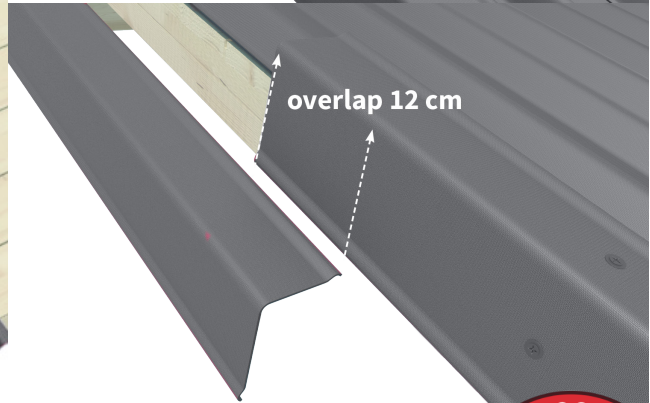
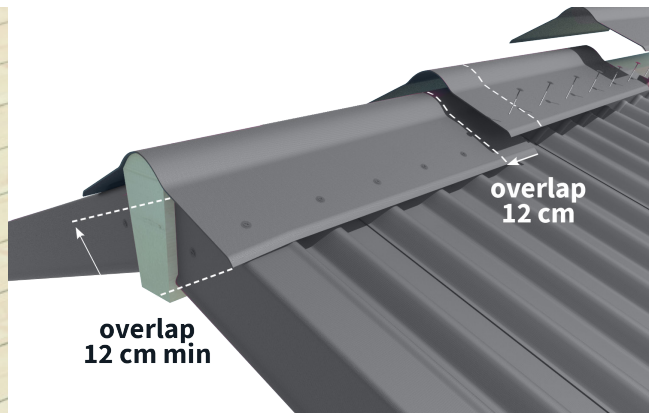
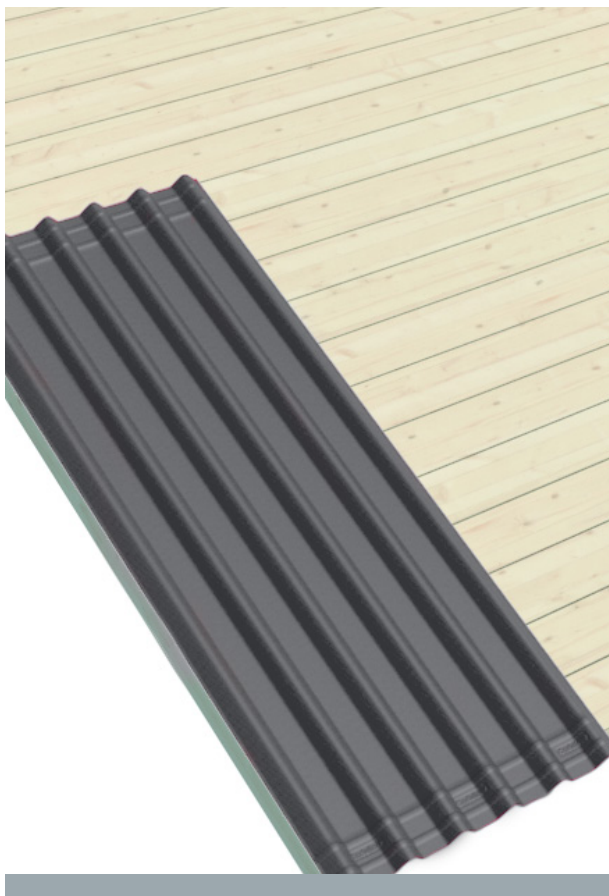


ONDULINE® DURO SX 35



INSTALLATION



Onduline®

Lightweight roofing systems

www.onduline.co.uk

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Acoustic
comfort



Aesthetic



Easy
to install



Eco-responsible



Fast
waterproofing



Lightweight



Waterproofing

1. SUMMARY / GENERAL

1.1 ONDULINE® DURO SX 35

Lightweight and robust corrugated roof sheet for professionals.

ONDULINE® DURO SX 35 is a premium quality bituminous corrugated roof sheet with industrial aesthetics for a professional finish.

