



MANUAL

FOR INSTALLATION OF W-LIGHT ROOFING

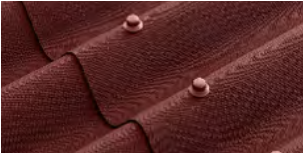
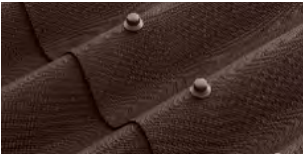
Annotation

The manual is intended for designers, employees of contracting companies performing roofing work, and may also be useful for technical supervision officers who monitor the quality of work performed.

The manual step-by-step outlines the process of preparing the waterproofing roofing membrane before installing solar panel systems.

Considering these recommendations, you would reduce the probability of roof leaking and therefore increase the inter-repair lifetime of the entire roofing system.

We hope, that this document would be useful in your everyday work.



1. Introduction

1.1. General information

Main characteristics	W-light Roofing
Thickness, mm	3,0
Dimensions, W x H, mm	950 x 2000
Sheet weight, kg	6,5
Number of waves	10
Number of nails per sheet	20

Nails provide rigidity to the sheet, so it is critical to use the specified number of nails for each sheet.

The useful area of the sheet depends on the roof slope.

Roof slope	W-light Roofing
> 15°	1,56 m ²
11-15°	1,50 m ²
5-10°	1,25 m ²

The recommended amount of spare material is 5%.

The sheathing pitch and the size of the overlaps depend on the roof slope.

Roof slope	Purlin distance	End overlap	Side overlap
> 15°	305 mm	170 mm	95 mm / 1 wave
11-15°	250 mm	200 mm	95 mm / 1 wave
5-10°	close battening	300 mm	190 mm / 2 waves

Increasing the sheathing pitch may cause sheet sagging and leaks. Reducing the size of the overlaps may cause leaks at the joints of the sheets.

1.2. Required tools and accessories



Hammer - any hammer that is convenient to work with; for ease and speed of installation, we recommend using a hammer with an anti-vibration handle and a nail puller.



Knife – you can cut the sheets **ALONG THE WAVES** with a regular knife with breakable blades, but it is much more convenient and safer to use a knife in a metal case with replaceable trapezoid blades.



Hacksaw with medium teeth will be needed to cut the sheets **ACROSS THE WAVES**; do not forget to wet it in water or oil, and if the blade is clogged with bitumen, make a few cuts in the wood.



Thick lead pencil of oval or rectangular section (so it doesn't roll away) or chalk will help to mark the sheets and the sheathing for an even laying of the sheets.



Electric screwdriver drill with appropriate socket wrench bit. It is used when roofing sheets are fastened to metal purlins with selftapping screws.

For a more convenient, faster and safer installation, you may need:

- work gloves – it is impossible to cut oneself on W-light Roofing sheets and accessories, but when working with wood and tools, gloves are necessary.
- safety belt – it is important for ensuring safety when working at height,
- safety harness – it will speed up the installation process and make work convenient and enjoyable,
- power tools (power jigsaw, circular saw) – will speed up cutting the sheets,
- rope or piece of sheet – will help to accurately mark the wavy surface of the sheets.

Life hack

- When working on the roof, make loops for all tools so that you don't accidentally drop them down.
- To cut the sheet evenly along the wave, mark a shallow line with a knife, and then simply break the sheet along this line from the back side - all that remains to be done is to clean the edges.

1.3. Branded accessories to give your roofing a finished look:



1 Ridge for decorating the ridge or hip of a roof.



2 Valley for the design of roofing valleys.



3 Gable for decorating roof gables.



4 Monoblock nails for reliable installation and sealing of sheet attachment points.



5 Filler strip to protect the roof space from rain, snow, birds and insects.



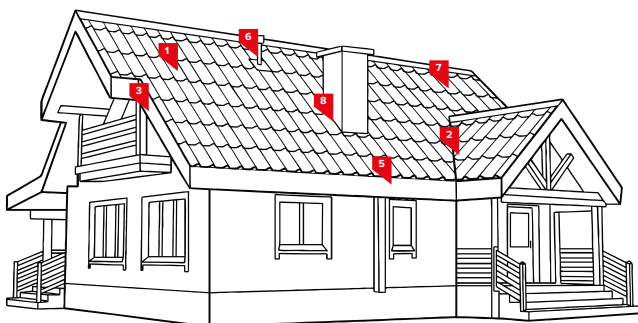
6 Ventilation pipe to provide ventilation of rooms, roof spaces or to install a sewage vent pipe.



