

# Installation instructions for Zet<sup>®</sup> roof metal roofing tiles

## 1. Transport

ZET<sup>®</sup> roof metal roofing tiles are delivered on non-returnable pallets. Special transport is not required to deliver the roof. However, movement of the package should be restricted during transport to ensure that the material is not damaged. A single pallet contains 264 sheets, i.e., an effective area of 212.52 m<sup>2</sup> of covering (**fig. 1**). Owing to their light weight, the tiles can also be transported to the site of the installation works (e.g., via a staircase) by a single person without the need to use special equipment.

Due to the design of the sheets („Z“-type fold), they should be pulled out of the package as illustrated in **fig. 2**. The sheets must not be pulled out of the package by lifting them straight up. Before it can be lifted, the sheet should be gently pushed several centimetres forward to avoid damaging the coating of the sheet underneath. The correct method of handling the sheet is depicted in **fig. 3**.

## 2. Storage

ZET<sup>®</sup> roof metal roofing tiles should be stored in dry and ventilated storage premises. If the tiles are to be stored for a longer period, the stacks have to be placed on a surface with a fall to enable evaporation or drainage of the moisture collecting between the sheets. The distance between the stored package and the ground should not be lower than 14 cm. The maximum storage time of the product is 6 months from the date of manufacture. However, upon the lapse of 3 weeks from the date of manufacture, the sheeting used to wrap the pallet with the sheets should be removed to ensure air circulation between the sheets.

**Note – sheet surface damage caused by damp will void the warranty.**

## 3. Installation

ZET<sup>®</sup> roof metal roofing tile should be installed on a conventionally prepared surface, using battens and counterbattens. Surface preparation and installation should be done in accordance with good roofing practice. It is critical to ensure eaves and ridge ventilation.

ZET<sup>®</sup> roof metal roofing tiles may be used on roofs with pitch of no less than 9° (15%). The roof structure has to be verified (diagonals and flatness) before installation. The placement of the first batten depends on gutter width and roof pitch, but it has to be thicker by approx. 2 cm to compensate for the pitch of the fold. This can be achieved by using spacing blocks (**fig. 4**). The distance between the first and second batten depends on the method of installation (sheet projection length above the gutter, use of a drip edge). The spacing between the remaining battens is 350 mm. If a drip edge is used, it should be installed in a manner that does not prevent the discharge of potential condensation from the membrane to the gutter. The correct installation method for the ZET<sup>®</sup> roof tile is the so-called „staggered“ installation, with the individual sheet rows offset in relation to each other. This can be done because the sheets are symmetrical. Owing to such installation, there are no points of contact between the edges of four sheets. Also, the longitudinal joint lines are not aligned, which improves the appearance of the roof. The correct installation method (sequence of placement) for sheets installed from the right has been illustrated in **fig. 5**.