The profile of the DURO SX 35 roof sheet is made up of a combination of flat and corrugated sections for a modern look, similar to a traditional metal boxed profile but with the additional Onduline benefits: *noise dampening material, easy to install, made from recycled cellulose fibres and contains no harmful chemicals.*

With a waterproofing guarantee of 20 years, ONDULINE® DURO SX 35 is a superior quality bituminous roof sheet; available in a range of colours and versatile in application: *warehousing, agriculture, farming, commercial and industrial buildings.*



1.2 COLOURS



Intense Anthracite Grey



Intense Red



Classic Red



Forest green

1.3 TECHNICAL CHARACTERISTICS

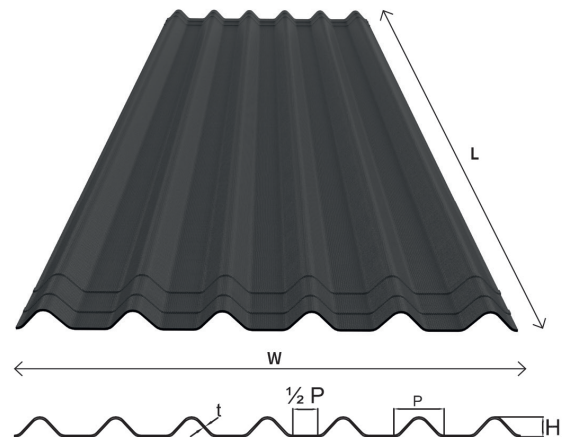
Length	L	200 cm
Width	w	82 cm
Thickness	t	3.5 mm
Height of corrugation	H	38 mm
Pitch of corrugation	P	96 mm
Product net surface		1.34 m ²
Weight		6.0 kg
Weight / m ²		3.66 kg/m ²
Corrugation / Flat sections		6 / 5

MECHANICAL & PHYSICAL PROPERTIES

Bending under downward load	> 700 N/m ²
Impact strength	250 mm
Tearing strength	> 150 N
Water impermeability	Pass ¹
Proportion of bitumen	> 40%
Homogeneity	Pass ²
Water absorption	< 20%

¹No drop of water underneath sheet after 48 hours

²No area larger than 1 cm² without bitumen



DURABILITY

Water impermeability after ageing	Pass ¹
Tearing strength after ageing	> 150 N
Thermal coefficient	< 100.10-6 1/K

FIRE PERFORMANCE

Reaction to fire - EN 13501-1	E
External fire performance - EN 13501-5	Roof

2. INSTALLATION DETAILS

2.1 PREPARING THE ROOF

It is important to ensure the roof is well prepared for laying the DURO SX 35 sheets. Please refer to the following conditions for a guaranteed installation:

Minimum Pitch:	5°
Max Overhang:	3.5 cm
Horizontal overlap:	15 cm
Side overlap:	9.5 cm

MINIMUM ROOF STRUCTURE

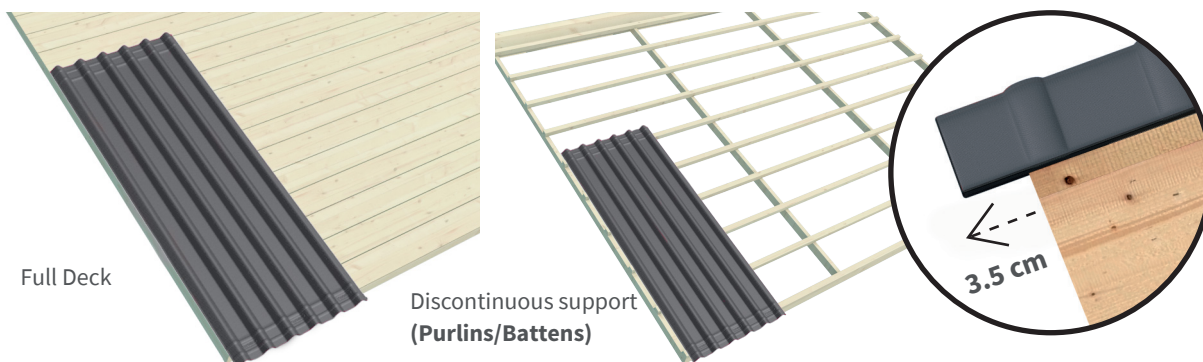
Slope in °	Purlin spacing
>15°	46 cm
10° - 15°	37 cm
5° - 10°	Full Deck (OSB, Plywood...) – Minimum 18mm thick

To maximise performance and in areas of heavy snow, installation on decking is recommended.