7 Self-tapping roofing screw for fastening of sheets to metal structure.



8 Sealing tape for the waterproofing of junctions of the roof with a chimney, roof window or any superstructures on the roof.



1.4. Transportation and storage

Transport W-light Roofing sheets by any vehicle (including a passenger car), but do not squeeze, bend or stretch the sheets.

Store W-light Roofing sheets and accessories horizontally, in a dry place protected from sunlight, dust and debris. Do not place W-light Roofing sheets on wet ground and do not allow water to flow under the packaging as evaporating moisture can lead to the formation of mold or fungus. When storing W-light Roofing sheets in a heated room, do not place it closer than 1 meter from heating devices to avoid deformation of the sheets. Do not allow W-light Roofing sheets to come into contact with chemically aggressive substances that can cause destruction of the material.

If the material gets wet inside the pallet/package, open it and let it get completely dry, after drying, carefully close it again to protect from dirt and dust.

Do not throw the sheets or accessories from any height, because the impacts may damage them.

1.5. Basic rules for working at height

Recommendations when working with W-light Roofing sheets:

- observe safety precautions and rules for working at heights,
- carry out roof installation at temperatures from 0° to +25°C in dry, windless weather (it is prohibited to carry out work if there is icing, a thunderstorm or strong wind),
- fence off the work area, warn the family members and immediate neighbors,
- do not throw materials and tools from the roof to avoid inflicting harm to other people.

When moving on the roof, it is not recommended to step on the sheets – please use ladders that can be hooked onto the roof ridge, running boards and walkways. If you still have to step on the sheets, then:

- use shoes with soft rubber soles,
- step in the area of the sheathing,
- place your foot across two adjacent waves,
- do not step directly on the nails so as not to bend them and not to deform the sheets. On steep and high roofs, be sure to use a safety harness.

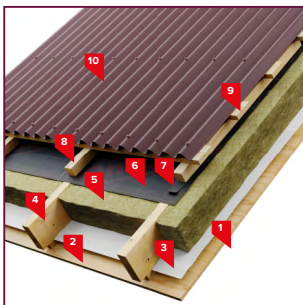
1.6. Roof structures



Uninsulated roof

1. Rafter board
2. Sheathing
3. W-light Roofing sheet

The simplest structure, often used for gazebos, verandas, summer houses and buildings with insulated attic floors. Mount the sheathing on the rafters and fasten W-light Roofing sheets on top. Ventilation is provided naturally or with the help of dormer windows in the opposite gables of the building.



Insulated roof

1. Interior decoration
2. Rough sheathing
3. Vapor barrier
4. Rafter board
5. Thermal insulation
6. Superdiffusion membrane
7. Sealing tape for pitched roofs
8. Counter battens - bars with a thickness of 50 mm
9. Sheathing
10. W-light Roofing sheet

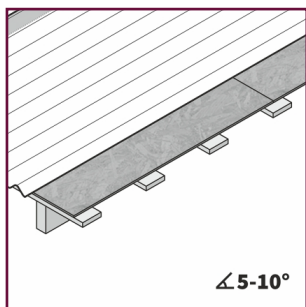
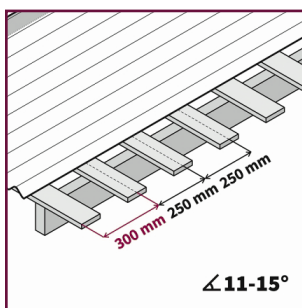
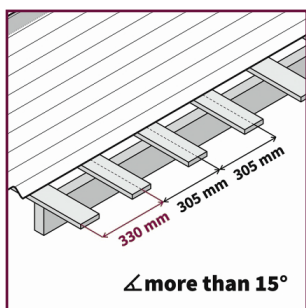
The roof structure intended for heated houses and premises that retains heat in winter and protects from heat in summer. The main element of the structure is thermal insulation, protected from the room side with a vapor barrier and from the street side - with a superdiffusion membrane. On top of the membrane, install counter battens (at least 50 mm high) for natural ventilation over the entire roof surface. The air should flow freely from the eave and further over the entire surface of the slope to the ridge.

For complex slopes, make gaps in the counter battens to prevent air stagnation. When using structural ventilation openings, cover them with a metal or other mesh to protect against insects, birds, and garbage.

2. Sheathing installation

Roof slope	Sheathing pitch	Distance from the bottom of the first board to the middle of the second board
> 15°	305 mm	330 mm
11-15°	250 mm	300 mm
5-10°	solid	-

Spaced sheathing is made of boards at least 25 mm thick or bars at least 50 mm thick. Solid sheathing is made of boards, water-resistant plywood, OSB 3, CBPB, fiberboard and similar materials and completely covers the surface of the slope. To prevent solid sheathing from sagging under the load, lay solid sheathing on top of spaced sheathing.



3. Installation of the sheets

Roof slope	End overlap	Side overlap
> 15°	170 mm	95mm / 1 wave
11-15°	250 mm	95mm / 1 wave
5-10°	350 mm	190 mm / 2 waves

3.1. Preparing for the installation

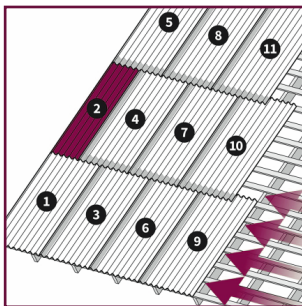
Before installation, draw vertical lines on the sheathing indicating the boundaries of the sheets (sheet width minus side overlap) - this will help to avoid stretching the sheets and shrinking them during installation. Install the sheets only at positive air temperatures and in the absence of strong winds to make the installation safe and speed up the work.

3.2. Sheet orientation

W-light Roofing sheets must be installed with the front side facing the street. The front side of the sheet is painted. We recommend installing sheets with technological bitumen stains along one end with this end facing the ridge - this way the bitumen stains will be covered by the overlap of the next sheet or by the ridge overlap.

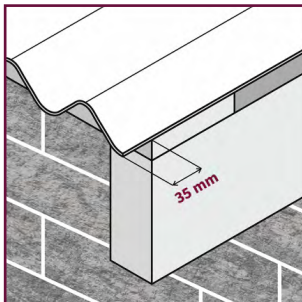
Order of installation of the sheets

- start installation from the leeward side (the side opposite to the prevailing wind direction) so that snow and dust are not blown under the overlap in the future,
- start each next row with an offset of half a sheet to avoid joining of 4 corners in one place - this will make the roof neater and will not cause deformation of the upper corners..



Sheet overhang on the eave

- leave the sheet overhang on the eave of not more than 35 mm - otherwise, over time, the edge of the sheet may become deformed and sag.

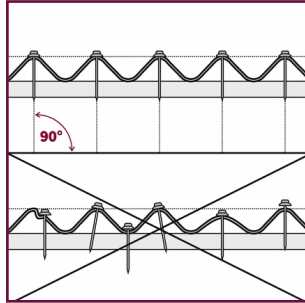


3.3. Fastening sheets with nails or self-tapping screws

Depending on the material of the roofing structure (wood or metal), roofing nails or self-tapping screws are used for fastening of W-Light roofing sheets.

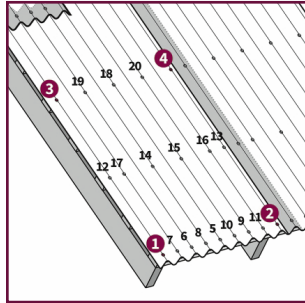
Hammer the nails into the wave crest at a 90° angle.

The head should fit snugly but not push through the wave.



A certain order of hammering nails into the sheet helps not to stretch the material during installation.

- First secure the sheet at the 4 corners, while the outer wave and the top row should remain free and be fastened together with the next sheet or accessory,
- then secure the bottom of the sheet along each wave,
- after this, hammer nails into the middle of the sheet in two rows, alternating in a staggered pattern,
- secure the outer wave of the sheet that is not overlapped by another sheet or accessory along each row of nails to reduce wind impact and deformation.



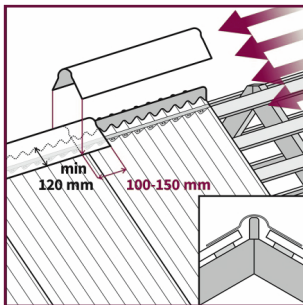
The roof must be installed in compliance with the following requirements:

- the sheathing pitch must not exceed the value specified above for the relevant roof slope, but it can be smaller,
- the number of nails/screws per sheet must be at least 20 pcs for the W-light Roofing sheet, but can be more,
- the nails/screws must be driven into the center of the sheathing, but not closer than 5 cm from the edge of the sheet,
- the bottom row and the overlap are nailed into each wave at a distance of not more than 5 cm from the edge of the sheet,
- in the middle, the sheet is fastened with 2 rows of nails/screws in a staggered pattern (every other wave),
- the distances between the rows of nails/screws should be approximately the same - this way the roof will look neater, and the load will be distributed evenly over the entire surface.

