



OPERATOR MANUAL
SCREWS FOR FIXING ROOF TILES TO WOODEN SUBSTRATE
E-X BOHR RS TYPE WITH WASHER
No. OM_E-X BOHR RS 4,8_E14 (FARMER)

Installation carried out in an appropriate way, using professional tools is extremely important for proper and safe use of building fasteners. Always follow all instructions listed in this operator manual.

General rules:

- The operator manual, apply only to original products supplied by Baltic Fasteners Sp. z o.o. bearing the Manufacturer's logo, which allows for their identification;
- The use of screws shall be confirmed by a fixing plan made on the basis of complete building data;
- When carrying out the fixing plan, observe the mounting parameters and take into account the loads of the connections given in valid approval or technical evaluation issued for the product;
- When carrying out the fixing plan, comply with applicable laws and standards;
- The steel roof tiles Manufacturer's recommendations must be taken into account;
- The number and type of screws must be in line with the information given in the fixing plan;
- Only tools that are equipped with clutch adjustment should be use;
- Modification of **E-X BOHR RS** screws with washer **E14** is not permitted;
- Products may only be used for their intended purpose.

Product selection rules:

- **E-X BOHR RS** screws with **E14** washer are designed for fixing steel roof tiles to wooden substrate;
- **E-X BOHR RS** screws are covered by class **A1** reaction to fire and can be used in this class;
- The corrosion protection of the screws should be suitably selected for the corrosive environment in which they will be used. **E-X BOHR RS** bi-metal screws are made of stainless steel (except the drilling point made of carbon steel), which allows them to be used in corrosive environments **C4**. Washers **E14** delivered with screws are made of stainless steel, which allows them to be used in corrosive environments **C4**;

Warning! The screws are additionally covered with a zinc coating.

- The length of the screws should be appropriately selected depending on the thickness of all fixed elements:
 - thickness of the steel roof tiles;
 - thickness of **PES** sealing tapes, if used;
 - thickness of other components, if used.

In addition, the thickness of the steel substrate should be taken into consideration when choosing the length of the screws. The following min. anchoring depth is allowed **h_{ef} = 20mm**;

- Screws can be used for steel roof tiles of grade not worse than **S280GD**;
- Screws can be used for steel roof tiles with a minimum thickness of **0,75mm**;
- Maximum steel drilling capacity for screws **2x1,00mm**. Maximum tool speed **2200rpm**;
- Screws can be used in wooden structures of minimum class **C24**;
- In order to select the appropriate length of the screws, the thickness of all fixed elements must be summed. Then check in the product card exact length of the **E-X BOHR RS** screws with washer **E14** that is suitable for fixing the obtained thickness. The sum of the thicknesses of all the elements including must be within the range **$h_{min} - h_{max}$** given in the product card. Product card is available on the website www.balticfasteners.com;

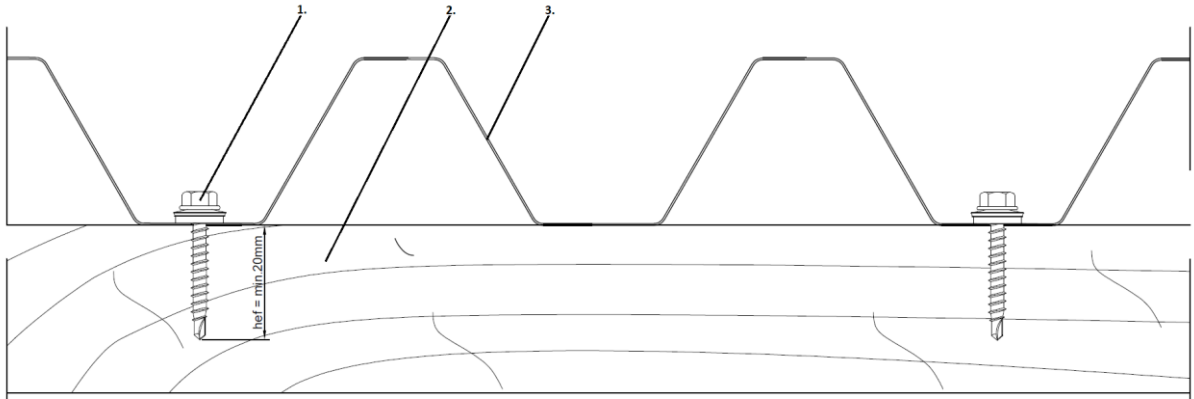
Installation process:

- Roof tile should be placed at the installation site following the instructions provided by the Manufacturer;
- Roof tile should be screwed to the substrate with the selected screws in accordance with the fixing plan. It is recommended to fix the roof tile in every second lower wave. Further rows of fixings should be carried in every second lath (only applies to sheeting). This assembly allows for the proper operation of the roof subject to temperature changes.
 - a) Screws must always be mounted perpendicular to the substrate.
 - b) The EPDM should be properly tightened as shown on the picture below. Recommended tightening torque **4Nm**.



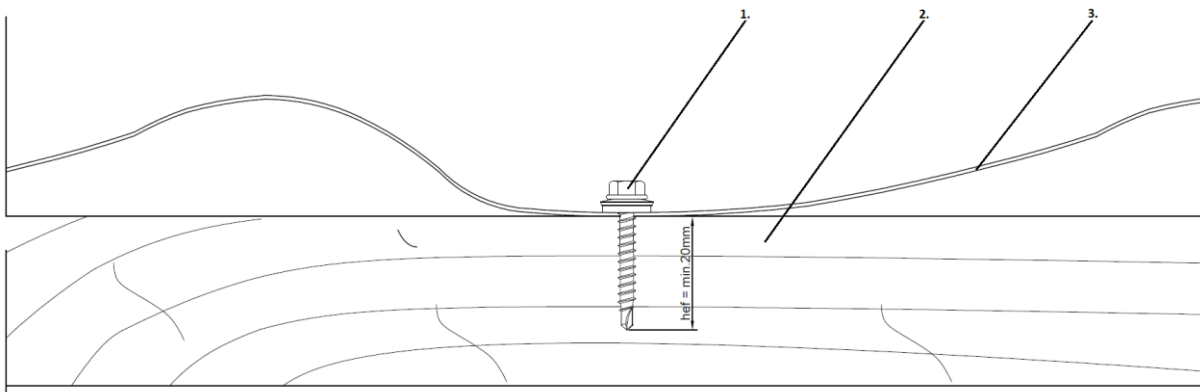
- c) Fixing parameters specified for the screw **E-X BOHR RS** need to be retained.
 - d) Use dedicated nut-setters **MNS-S8** also for fixing screws coated with paint.
 - e) The steel sheet should be fixed to each lath with the same number of screws to balance the system;
- In case of damage to the corrosion or paint coating on the screws, the defects must be further secured;
 - Overlapped waves of the steel sheet should be connected longitudinally by using overlapping screws with washer, for example **E-X BOHR RS 4,8x20**. The distance between screws should be **max. 250mm**;
 - Once you have fixed the steel roof tile, proceed to assemble the next one by following the procedure given above.

Pictures 1-2 illustrates the fixing of the roof tiles of various shapes with **E-X BOHR RS** screws to the wooden substrate.



- 1. Screw for roof tiles
- 2. Wood
- 3. Roof tile

Picture 1. Assembling of trapezoidal roof tile using E-X BOHR RS screws with washer E14 to wooden substrate.



- 1. Screw for roof tiles
- 2. Wood
- 3. Roof tile

Picture 2. Assembling of sinusoidal roof tile using E-X BOHR RS screws with washer E14 to wooden substrate.

Basic dimensions of screws E-X BOHR RS with washer E14 type:

