-3).

SOPRASAFE GUARDRAIL ECO 25

Self-supporting safety railing system without penetrating the waterproofing layer, made of aluminium as a collective protection system on flat roofs, certified according to EN ISO 14122-3, (EN ISO 14122-3: H=118 cm) with handrail, kneerail and toe board, with straight guard-railing posts, two 12.5 kg counterweights per base element, stainless steel self drilling screws. Installation according to the manufacturer's instructions, and based on the installation guide and the construction plan. Accessories: closing cap set, corner set, wall connection set, safety gate set, toe board, toe board corner set, toe board end set (toe board is obligatory if the parapet is lower than 10 cm according to EN ISO 14122-3).

SOPRASAFE GUARDRAIL ECO FLEX

Self-supporting safety railing system without penetrating the waterproofing layer, made of aluminium as a collective protection system on flat roofs, certified according to EN ISO 14122-3, (EN ISO 14122-3: H=118 cm) with handrail, kneerail and toe board, with straight guard-railing posts, two 12.5 kg counterweights per base element, stainless steel self-drilling screws. Installation according to the manufacturer's instructions, according to the installation instructions and the construction plan. Accessories: Closing Cap Set, Corner Set, Wall Connection Set, Safety Gate Set, Toe Board, Toe Board Corner Set, Toe Board End Set (Toe Board is obligatory if the parapet is lower than 10 cm according to EN ISO 14122-3).

