

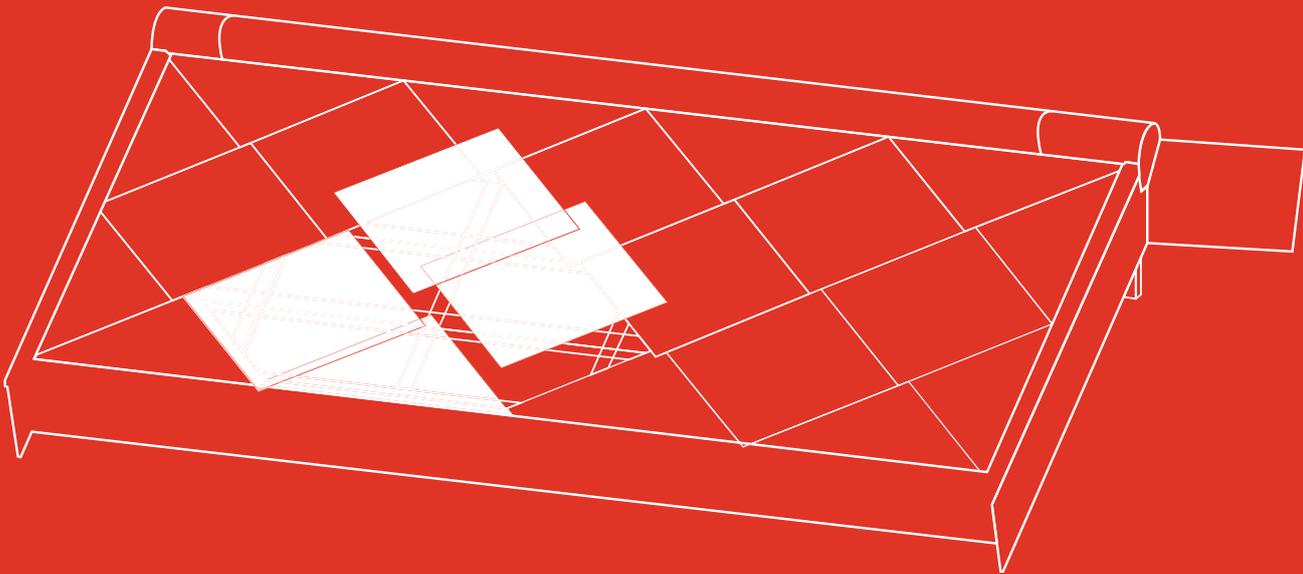


STENI PROTEGO

INSTALLATION GUIDE RS300

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Steni Protego is a robust and weather-resistant roof panel. The roof panel is made of stone composite and is supplied with a smooth or rough surface.

Aesthetics

Steni Protego has a flat and smooth surface with cured acrylic lacquer. Steni Protego Sand has a coarse surface with natural sand.

Format

Roof panels are available in 595 x 595 mm and 1,195 x 1,195 mm.

Rules and provisions

Recommended roof angle from 18° to 60°. The underroof must be waterproof with a sufficient drop and made in such a way that any water can be freely directed out and away from the building.

Battens and counter-battens. Minimum quality C18, NS-INSTA 142 or EN 338. Pressure impregnated wood class AB, NTR Document no.1 [UC3 EN 335-1] or NP5 EN 351-1. It is assumed that fixing points will be checked in relation to local wind conditions.

For gutters, downpipes and fittings, consult a sheet metal company.

For snow guards, consult an approved supplier

For other roof safety equipment, consult the local laws and regulations, as well as the fire and chimney service.

Some on-site adaptations will always be required! Personal and essential safety equipment must always be used.

The choice of battens, counter-battens and practical installation are critical for the product's intended function and safety in use. [Steni is not responsible for accidental use and unforeseeable damage to the product].

Minimum requirements for batten/counter-batten installation [tolerance]

Installation of counter-batten ± 2 mm [maximum 6 mm total tolerance deviation].

Warranty

40 year product warranty against frost weathering and delamination.

Test / classification

Fire: B(Roof)t2 EN 13501-5

Impact: Approved to DS 1133 [Annex A]

Wind: Euro Class, see table "project planning and design"

Rain: Approved to DS/CEN/TR 15601:2012

References

Product catalogue

Health, safety and environment, [HSE]

Reception, storage, transport and handling

Customisation

Maintenance and cleaning

Product description

Technical data sheet

www.steni.com

Calculation

To ensure minimal wastage of the various panel formats, a level roof surface with a rectangular or square shape that is suited to the system's module dimension is assumed.

Roofs with deviating module dimensions require on-site adaptation with varying degrees of material loss.

The number of half formats is calculated based on the length, width and symmetry. The area is then adjusted for calculating the number of full-format panels. Half formats are only delivered in pairs [if half formats are ordered for fascia boards, they will also be supplied for both ridges and sides]. Formats other than full formats and half formats must be adapted on site.

Materials	Unit	595 x 595	1,195 x 1,195	Note
Panel area [gross]	m ²	0.35	1.43	Full format
Number of panels per m ² roof surface [net]	pcs.	3.25	0.75	Full format
Number of screws [4.8*50 mm]	m ²	3.3	3.0	Used for 2 and 3 panel thicknesses, visible
Number of screws [4.8*50 mm]	m	3	3	Edge finish [circumference], visible
Number of roofing nails [2.8 x 40 mm]	m ²	10.2	3.8	Use for 1 panel thickness, hidden

Project planning and design	Unit	STENI Protego		STENI Protego Sand	
		595 x 595	1,195 x 1,195	595 x 595	1,195 x 1,195
Thickness	mm	6.0	6.0	5.5	5.5
Self-weight per panel	kg	4.2	17.1	3.9	15.7
Self-weight per m ²	kg	12.5	12.0	11.5	11.0
Drill hole diameter when drilling in panel	mm	6.5	6.5	6.5	6.5
Maximum wind load [suction]	kN/m ²	1.2	2.0	1.2	2.0
Maximum wind load [suction]	kg/m ²	120	200	120	200

STANDARD SURFACES ○ The samples indicated with a white dot have a light core colour as standard. ● The samples indicated with a gray dot have a dark core colour as standard.



Other colours and surfaces can be project customized.

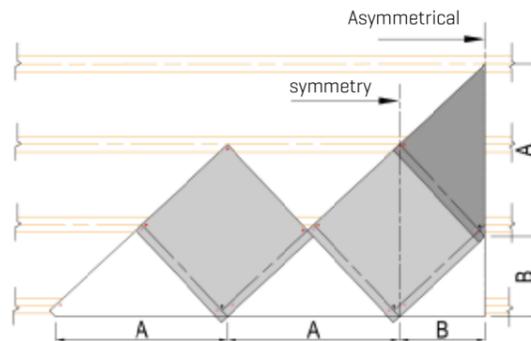


Module dimension

For asymmetrical designs with minimal wastage, a level roof surface with a rectangular or triangular shape is assumed. The length and width must increase in module dimension A. (Length / A)

For asymmetrical designs with minimal wastage, a level roof surface with a rectangular or triangular shape is assumed. Length and width must increase in module dimension A + (1 pc. B).

For asymmetrical designs, quarter formats must be cut and drilled on site. It is possible to combine, for example, symmetry in length [fascia board] with asymmetry in width [roof side]. This will then result in a quarter format above both sides of the roof surface against the ridge.



Description	Unit	595 x 595	1,195 x 1,195
Module dimension A	mm	814	1662
Module dimension B	mm	407	831

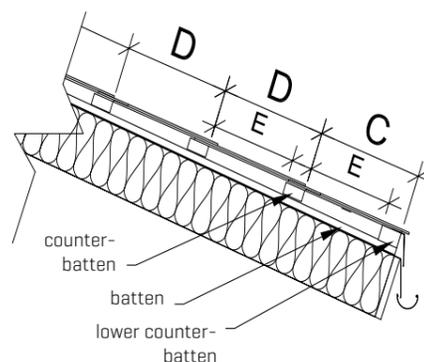
Battens and counter-battens

Battens should be min. 21 x 45 mm. The counter-battens should be min. 36 x 70 mm. Battens are usually installed above all underlays from the fascia board to the ridge in order to ensure good ventilation and draining of condensation water on the underroof. Check anchoring of counter-battens in relation to local strain. The counter-batten quality is critical for safe anchoring and a good result. Counter-batten dimensions [C and D] are critical for easy installation and a good result.

The lower counter-batten should be 6 mm thicker than the upper counter-batten in order to achieve an equal drop on all panels. The lower counter-batten can be split from a larger dimension or supplemented by a 6 mm spacer panel.

 Make spacer blocks [E] and use these when installing the counter-battens. E = D - counter-batten width.