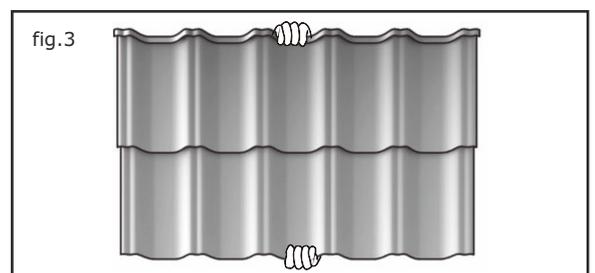
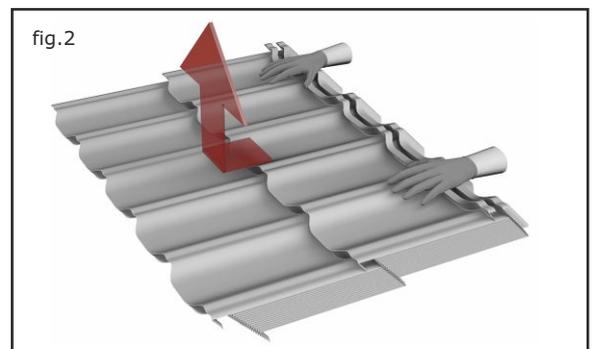
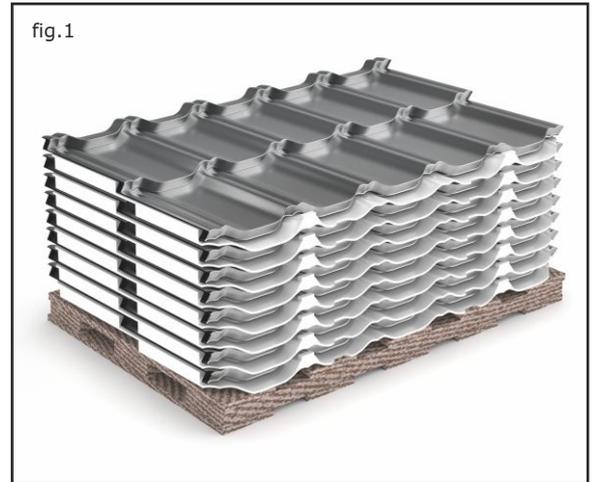
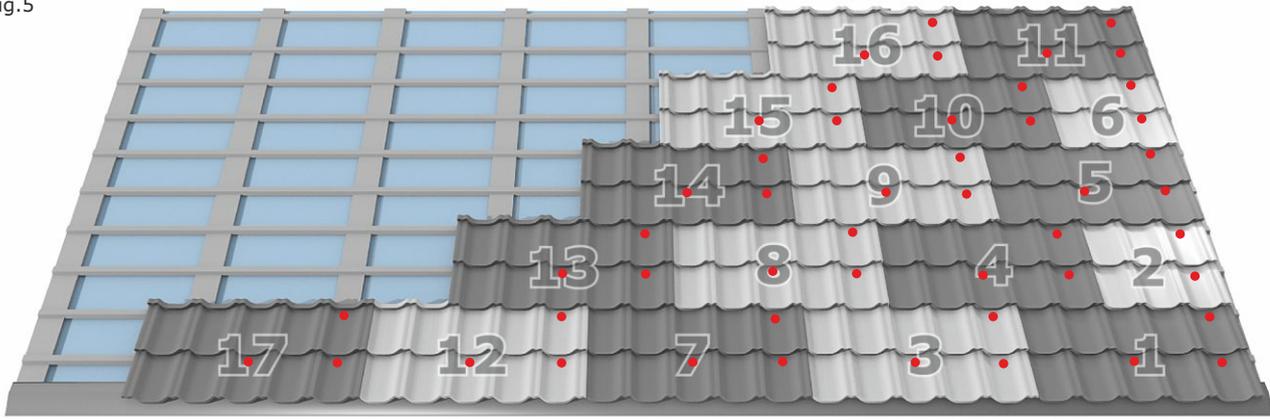


fig.5



• Screw fitting locations

fig.6

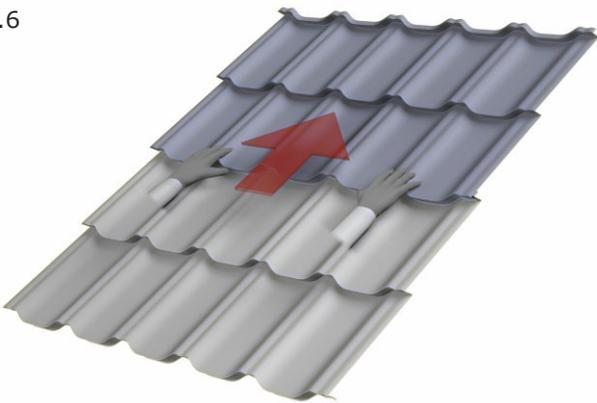


fig.7

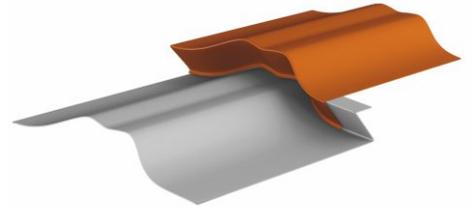


fig.8

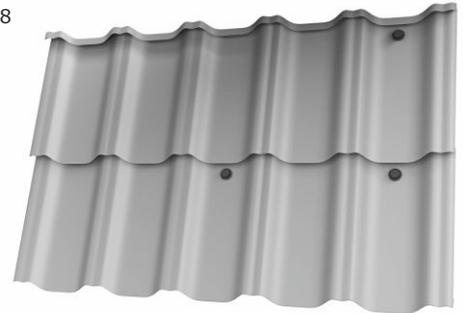


fig.9

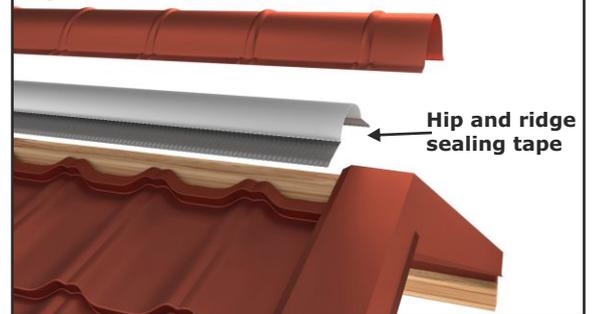


fig.10



The distinguishing feature of ZET<sup>®</sup>roof metal roofing tiles is the form of their folds. Conventional metal roofing tiles have folds bent at right angle to the surface of the tile. ZET<sup>®</sup>roof metal roofing tiles use a more advanced solution: the cross section of the surface of two steps and the fold between them forms a „Z” shape, and the fold is bent at an acute angle to the surface of the lower step. This design has many advantages during installation. The bent „Z”-type fold is used as a snap lock during sheet installation. This eliminates the need to additionally join the sheets together at the surface of the folds.