Component

Art. nr.	Product name	Description	Length mm	Width mm	Height mm	Weight kg
235811	SOPRASAFE GUARDRAIL - ECO - GPG-1105 mm	Railing post straight H 1010 mm	1105	65	25	0,82
287279	SOPRASAFE GUARDRAIL - ECO - GPG-1182 mm	Railing post straight H 1105 mm	1182	65	25	0,88
235817	SOPRASAFE GUARDRAIL - ECO FLEX - GPF-1105 mm	Railing post straight H 1182 mm	1105	65	25	1,14
153170	SOPRASAFE GUARDRAIL - ECO - BEG	Base element straight	1320	130	160	1,25
153175	SOPRASAFE GUARDRAIL - ECO 25 - BEG	Base element ECO 25 straight	1320	130	160	1,3
153180	SOPRASAFE GUARDRAIL - ECO - BEG-B	Base element straight drilled	1320	130	160	1,25
153181	SOPRASAFE GUARDRAIL - ECO - BEZ-RIGHT	Base element Z-shape to right	834	222	160	1,27
153182	SOPRASAFE GUARDRAIL - ECO - BEZ-LEFT	Base element Z-shape to left	834	222	160	1,27
153199	SOPRASAFE GUARDRAIL - ECO - BE-RIGHT 25-1310 mm	Base element to right 25°, L 1310 mm	1310			1,35
153200	SOPRASAFE GUARDRAIL - ECO - BE-LEFT 25-1310 mm	Base element to left 25°, L 1310 mm	1310			1,35
153201	SOPRASAFE GUARDRAIL - ECO - BE-RIGHT 25-878 mm	Base element to right 25°, L 878 mm	878			1,27
153202	SOPRASAFE GUARDRAIL - ECO - BE-LEFT 25-878 mm	Base element to left 25°, L 878 mm	878			1,27
153203	SOPRASAFE GUARDRAIL - ECO 25 - BE-RIGHT 25-1310 mm	Base element 25 to right 25°, L 1310 mm	1310			1,35
153204	SOPRASAFE GUARDRAIL - ECO 25 - BE-LEFT 25-1310 mm	Base element 25 to left 25°, L 1310 mm	1310			1,35
160729	SOPRASAFE GUARDRAIL - ECO - BE-RIGHT 32-890 mm	Base element to right 32°, L 890 mm	890			1,27
160730	SOPRASAFE GUARDRAIL - ECO - BE-LEFT 32-890 mm	Base element to left 32°, L 890 mm	890			1,27
264421	SOPRASAFE GUARDRAIL - ECO - GG PVC - 13 kg	Counterweight 13 kg PVC	400	300	125	15
264422	SOPRASAFE GUARDRAIL - ECO - LAP - 790 x 550 mm	Ballasting drainage board 790 x 550 x 60 mm	790	550	60	0,89
284462	SOPRASAFE GUARDRAIL - ECO - LAP BEF - 550 mm	Fixing profile for ballasting drainage board, incl. 2 self-tapping screws A4 4.8 x 25 mm	550	40	40	0,2
235810	SOPRASAFE GUARDRAIL - ECO - HL-P-3 m	Handrail pressed Ø 45 mm, L 3 m	3000			1,45
235816	SOPRASAFE GUARDRAIL - ECO - HL-NP-3 m	Handrail not pressed Ø 45 mm, L 3 m	3000			1,45
153166	SOPRASAFE GUARDRAIL - ECO - KL-P-3 m	Kneerail pressed Ø 35 mm, L 3 m	3000			1,3
153178	SOPRASAFE GUARDRAIL - ECO - KL-NP-3 m	Kneerail not pressed Ø 35 mm, L 3 m	3000			1,3
235818	SOPRASAFE GUARDRAIL - ECO - AS-SET	Plug set	45	70	50	0,045
235819	SOPRASAFE GUARDRAIL - ECO - E-SET	Corner set	168	66	47	0,296
235820	SOPRASAFE GUARDRAIL - ECO - WA-SET	Wall connector set	110	70	100	0,508
235824	SOPRASAFE GUARDRAIL - ECO 90 - TOR-SET-EN ISO 14122-3	Safety gate set 90° EN13374		600		57,3
235825	SOPRASAFE GUARDRAIL - ECO 90 - TOR-SET-EN13374	Safety gate set 90° EN14122-3				57
235826	SOPRASAFE GUARDRAIL - ECO 25 - TOR-SET	Safety gate set 25°				57,7
153189	SOPRASAFE GUARDRAIL - ECO - FL-3000 mm	Toe board 3000 x 19 x 150 mm	3000	19	150	2,74
153190	SOPRASAFE GUARDRAIL - ECO - FLH-150 mm	Mounting bracket for toe board H 150 mm				0,08
153192	SOPRASAFE GUARDRAIL - ECO - FLV-150 mm	Connector for toe board H 150 mm				0,06
235822	SOPRASAFE GUARDRAIL - ECO - FL-E-SET	Toe board corner set				0,082
235823	SOPRASAFE GUARDRAIL - ECO - FL-AS-SET	Toe board plug set				0,136
153171	SOPRASAFE GUARDRAIL - ECO - BFK	Blocking wedge				0,01
235814	SOPRASAFE GUARDRAIL - ECO - BS-4.8 x 25 mm	Self-drilling screw A2 4.8 x 25 mm				0,004
235815	SOPRASAFE GUARDRAIL - ECO - BS-4.8 x 50 mm	Self-drilling screw A2 4.8 x 50 mm				0,006
154571	SOPRASAFE GUARDRAIL - ECO - USE-A2-M5	Washer A2 M5	18	18	2	0,003
153183	SOPRASAFE GUARDRAIL - ECO - SKSE-A2-M8 x 70 mm	Hexagonal metric screw A2 M8 x 70 mm				0,028
153184	SOPRASAFE GUARDRAIL - ECO - USE-A2-M8	Plain washer A2 M8				0,01
266668	SOPRASAFE GUARDRAIL - ECO - SKM-SPV-M8-A2	Hexagon nut with flange and locking teeth, M8 A2				0,006
235821	SOPRASAFE GUARDRAIL - ECO - BS-4.8 x 16 mm	Self-drilling screw A2 4.8 x 16 mm		68	28	0,002
235813	SOPRASAFE GUARDRAIL - ECO - GPFK-68 x 28 mm	Railing post locking plug				0,03
275975	SOPRASAFE - INFO PLATE CH - GUARDRAIL-LADDER-WALKWAY	Info plate for the GUARDRAIL, LADDER and WALKWAY systems				



Since 1908, SOPREMA has been protecting living spaces and enhancing people's well-being with sustainable and innovative solutions for waterproofing, insulation, greening and sound insulation for building owners in the roof, building envelope and civil engineering sectors.

The SOPREMA Group at your service
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Insulation



Green roofs



Protection



Soundproofing



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Water
management