INSTALLATION INSTRUCTIONS

PRESTIGE TRADITIONAL SHINGLE

Shingle-layer flexible bituminous shingle, with glass fiber carrier and surface covered with a copper layer 70 µm thick – Fig. 1.

The Premium Traditional shingle is characterized by five rounded tabs and self-adhesive strips.

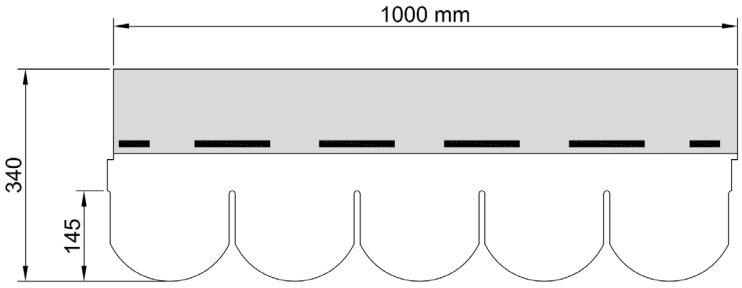

Fig. 1 – *Prestige Traditional shingle dimensions*

1. GENERAL RECOMMANDATIONS

- Stock pallets in a dry, covered and ventilated area.
- Avoid exposing the pallets to the direct sunlight or bad weather for long periods. Do not leave the pallets exposed to temperatures that are too high (>40°C) or too low (<10°C).
- Do not stack pallets on top of each other to avoid sticking of shingles inside the bundle.
- Shingles must be installed on a flat, rigid, continuous, and coplanar surface which will remain so over the time.
- Shingles must be applied on pitched roofs with a slope between 5° and 85°.
- The shingles installation method depends on the slope and length of the pitches, as well as on the substrate type - see paragraph 2.
- For nail installation of the shingles, use wide-headed stainless-steel nails (≥9,5mm), improved adherence and minimum 25mm length (32mm for the ridge elements), which has anyway to be evaluated depending on the substrate to ensure fastening.
- For torch installation, do not proceed on windy or particularly moisty days. Do not step on the membrane that has just been torched, to avoid footprint phenomena.
- Shingles must have a minimum temperature of 10° C to be applied.
- Under low outside temperatures, wind or wet conditions, warm the self-adhesive points of the shingles to improve adhesion and if it is necessary, apply the bitumen mastic Bitustick under the tabs.
- At the end of the day, the roofer must always check the good adhesion of the tabs and of the shingles.

2. INSTALLATION METHOD

The installation method of bituminous shingles depends on several factors: type of substrate, length and slope of pitch and type of membrane used. In particular:

- Installation surfaces made with wood panels (plywood or OSB) and similar are defined as nailable substrates.
- Installation surfaces made of concrete, fibrocement and similar are defined as non-nailable substrates.

For standard pitches with a maximum length of 7m, the following applies (summarised in Tab. 1):

- In the case of low roofing slopes (between 5° and 17°) or non-nailable substrate, bituminous shingles must be torch-applied on the Safety R-Evolution T membrane or on the Safety EPP polymer bitumen membrane with APP or APAO compound, which will ensure the waterproofing of the roof.
- In the case of low roofing slopes (between 5° and 17°) and nailable substrate, is available the Safety R-Evolution N membrane, self-adhesive and self-sealing for nail installation.
- For higher slopes (between 17° and 85°) and a nailable substrate, bituminous shingles can be applied with the nail installation technique, but it is mandatory to use the Startbar underlayer membrane. The number of nails per shingle to be used is specified in Tab. 1, based on the slope of the pitches.

TYPE OF SUBSTRATE	PITCH LENGTH	RANGE OF PITCH SLOPE	INSTALLATION METHOD	TYPE OF MEMBRANE
NOT NAILABLE	≤ 7m	5° - 17° (9%-30%)	BY TORCH	Safety R-Evolution T / Safety EPP membrane
NAILABLE	≤ 7m	5° - 17° (9%-30%)	BY TORCH	Safety R-Evolution T / Safety EPP membrane
			BY NAILS (4/shingle)	Safety R-Evolution N membrane
		17° - 60° (30%-173%)	BY NAILS (4/shingle)	Startbar underlayer membrane
		60° - 85° (173%-1100%)	BY NAILS (6/shingle)	Startbar underlayer membrane

Tab. 1 - *Shingle installation method vs pitch slope*

NOTES:

- In case of pitch slopes greater than 17° and non-nailable substrate, it is advisable to contact the technical office for further information.
- For pitches between 7 and 10m in length and a nailable substrate, the minimum pitch slope goes up from 17° to 19°. For these roof lengths and a pitch greater than 19°, it is recommended to use the mixed installation technique. The first few meters should be waterproofed with a bituminous membrane and the shingles should be fixed using a torch-on method. For the remaining 7 metres, it is possible to use an underlay and fix the shingles with nails.
- In case of areas classified as windy or snowy, for constructions with complex geometry (e.g. presence of windows, variations in slope or inclination), situated at altitudes above 1000m or buildings of great height, for pitches longer than 10m, it is advisable to contact the technical office for further information regarding the bituminous shingles fastening and their method of installation.

3. PRELIMINARY OPERATIONS

- Before installing the bituminous shingles, install the gutters or the drips and fix them properly to the substrate through tie-rods – Fig. 2.

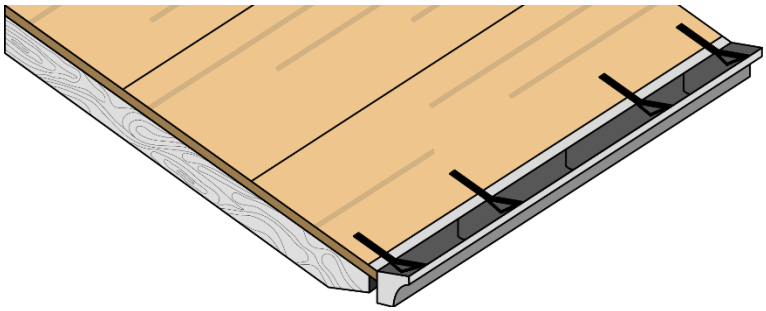

Fig. 2 *- Gutter installation*

- Apply the most appropriate membrane/underlayer according to the shingles installation method (paragraph 2) and ensure an appropriate flap in the gutter / over the drip.

4. TRACING OF THE ROOF

Once the membrane or the underlayer has been installed on the roof, before shingles installation, the pitch must be traced:

- Trace a straight ***x*** (orthogonal to the line of maximum slope) 18 cm from the eaves line, so that the shingle protrudes 1,5 cm from it;
- Locate a point A on line ***x*** and mark points B and C equidistant from A (example 150 cm);
- Starting from B and C, by using a string as a compass, identify the meeting point D, as close as possible to the ridge.
- Join A with D and identify the line ***y***;
- Draw a line ***z***, parallel to line ***y*** distant 10 cm;
- Draw horizontal lines parallel to ***x***, each one distant 14.5 cm from the previous, until you reach the ridge - see Fig. 3.

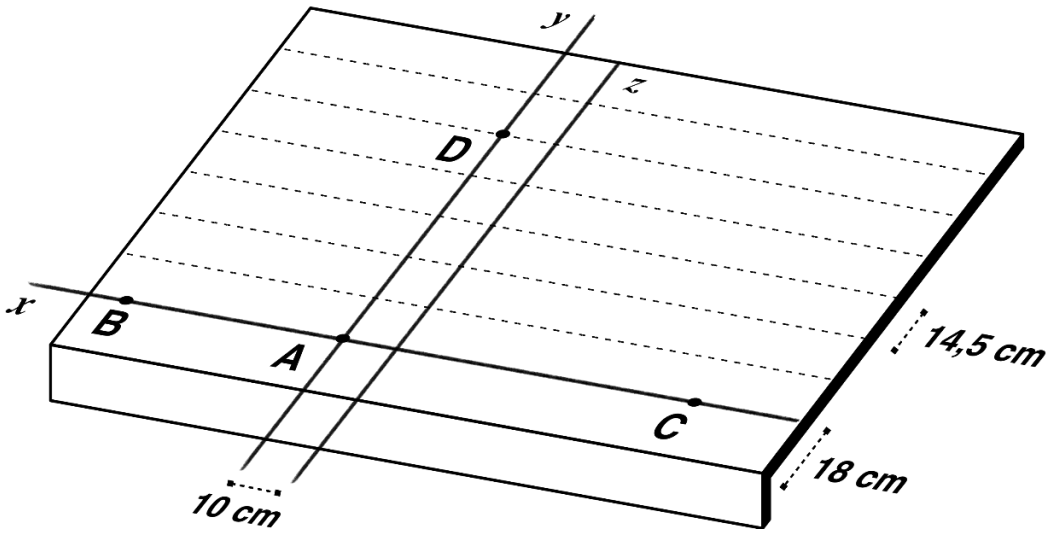

Fig. 3 *- Tracing of the pitch [cm]*

5. NAIL INSTALLATION OF THE SHINGLE

For the nail installation of the shingles, proceed as follows:

- Install the lateral flashing above the membrane/underlayer membrane applied to the roof. Apply a Bitustick bead to the external side of the lateral flashings. Proceed with the shingles installation, as described below, on the lateral flashing leaving a space of about 3cm between the end of the shingles and the edge of the lateral flashing – Fig. 4. Do not use nails less than 25 cm from the flashings.

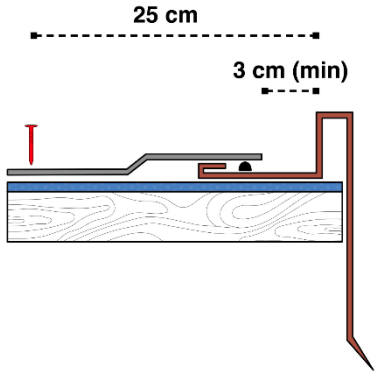

Fig. 4 *– Lateral flashing detail*

- Alternatively, fix a triangular wooden batten along the lateral side of the roof before the membrane/underlayer. Position the membrane/underlayer over the triangular batten and then arrange the bituminous shingle, cutting the shingle along the vertical end of the batten. Complete the pitch and apply the perimetral flashing over the shingle and the triangular batten - Fig. 5.