Description	Unit	Format	
Size	mm	595 x 595	1,195 x 1,195
Batten dim. [vertical]	mm	min. 21 x 45 mm	
Lower counter-batten dim. [horizontal]	mm	min. 36+6 x 70 mm	
Counter-batten dim. [horizontal]	mm	min. 36 x 70 mm	
Counter-batten dim. D	mm	379	401
Counter-batten dim. C, [20 mm eaves]	mm	379	401



Installation instructions

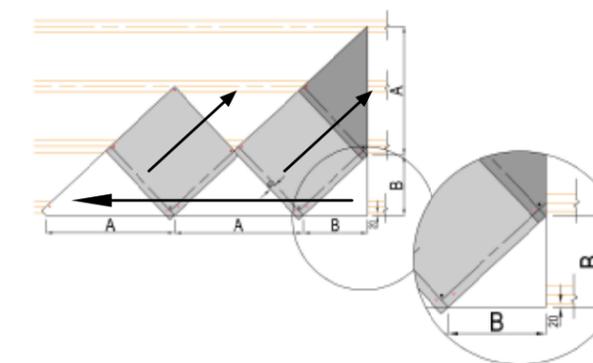
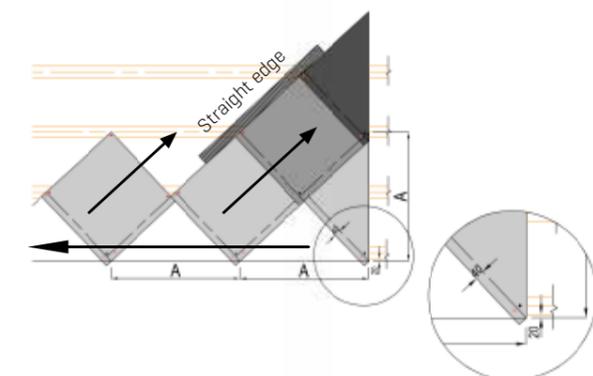
For overlapping fastening points, use roofing nails. For visible fastening points, use Steni screws with washers and gaskets. On-site drilling should take place for extra fastening of sectioned full formats.

1: Start with half formats (quarter formats in the case of asymmetry). Distribute and install the finished lower row (fascia board). Install from the right to the left. The panels should be assembled with the upper point in the middle of the counter-batten. The eaves (drip edge) should be around 20 mm.

With broader eaves, counter-batten dimension C must be adjusted correspondingly. Take care when distributing the panels and the lower panel's edge line. Install using mason twine or a straight edge. Sight along the lower panel edge in order to check.

2: Continue the installation diagonally from the left and up to the right. Overlapping panels must always be down and to the right. In order to ensure good lines from panel to panel, it is an advantage to use a long straight edge during installation.

For 1,195 x 1,195 format, add a 6 mm furring strip to the counter-batten (spacer panel) approx. 70 x 300 mm beneath the fastening point in the middle of the panel.



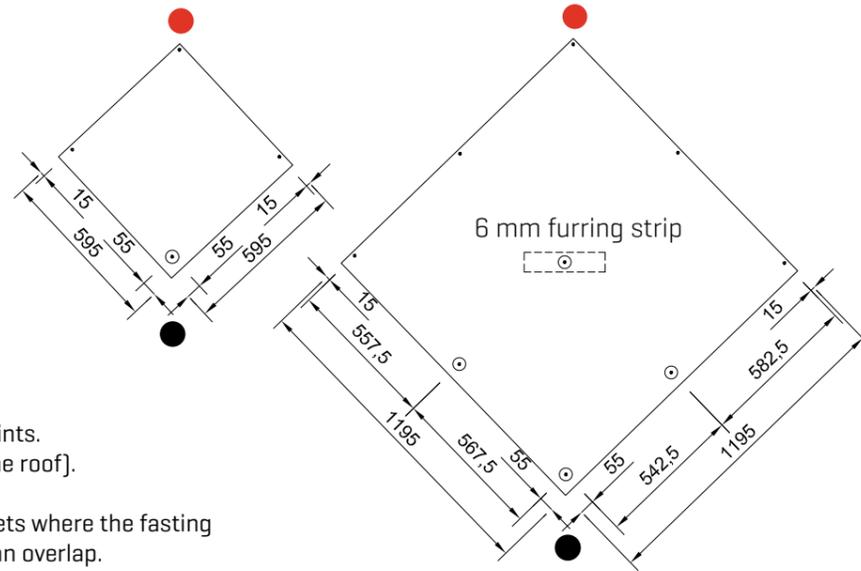
Full format

- Must always be up
- Must always be down
- ⊙ Visible fastening point

Half format 595 x 595 mm.
4 pre-drilled holes for fastening points. [1 fastening point is visible on the roof].

Full format 1,195 x 1,195 mm.
9 pre-drilled holes for fastening points. [4 fastening points are visible on the roof].

Use screws with washers and gaskets where the fastening point is visible and not covered by an overlap.



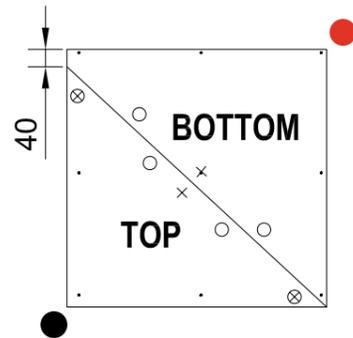
Half format, top [ridge] and base [fascia board]

The full format is split in the half format for the fascia board [installation start] and for the ridge [installation end].