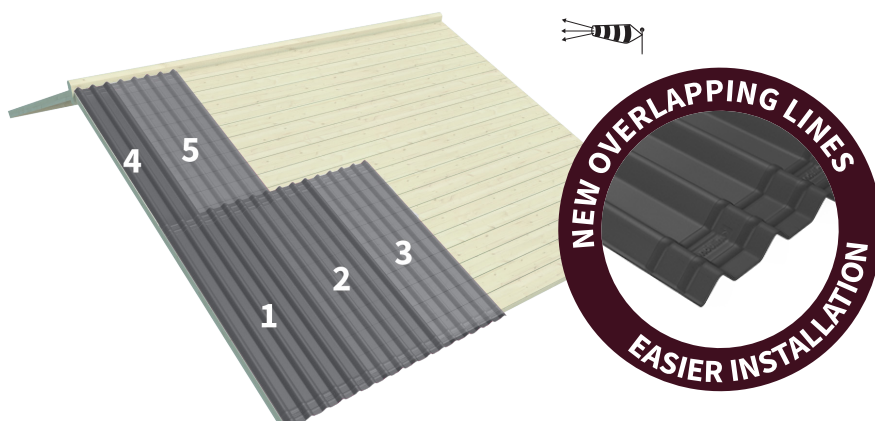
- 15 Onduline screws or nails per sheet (eq. 10 / m²) – 70 mm wood screw
- Make sure to fix every corrugation at eaves and horizontal overlaps.

2.2 INSTALLATION

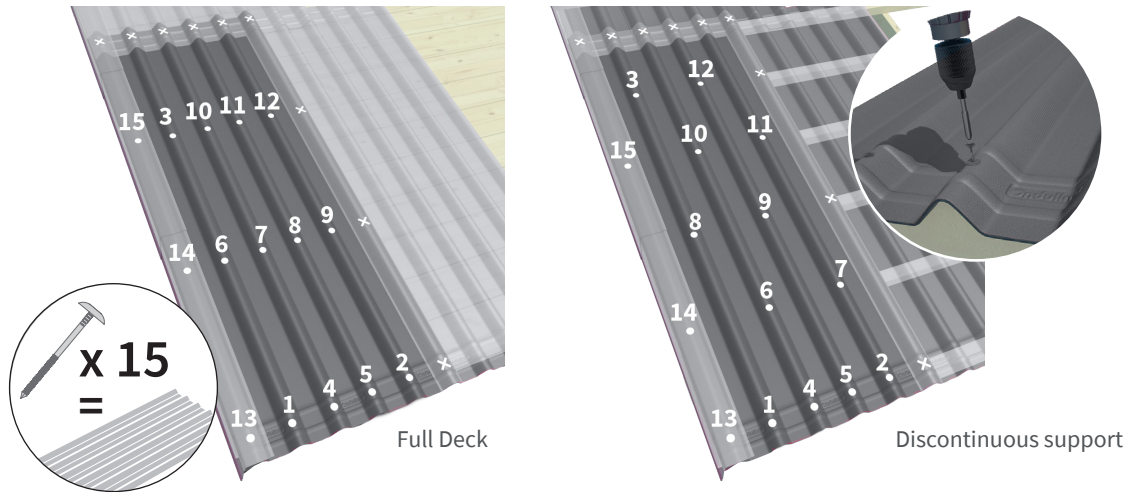
- 1 - Installation can be on either full deck (recommended) or on discontinuous support (**every 37 cm**). Once the roof is prepared to the recommended spec, start laying the sheets over the guttering with a maximum overhang of 3.5 cm.



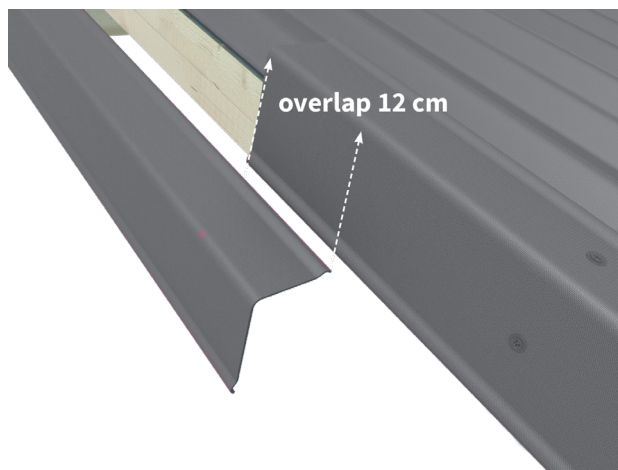
- 2 - The sheets should be laid in the opposite direction to the prevailing winds. Stagger the rows, by starting the second row with a half sheet. To ensure complete waterproofing, align the two overlapping lines.



3 - 15 fixings minimum should be used per sheet. The fixing should always go through the top of the corrugation, in the correct order and in between the two overlapping lines. Wait to fix the last corrugation until you overlap it with the verge element or the next sheet.

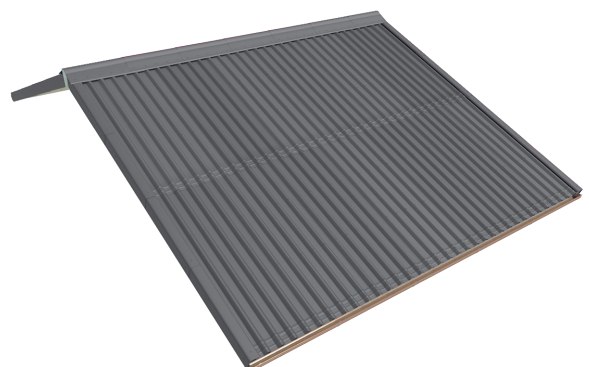
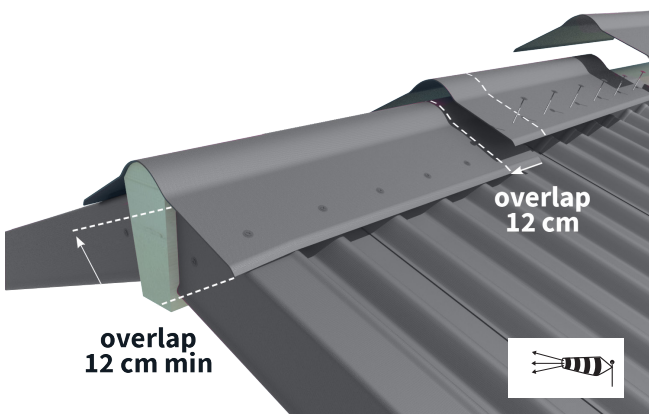


4 - The aesthetics and wind uplift protection can be optimised by using the verge element accessory, which is fixed first on the sidewall, then as well on the top of the corrugation.



5 - Cover the ridge with the standard ridge and fix it on each side of the roof, on top of each corrugation. The direction of the overlap is opposite to the direction of the prevailing winds.

6 - ONDULINE® DURO SX 35 sheets provide an attractive, long-lasting finish to a wide variety of timber buildings and are the perfect roof sheet alternative to metal sheets.



3. ACCESSORIES

Onduline has a range of bituminous accessories to colour match the **ONDULINE® DURO SX 35** sheets. The D100 verge and A100 ridge accessories complement the sheets and should be installed to ensure complete waterproofing.

3.1 ONDULINE RIDGE



- Manufactured from the same material and quality as **ONDULINE® DURO SX 35**. Flexible double wings accommodate a wide range of roof angles.
- Available in the same 4 colors as the **DURO SX 35**.

Onduline® A100 Ridge
Dimensions: 100 x 42 cm

3.2 ONDULINE VERGE



- Designed to provide a weatherproof seal at the verge, this unit is made from the same quality material as **ONDULINE® DURO SX 35**.
- Available in the same 4 colors as the **DURO SX 35**.

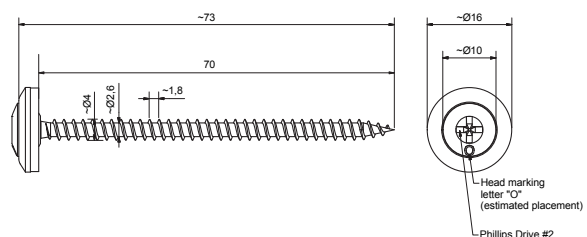
Onduline® D100 Verge
Dimensions: 100 x 13 x 7 cm

3.3 ONDULINE SCREWS

It is recommended that the **ONDULINE® DURO SX 35** sheet is fixed with the 70 mm **ONDULINE UNIVERSAL** screw.



Wood Nails
Length: 70mm



4. VENTILATION

! When designing a roof, you should ensure proper ventilation of the roof.