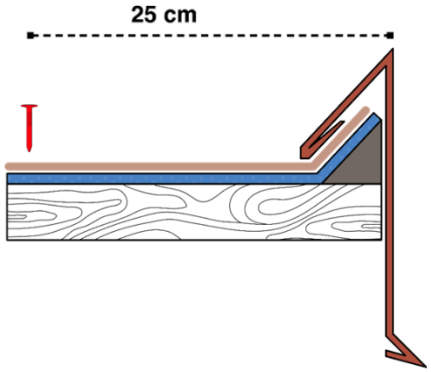

Fig. 5 - *Lateral flashing detail*

- Arrange the shingles for the starting row cutting the tabs, as shown in Fig. 6;

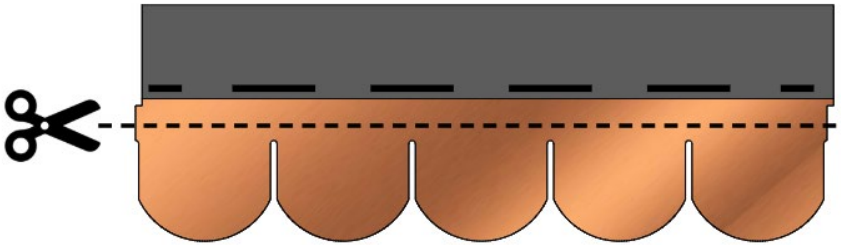

Fig. 6 *– Starting row preparation*

- Apply over the membrane/underlayer a bead of bituminous adhesive Bitustick close to the gutter line – Fig. 7;
- Then, proceed with the installation of the shingles of the starting row: align the lateral edge of the first shingle on the vertical ***y*** and the upper edge on the horizontal ***x***. Fix the shingle to the substrate with nails placed at the upper ends of the shingle. Arrange and nail the other shingles of the starting row, adjacent, following the same method of fixing.
- All the cutting and alignment operations between the shingles are facilitated by special references (cuts on the upper edge and shaped lateral profiles).
- Proceed with the installation of the first row of shingles: align the lateral edge of the first shingle on the vertical ***z*** and the upper edge on the horizontal 14,5 cm from ***x*** – Fig. 7. Nail the shingle to the substrate by placing 4 nails per shingle, as per Fig. 8 a). In the event of pitched slopes between 60° and 85°, place 2 additional nails, for a total of 6 nails per shingle, as per Fig. 8 b). Proceed by placing all the shingles in the first row.

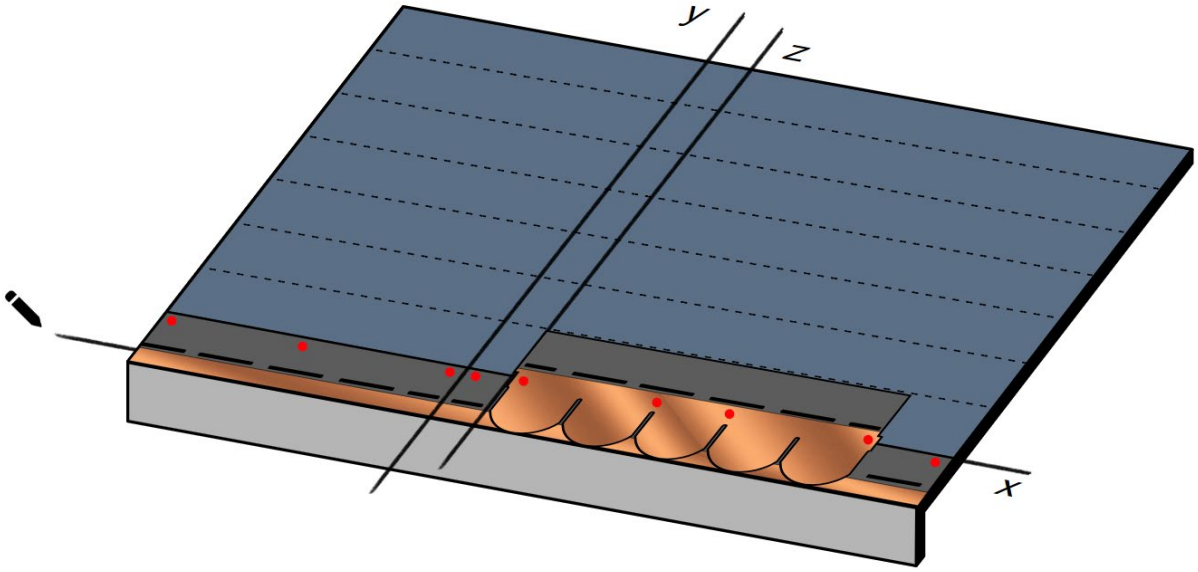

Fig. 7 *– Shingles installation*

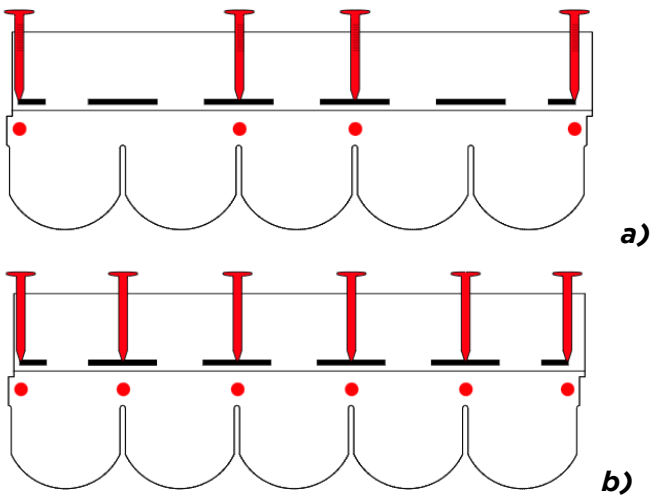

Fig. 8 *– Shingle nailing* ***a)*** *slopes <60°;* ***b)*** *slopes >60°*

- Move forward with the installation of the second row of shingles starting from the vertical line ***y*** and aligning the upper edge of the shingle to the horizontal line 29 cm from ***x***.
- Repeat the procedure of installation of the bituminous shingles in rows, until the full coverage of the pitch to the ridge.
- The last row of bituminous shingles must protrude above the ridge line; the excess part will be cut along the ridge - Fig. 9.
- Repeat the same steps for the other pitch.

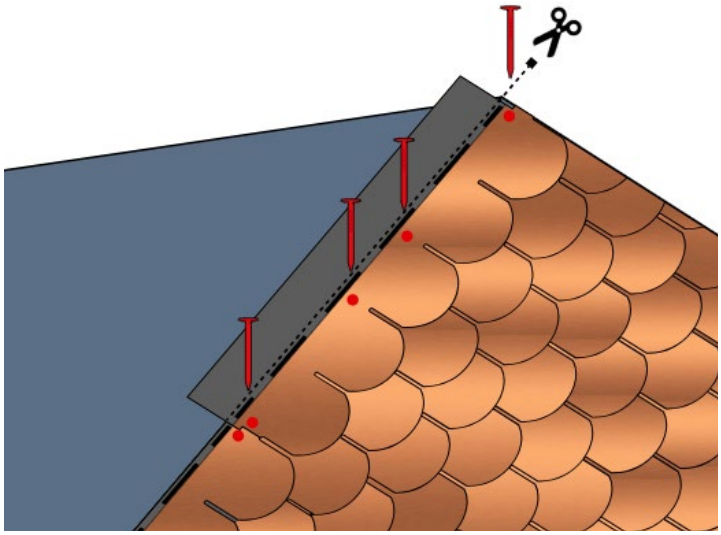

Fig. 9 – *Shingles installation at the ridge*

- Arrange the ridge elements by cutting an entire shingle into five pieces and shaping the top with a certain angle of cut – Fig. 10.

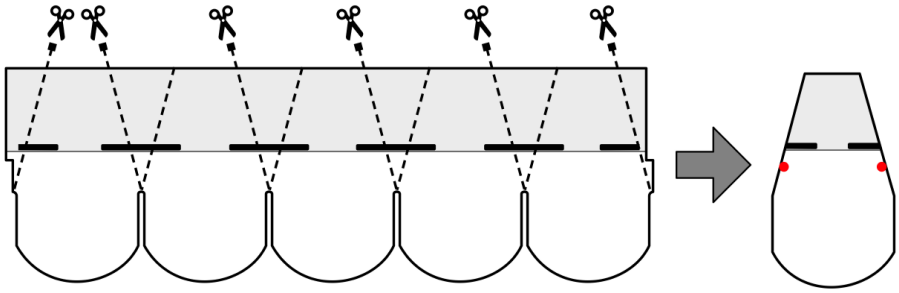

Fig. 10 – *Ridge elements preparation*

- Place the Top Roll SA along the centre of the ridge line, removing the protective film from the underside that covers the butyl tape. This will waterproof the ridge itself – Fig. 11.

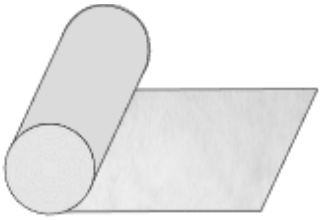

Fig. 11 – *Top Roll SA*

- Fix the first ridge element with 2 galvanized nails at least 32mm long, one nail on each side – Fig. 12. Proceed with the installation of the other ridge elements in sequence, leaving an exposed part of 10 cm between one element and the next.