595 x 595. Four additional holes must be drilled onsite in the panels during installation [X].

1,195 x 1,195. 6 additional holes must be drilled onsite in the panels during installation [○].

Use screws with washers and gaskets where the fastening point is visible and not covered by an overlap.



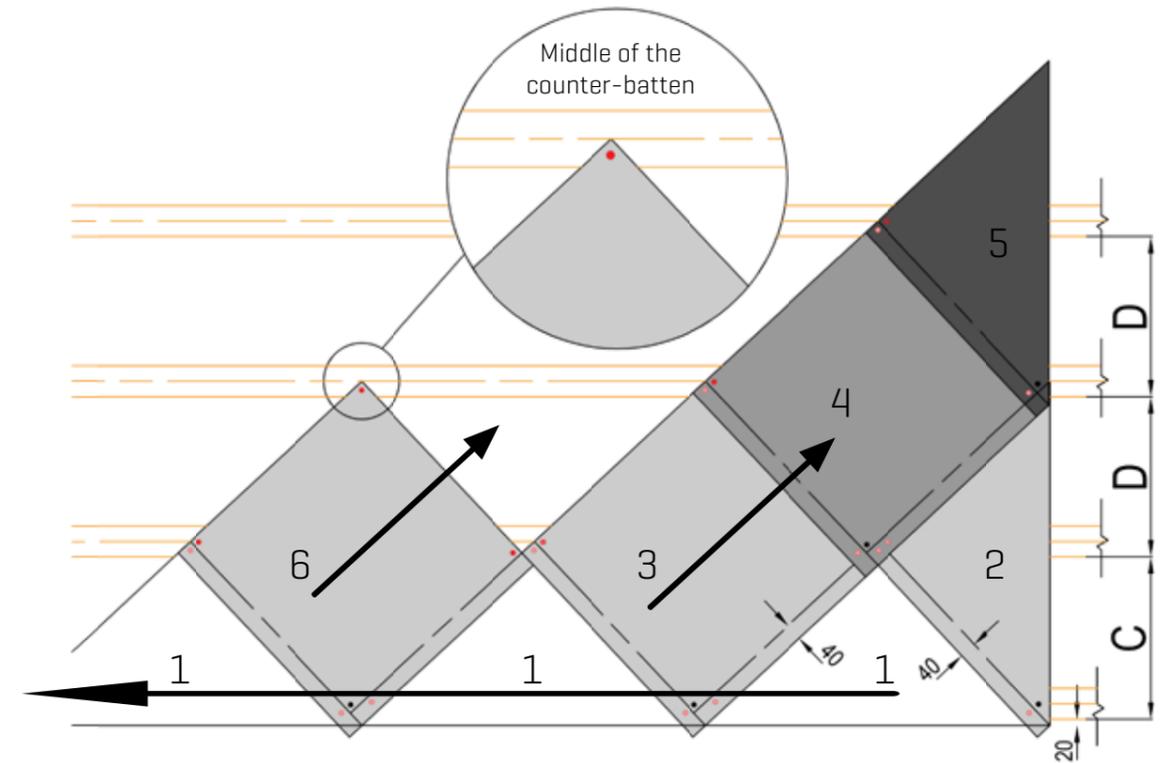
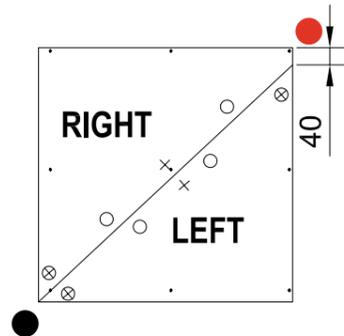
Half format, sides

Full format is split in the half format for the edge on the left side and the edge on the right side.

595 x 595. Four additional holes must be drilled locally in the panels during installation [X].

1,195 x 1,195. 7 additional holes must be drilled locally in the panels during installation [○].

Use screws with washers and gaskets where the fastening point is visible and not covered by an overlap.



Accessories

- | | | | |
|---|---|---|---|
|  |  |  |  |
| Protego Wood Screw w/washer, 4,8x50 mm | Protego Ribbed shank copper nail, 2,8x40 mm | Multicut drill bits, 6.5 mm | Diamond cutting disc, continuous rim for best cut |

LASTING EXPRESSIONS

Steni façade, roof and interior solutions offer unique, durable and high quality architectural expression. A sea of available surfaces, from colourful and smooth in different gloss levels, to surfaces of crushed stone in a variety of shades and grades – and printed surfaces so you can make your own custom designs. With Steni, you can design your façade exactly the way you want it!

Since its establishment in 1965, Steni has delivered more than 50 million square metres of façade, roof and interior panels around the world.