4. Installation of the accessories

4.1. Roof ridge and hip

- install the ridge starting from the leeward side,
- attach the elements to the hips going from the eave to the ridge,
- the elements must overlap each other by at least 10-15 cm and overlap the sheets by at least 12 cm, nail the ridge and hip to the additional sheathing through each wave,
- cover the gaps with eave filler strips,
- align the overlap of the elements with the top of the sheet wave.

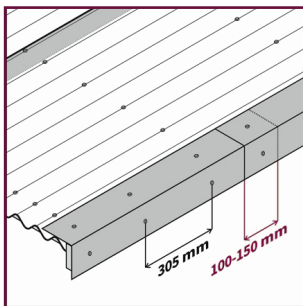


We recommend using a board with smoothed corners along the ridge/hip line to strengthen the ridge element.

4.2. Gable

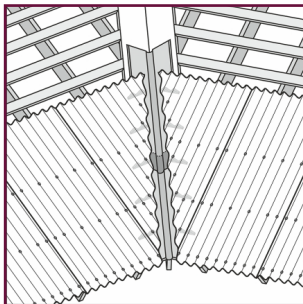
- attach the gable going from the eave to the ridge,
- the gables must overlap each other by 10–15 cm,
- nail at least every 30.5 cm into each sheathing board and wind barrier board.

In the overlap, the nails/screws must pierce both element.



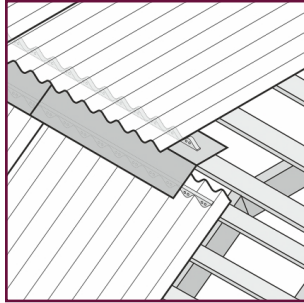
4.3. Valley

- install additional solid sheathing for a width of at least 25 cm on each side of the valley axis,
- start installing the valley going from the eave to the ridge,
- the elements must overlap each other by 15 cm, the sheets - overlap the valley by 20 cm,
- nail each wave of the W-light Roofing sheet covering the valley at a distance of 5-6 cm from the edge of the valley.



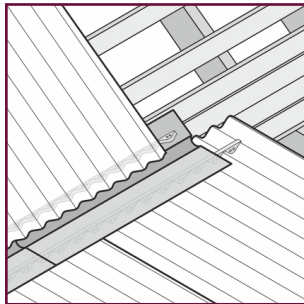
4.4. External bend

- use gables for W-light Roofing sheets according to the “along the water flow” principle: on the upper slope, place the gable under the sheets, on the lower slope – on top of the sheets,
- fasten with nails/screws, with the gables overlapping each other by 10-15 cm,
- nail into each wave of the additional sheathing,
- cover the gaps with eave filler strips.



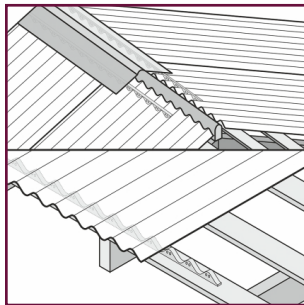
4.5. Internal bend

- use the valleys,
- install so that the valley gutter is on the sheet of the lower slope,
- fasten the elements to each other with an overlap of 15 cm,
- glue the overlaps with double-sided bitumen or butyl rubber tape,
- nail into each wave of the additional sheathing,
- cover the gaps with eave filler strips.



4.6. Filler strip for the eave and ridger

- use the filler strip to cover the gaps between the ridge and the roofing sheets, on the valleys, bends and hips, in places of the roof junction to the wall,
- install the filler strip after fastening the sheet at 4 corners as close to the nails as possible.



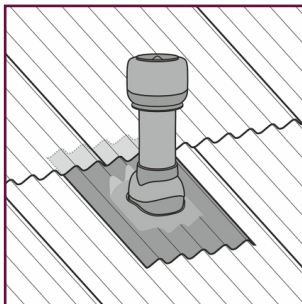
The filler strips can be ventilated or non-ventilated. The filler strip must be ventilated if there is no other way to ventilate the roof space, for example, through dormer windows.

4.7. Ventilation pipe

Use insulated ventilation pipes for heated buildings and regular ventilation pipes for unheated buildings.