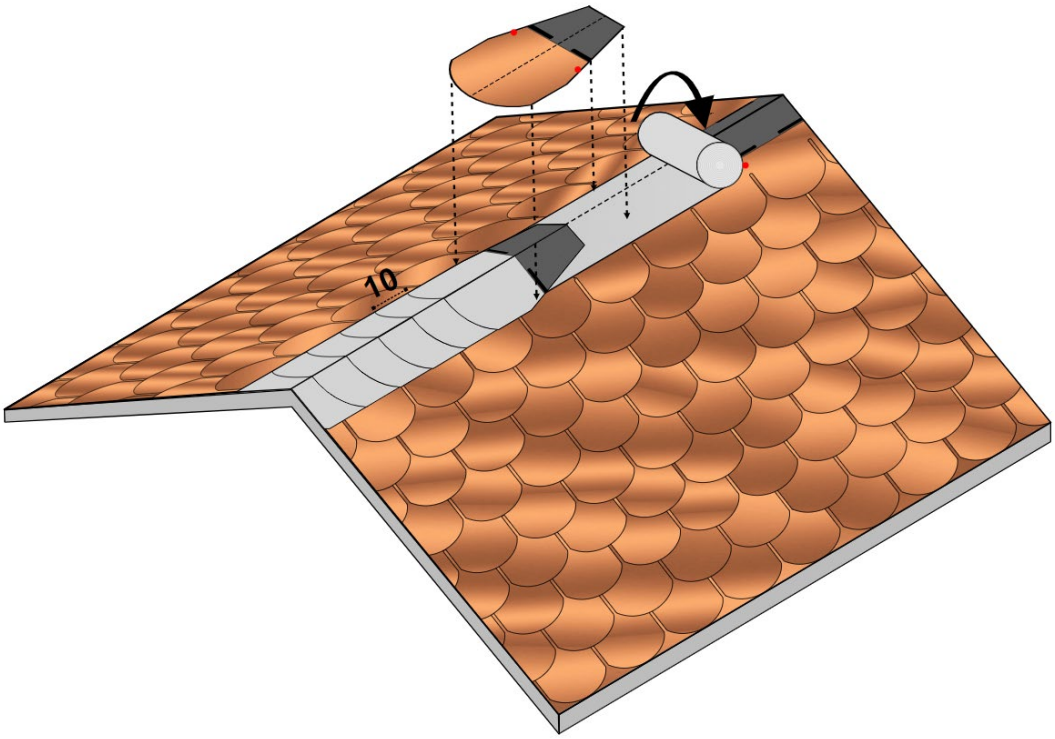

Fig. 12 – *Ridge elements installation*

- Follow the same instructions also for the shingle installation at the hips.
- As for the roof valleys, prepare a band of bituminous membrane about 100cm wide, applied by torch in advance, to ensure its waterproofing - Fig. 14. Install a copper metal valley flashing above the membrane, with a shape similar to Fig. 13, along the centre of the valley.

Fig. 13 – *Metal flashing profile*

- Next, install the starting row and the shingles on the first pitch, up to the valley line, cutting them 3 cm and parallel to the valley line. Secure the shingles and the starting row with stainless steel nails, up to approximately 40 cm from the valley line, and with Bitustick, applied in two parallel rows, at distances no greater than 40 cm from the valley line, above the metal valley flashing – Fig. 14. It is also advisable to cut the upper edge of the shingle transversely at the valley, to direct the descending water along the valley centerline – Fig. 14.
- Repeat the same procedure for the second pitch. In the end, a channel should be created between the shingles, along the metal valley, where the water will flow preferentially – Fig. 14.

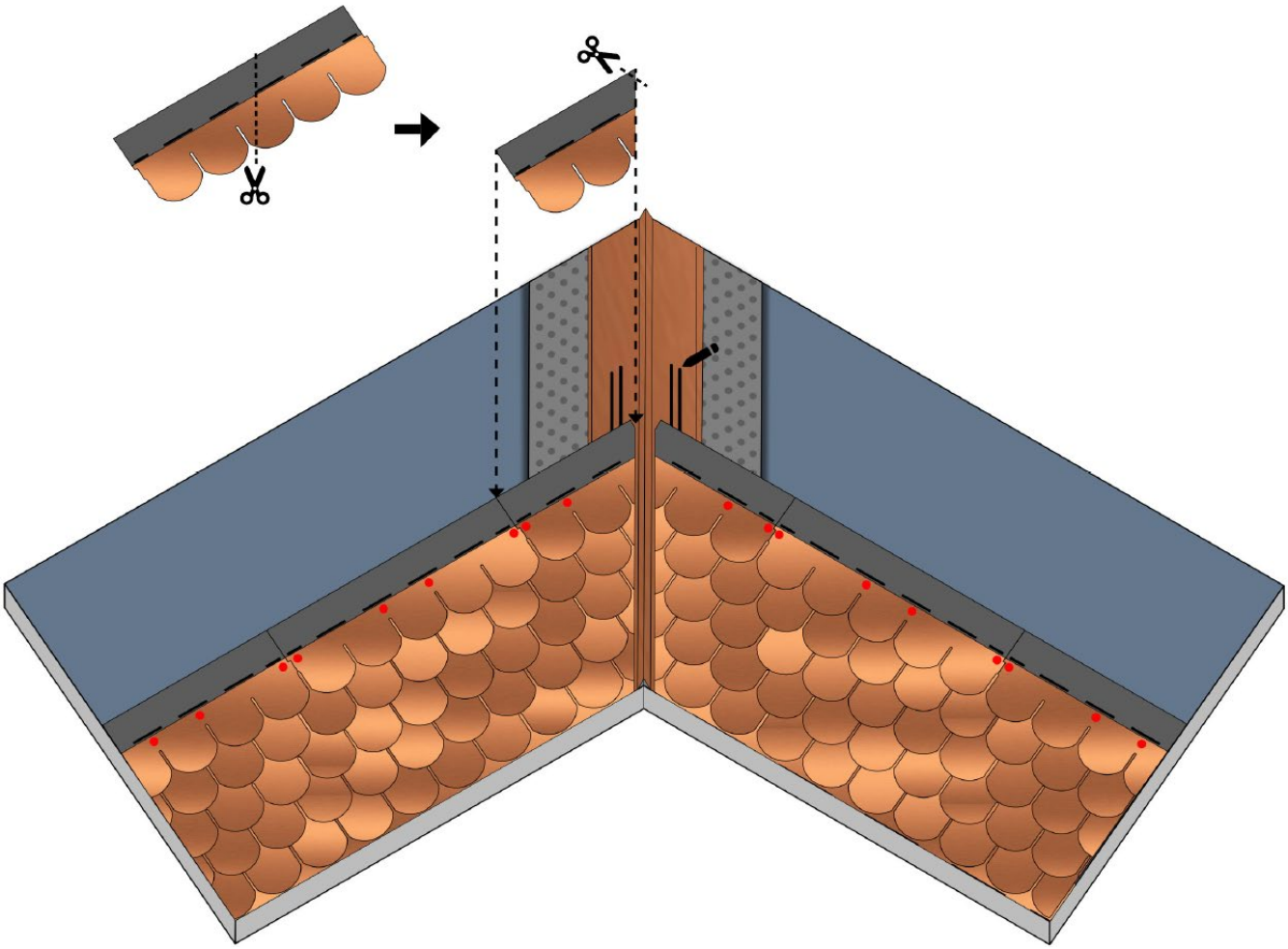

Fig. 14 *–Shingles installation at valley*

6. TORCH INSTALLATION OF THE SHINGLE

For the torch installation of the shingles, proceed as follows:

- Install the lateral flashings above the membrane applied to the roof. Apply a band of bituminous membrane, about 25 cm wide, to overlap the flashing. Proceed with the normal installation of the shingles by torch, as will be described below, above the lateral flashing. Leave a space of about 3cm between the end of the shingles and the edge of the lateral flashing. - Fig. 15.

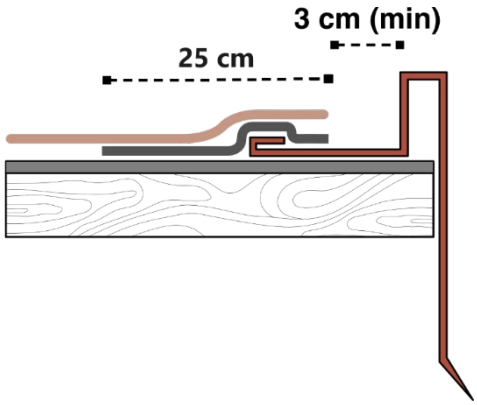

Fig. 15 *– Lateral flashing detail*

- Arrange the shingles for the starting row cutting the tabs, as shown in Fig. 6;
- Move forward with the installation of the shingles of the starting row: align the lateral edge of the first shingle on the vertical ***y*** and the upper edge on the horizontal ***x***.
- Fix starting row shingles to the membrane using the torch and lifting one side of the shingle at a time with a tool. Direct the flame towards the membrane to melt it. The back of the shingle will only be heated indirectly by the flame - see Fig. 16. Lower the bituminous shingle and press it (for example, by pressing with a foot) to help the penetration of the bitumen of the two elements: shingle and membrane.
- Repeat the procedure for each shingle until the starting row is complete.

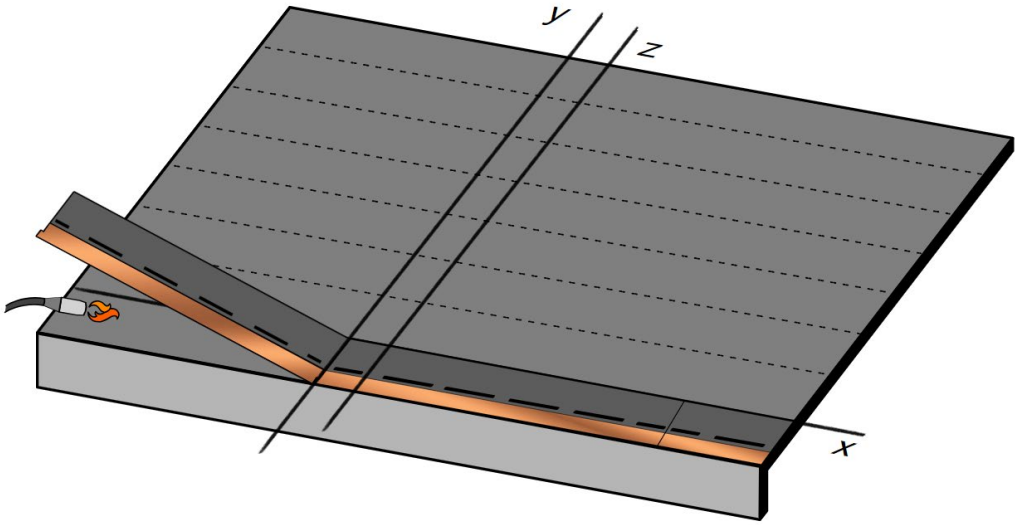

Fig. 16 – *Starting row shingles installation by torch*

- Proceed with the installation of the first row of shingles: align the lateral edge of the first shingle on the vertical ***z*** and the upper edge on the horizontal 14,5 cm from ***x*** - see Fig. 17. Fix the shingle to the membrane using the torch and lifting the top of the shingle with a tool, Fig. 17. The self-adhesive points will fix the tabs of the shingles of the first row to the shingles below, of the starting row. Move forward installing all the shingles of the first row.