4.1 ROOF VENTILATION

BEWARE OF THE RISKS OF CONDENSATION

There is always water inside every heated space such as the kitchens and bathrooms of residences, indoor swimming pools, factories with lots of water usage, barns or poultry houses where a great number of animals discharge heat and moisture from their bodies. Vapor condenses immediately if it comes into contact with the old surface of a buildings walls.

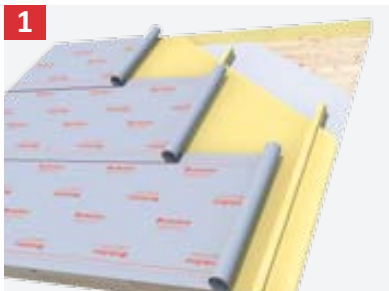
If vapor condenses within the building materials of the roof construction, it can cause serious problems and damage to the structure through mold in the ceiling.



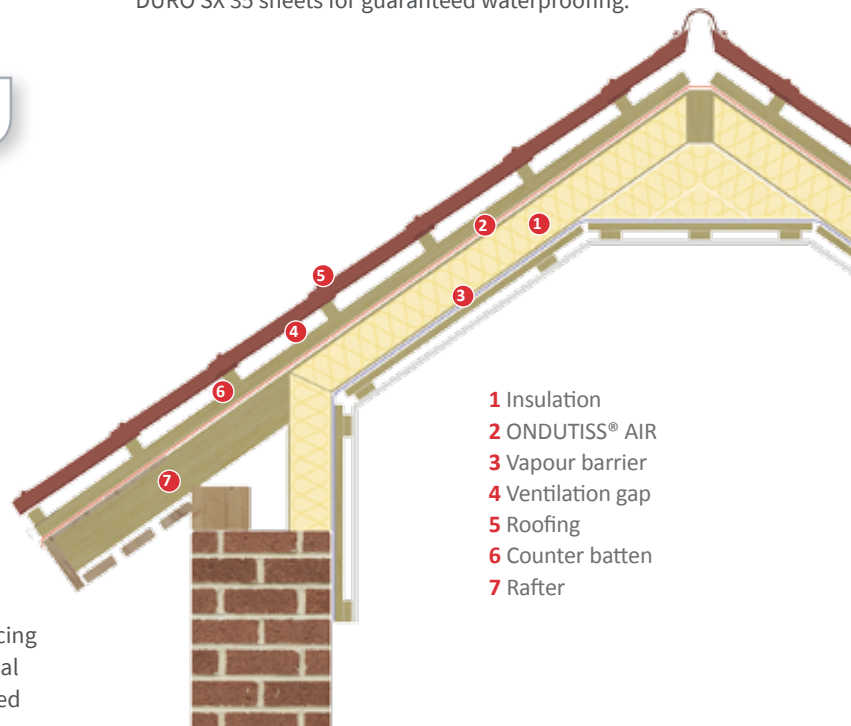
Onduline's ranges of ONDUTISS® membranes can help to control condensation of the roof. **ONDUTISS® AIR 95** is a multi-layer vapour permeable and waterproof membrane that provides outstanding protection of the insulation layer against moisture, wind and condensation and should be installed with ONDULINE® DURO SX 35 sheets for guaranteed waterproofing.

4.2 INSTALLATION STEPS

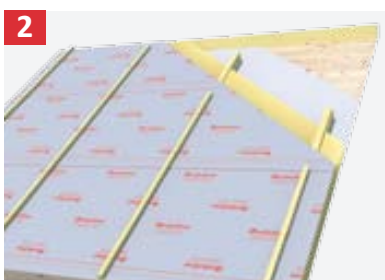
INSTALLATION ON THE ROOF



Roll out ONDUTISS® AIR in parallel with the gutter, starting from the bottom, always the printed side facing up. The membrane can be laid directly on the thermal insulation with slight tension. The overlap is indicated by lines or logo print. For the highest water tightness seal ONDUTISS® AIR bands with sealing tape.



- 1 Insulation
- 2 ONDUTISS® AIR
- 3 Vapour barrier
- 4 Ventilation gap
- 5 Roofing
- 6 Counter batten
- 7 Rafter



Fix the bands directly to the rafters with a stapler. Nail counter batten on top of the membrane through to the rafters to protect the fixing area.



In case of any protruding elements, cut the ONDUTISS® AIR across the width and turn up on the protruding elements (ventilations, skylights etc.). Fix ONDUTISS® AIR with sealing tape.

An **Ondura** Group Company



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Onduline[®]
Lightweight roofing systems