It also improves the safety and speed of installation and the appearance of the roof by reducing the number of visible screws. The sheet locking system using the „Z”-type lock is depicted on **fig. 6**. **It is very important to ensure that the top sheet is pressed against the bottom sheet as far as possible so that there is no play at the „Z”-type lock (fig. 7).**

The installation of ZET<sup>®</sup>roof tiles has been made considerably easier owing to the symmetry of the profile, as a result of which the sheets can be installed in any direction. The direction of installation can be selected depending on, for instance, aesthetic reasons. Also, if the given tile type is used in areas with strong winds, the direction of longitudinal sheet joints can be adjusted to the wind direction. However, in such a case the direction in which the roofing is installed has to be opposite to the prevailing wind direction. This arrangement will considerably increase the roof's resistance to strong gusts.

ZET<sup>®</sup>roof metal roofing tiles should be fixed to the battens with 4.8x35-mm screws. The sheets are fixed at the bottom of the corrugation in accordance with the diagram in **figure 8** using a magnetic nut driver for a battery screwdriver or drill. To ensure sealed connection, the screws have an EPDM gasket, which should extend beyond the edge of the washer when the screw has been correctly screwed (at a right angle). The average number of required screws is approx. 3 pcs. per sheet (in areas exposed to strong wind, the number of fixing points should be increased).

The ridge flashings should be fixed "sheet-to-sheet" with short screws (4.8x20 mm), after hip and ridge sealing tape or profiled gaskets have been installed at every second corrugation top (**fig. 9**).

Flashings should be fixed with 4.8x35-mm screws. Using snow stops on roofs with high pitch (**fig. 10**) will prevent the repair/replacement of the gutter system in spring and eliminate the risk of snow sliding down on the people underneath.

**Experienced contractors have individual solutions that may be accepted by the manufacturer.**

#### 4. Sheet cutting

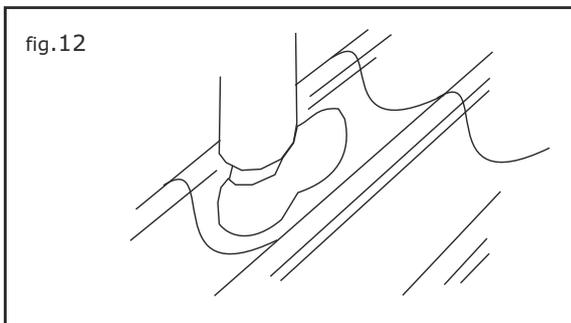
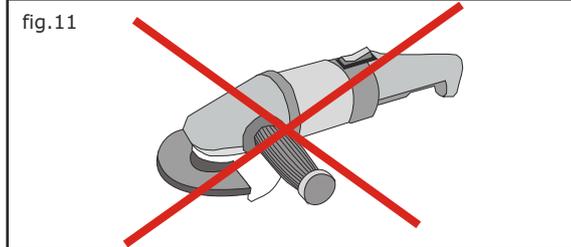
Sheets must not be cut with tools that create a thermal effect (sudden increase of temperature), e.g., an angle grinder (**fig. 11**). This will damage the organic coating and zinc coating, initiating the process of corrosion, which will be accelerated by the hot chips melting into the surface of the sheet. Sheets should be cut with a nibbler or – at small sections – with manual shears. Uncovered cut edges should be protected with paint – this also refers to factory-cut edges.

#### 5. Walking on the roof

The installation activities should be organised in a manner that minimises the amount of walking over the installed sheets. When necessary, put your feet on the „bottom of the corrugation“ (**fig. 12**), making sure that the soles are free of remains from sheet cutting and shaping that could damage the organic coating. After the installation is completed, remove all chips, nails and other elements that could cause corrosion from the roof plane.

#### 6. Maintenance

If the coating is damaged during transport, installation or shaping, clean and degrease the surface and touch up the damaged spot up with paint. If the cut edges are not protected with paint, the coating may delaminate. The roof should be inspected annually to perform necessary maintenance.



#### Enquiries:

All comments concerning these instructions and questions should be sent to the following e-mail address: [info@zet-roof.eu](mailto:info@zet-roof.eu)