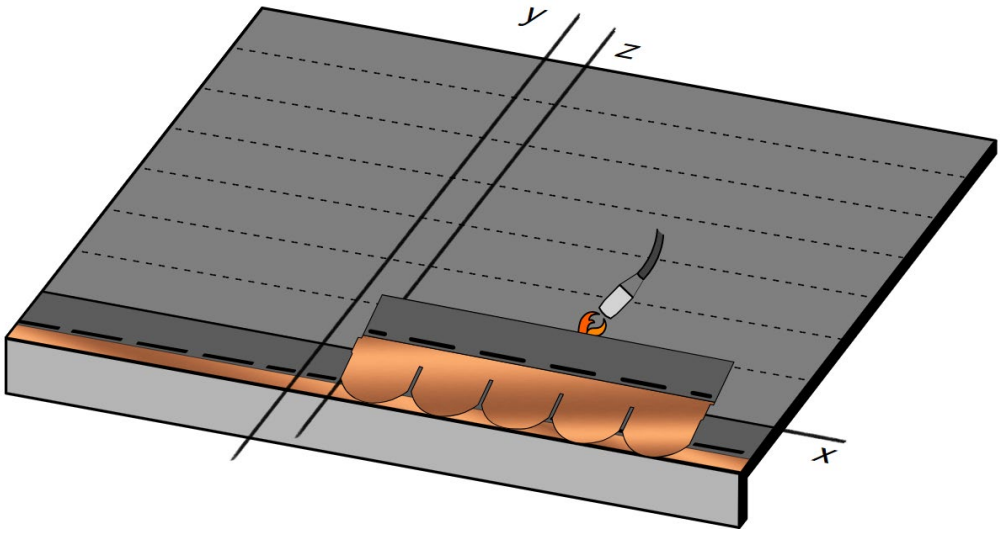

Fig. 17 – *First row shingles installation by torch*

- Proceed with the installation of the second row of shingles starting from the vertical line ***y*** and aligning the upper edge of the shingle to the horizontal line 29 cm from ***x***.
- Fix the shingles with the torch as described above. Proceed with the installation of all the shingles in the row.
- Repeat the same steps for installation of the bituminous shingles in rows, until the entire pitch is covered, leaving the last part of bituminous membrane at the ridge exposed. If necessary, cut the top of the last row of shingles – Fig. 18

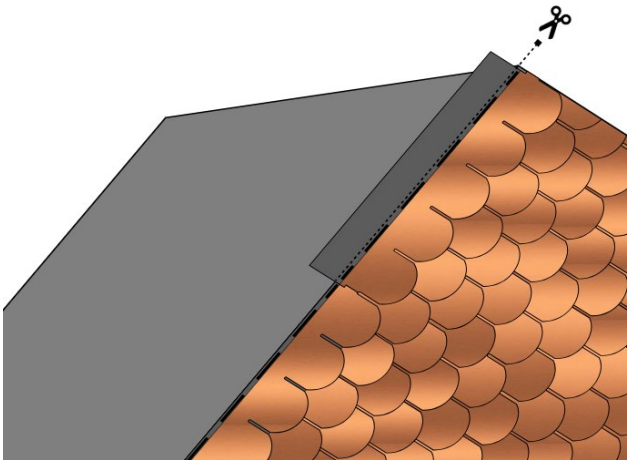

Fig. 18 – *Shingles installation until the ridge*

- Repeat the same steps for the other pitch.
- Arrange the ridge elements by cutting an entire shingle into four pieces and shaping the top with a certain angle of cut - **Fig. 12**.
- Apply a band of bituminous membrane Safety EPP, about 25cm wide on the ridge by torch - Fig. 19.
- Install the ridge elements, fixing them to the underlying membrane with the torch, always heating the membrane and not the shingle element.
- Proceed with the installation of the other ridge elements in sequence, leaving an exposed part of 10cm between one element and the next, see Fig. 19.

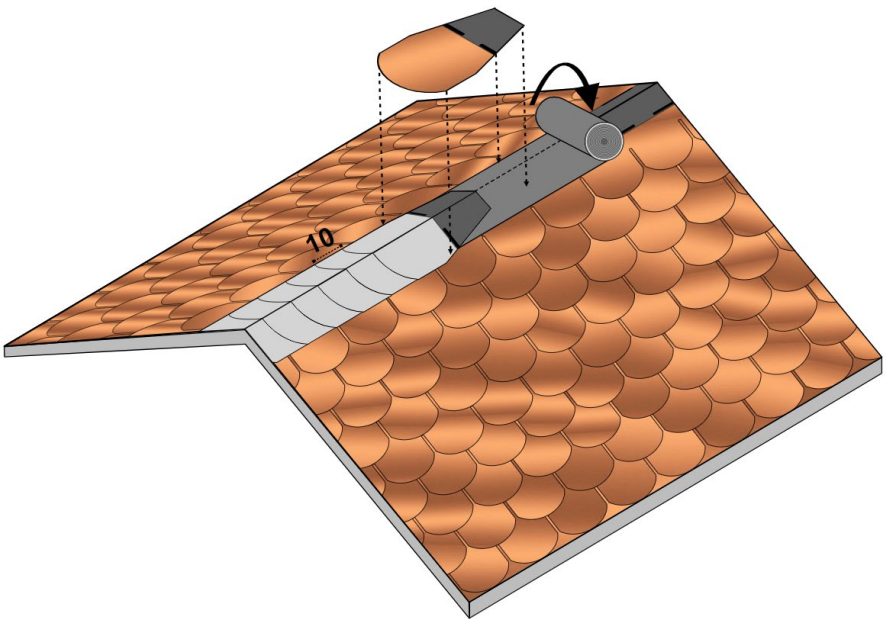

Fig. 19 – *Ridge elements installation*

- Follow the same instructions also for the shingle installation at the hips.
- As for the roof valleys, prepare a band of bituminous membrane about 100cm wide, applied by torch in advance, to ensure its waterproofing. Install a copper metal valley flashing above the membrane, with a shape like Fig. 14, along the centre of the valley.
- Next, install the starting row and the shingles on the first pitch, up to the valley line, cutting them 3 cm and parallel to the valley line. Secure the shingles and the starting row with the torch, and with Bitustick, applied in two parallel rows, above the metal valley flashing.
- Repeat the same procedure for the second pitch. In the end, a channel should be created between the shingles, along the metal valley, where the water will flow preferentially – Fig. 20.
- Cross-cut the top edge of the shingle to the valley, so as to convey the descending water along the axis of the valley Fig. 20.