When installing the pipe:

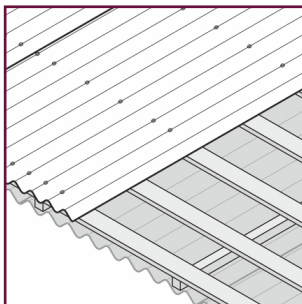
- make the upper and lower overlaps of at least 12 cm,
- follow the “along the water flow” principle: the upper part of the pipe base must go under the sheets and its lower part must be on top of the sheets.



4.8. Installation of a new roof over the old one

Work execution procedure:

1. Assess the condition of the wooden roofing elements (rafters, beams, sheathing). At the first signs of rotting or other damage, replace or strengthen them.
2. Clear the roof of debris.
3. Remove the ridge of the old roof and any protruding parts that may interfere with the installation or operation of the new roof.
4. Along the rafters, nail bars on top of the old roof of a height not less than the height of the old roof profile. Mount the bars into the lower part of the profile and as close to the rafters as possible.
5. Install the sheathing with the correct pitch that depends on the slope of your roof.
6. Install the roof and accessories according to the instructions.



5. Roof maintenance

5.1. Service life

To increase the service life of the roofing, it is necessary to check the condition of the roof, clean it and the drainage system from accumulated debris and eliminate any problems that arise.

We recommend inspecting the roof twice a year: in spring and autumn, at an air temperature of from +5° to +25°C, when there is no wind. You can step on the sheets, but be careful not to damage them:

- use a ladder or scaffolding when walking on the roof,
- use shoes with soft rubber soles,
- step only in the sheathing area,
- do not step on the nails so as not to bend them and deform the sheets,
- When stepping on W-light Roofing sheets, place your foot on the crests across the waves; do not step between the waves (because you can tear or press through the material),
- when walking on a roof with a slight slope, place boards across the roofing sheets,
- on steep and high roofs, use a ladder secured to the ridge, and be sure to use a safety harness.

When inspecting, pay special attention to the junctions between the roof covering and the wall, the pipe as well as the valleys, the ridge, the eave, the chimney pipe, ventilation outlets, internal bends and all places where large ice and snow accumulations often form.

Repair any damage to the roof that may lead to leaks as quickly as possible in order to avoid the necessity to repair the entire roof in the future.

5.2. Cleaning the roof and the drainage system

- remove large debris (branches, etc.) by hand, being careful not to damage the roof covering,
- sweep away small debris (needles, leaves, dust, dirt, etc.) with a brush with plastic bristles or a jet of water under pressure, directing it from the ridge to the eave,
- if moss or lichen remains on the roof after cleaning, remove them mechanically using a brush with plastic bristles and then treat with a mixture consisting of one part of household bleach and three parts of water - rub the affected areas with the resulting mixture using a brush and after 10 minutes rinse thoroughly with clean water; use protective glasses and rubber gloves when working with household chemicals, if they get into your eyes, carefully rinse the eyes with plenty of water.

Pay special attention to cleaning the area where air comes out of the roof space - this is necessary to ensure continuous ventilation of the thermal insulation and remove moisture from the roofing structure.

There is no need to clear snow from W-light Roofing sheets — if installed correctly, W-light Roofing sheets will not collapse or deform under the snow and thanks to their rough surface they will not allow the snow to unexpectedly fall down.

Installation of a snow retention system is necessary in places where snow falling from the roof onto pedestrian paths, roadways, buildings, etc. can cause damage to property and the health of people and animals. In case of roof cleaning, do it in such a way that a protective layer of snow at least 10 cm thick remains on the roof - thus you will not damage the roof. At the same time, do not chip or break ice on the roof in order not to damage the fasteners and the sheets of the material..

If through holes or cracks are detected in the roof covering, they can be sealed:

- using a junction tape: cut a patch larger than the damaged area, clean the area for its installation from dust and dirt, let the surface of the area dry and attach the patch with glue, smoothing it down tightly to the surface of the roofing sheets,
- using patches made of parts of the sheets of a suitable shape: cut a patch of a suitable size and fasten it with nails, seal the overlap of the patch with bitumen or butyl rubber sealant (attention! do not use other types of sealants - they may destroy the material of the sheets),
- with a new sheet: in order to carefully pull out the nails securing the sheet and not to damage the adjacent sheets, place a spacer (a piece of board, plywood, etc.) under the heel of the nail puller.

Have a successful and easy installation!