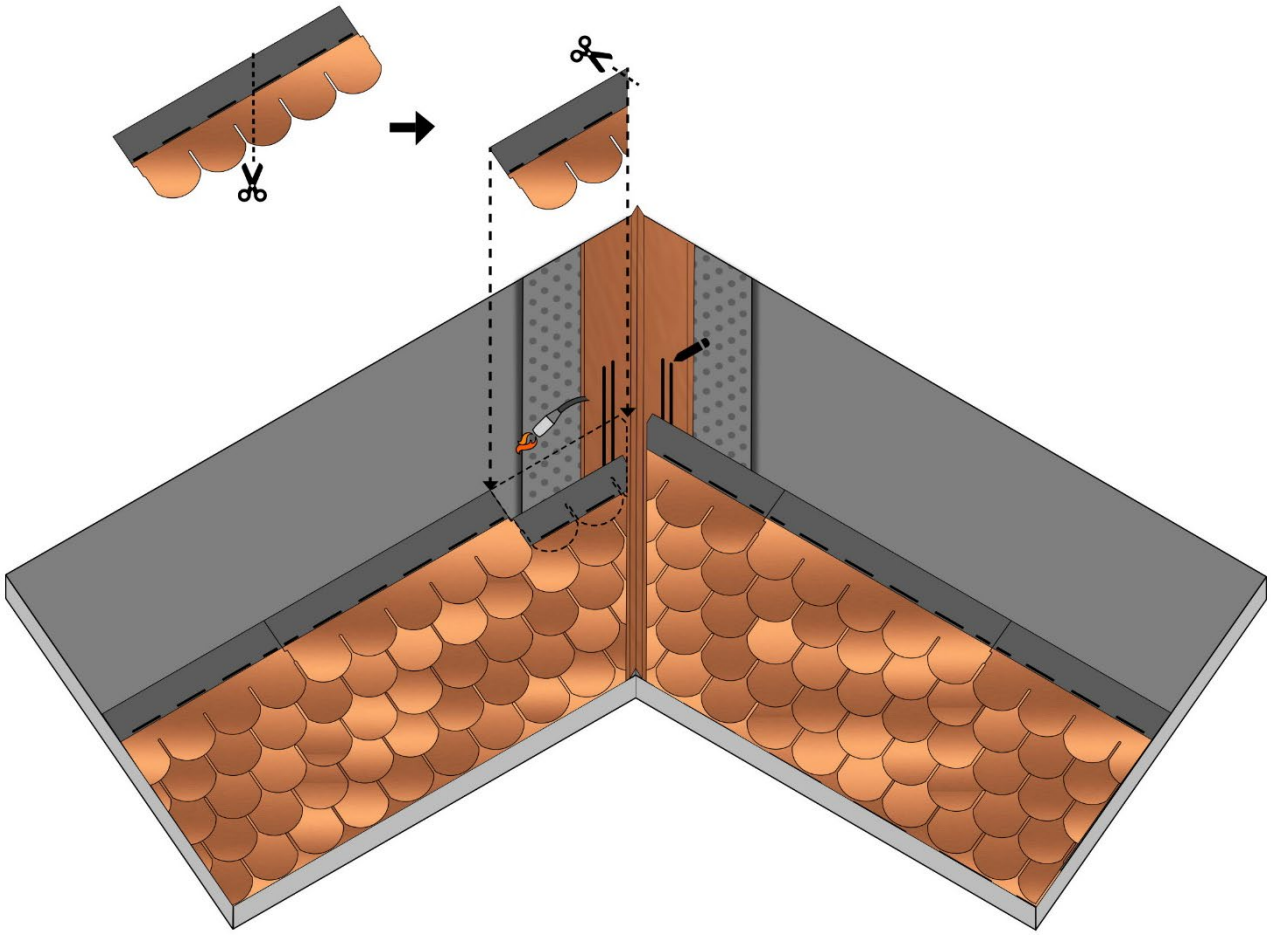

Fig. 20 *– Shingles installation by torch along the valley*

- Once the installation is finished, always check the adhesion between the membrane and the bituminous shingles and also between the self-adhesive strips of the shingles and the tabs above.

7. FINISHES AND INSTALLATION DETAILS

All finishes for flashings, valleys, chimneys, snow stops, etc. can be performed with aluminium or other compatible metals. For their installation refer to the specific installation instructions.

The Prestige Traditional shingle model is equipped with self-adhesive strip points that softens with the heat at 30°C and thus allows the gluing of the shingle tabs of the subsequent rows. If necessary, you can force their activation with a heat gun. It is important to verify the adhesion of the tabs and of the shingles, at the end of the day, once the shingles installation is completed.