

## PISKO MOUNTING PLATE FOR WATERPROOFING MEMBRANE ROOF

The mounting plate solution is used on waterproofing membrane roofs, such as multi-layer weldable bituminous roofs or retrofitted to the surface of the roofing membrane, for fixing roof safety products, solar panel systems, etc. This installation instruction has different sections for different roofing options - read the guide carefully before starting the installation and then choose the appropriate installation method.

Mounting plate for waterproofing membrane roof can also be installed mechanically (screw fixing). In this case, the strength requirements for membranes and other surface materials do not need to be taken into account. This installation guide also explains the principle of screw fixing.

The mounting plate can be anchored to the roof substructure with insulation fasteners. If the mounting plate has been installed using a membrane penetrating fixing, ensure that the waterproofing classification of the roofing is still fulfilled after installation.

Avoid installing the mounting plate on an uneven surface. This is particularly important when installing a ladder.

### MOUNTING PLATE ON BITUMEN-BASED MEMBRANE

The bitumen membrane, used on top of the mounting plate, must be tested in accordance with EN 13707:2013 and meet at least the following requirements:

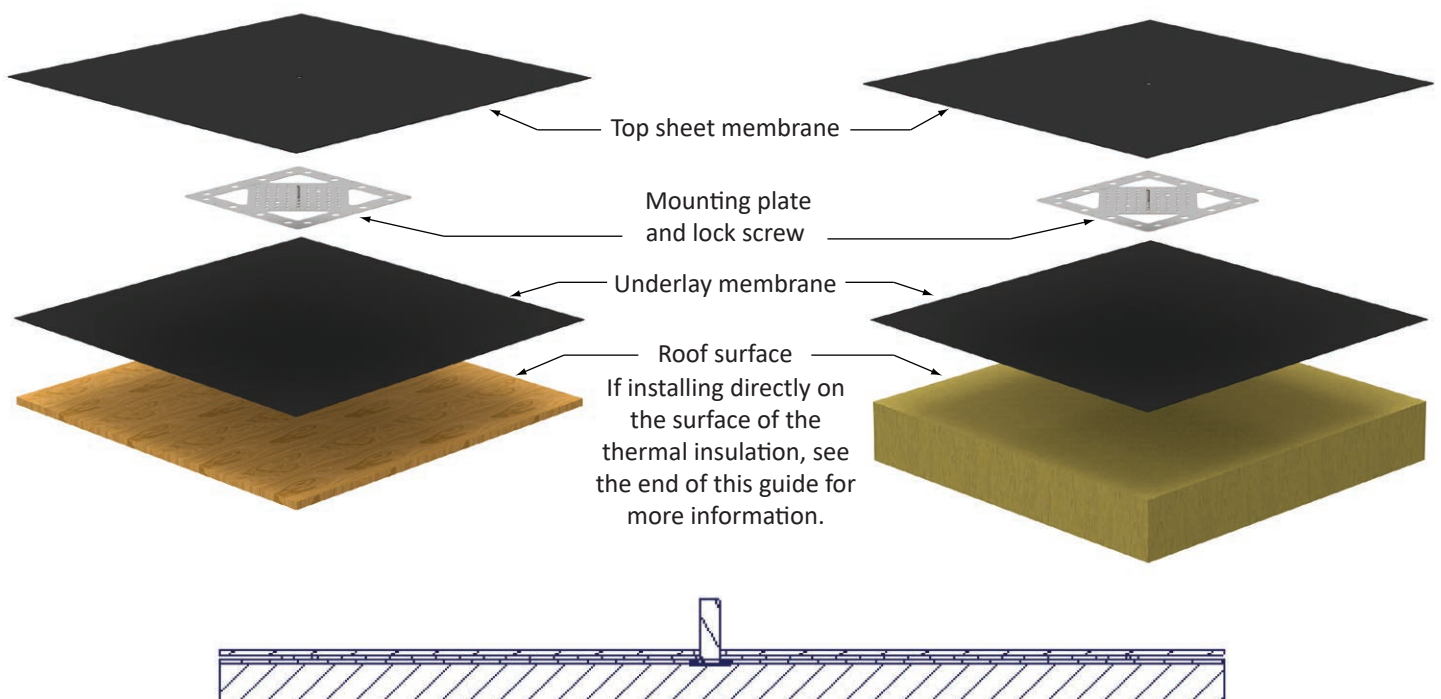
<b>Longitudinal tensile strength</b>	min. 600 N/50 mm	EN 12311-1
<b>Transverse tensile strength</b>	min. 400 N/50 mm	EN 12311-1

Top membranes that fulfil the TL2 criteria, described in Finnish Roof Systems Manual, meet these strength requirements. Note! All grades of bitumen membranes used in the installation shall be rubber bitumen (so-called SBS bitumen waterproofing membrane).

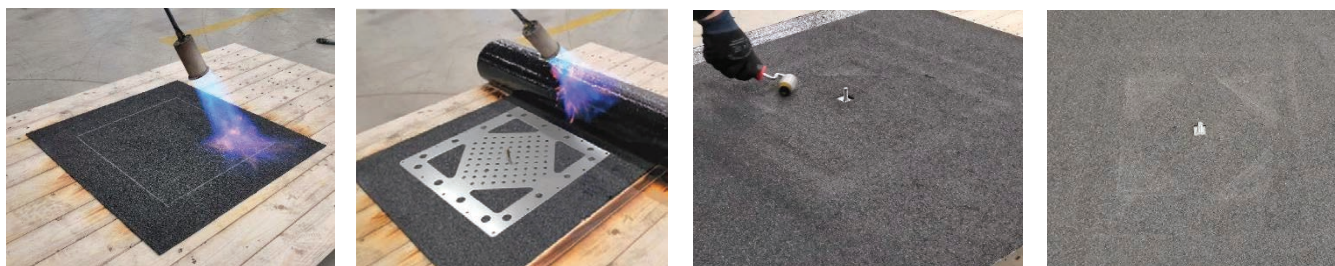
### MOUNTING PLATE ON PVC-BASED MEMBRANE

The PVC-based membrane must be tested in accordance with EN 13956 and meet at least the following requirements:

<b>Tensile strength:</b>	min. 1050 N/50 mm	EN 12311-2
<b>Resistance to tearing:</b>	min. 210 N /50 mm	EN 12310-2
<b>Shear resistance of joints:</b>	min. 1000 N/50 mm	EN 12317-2
<b>Peel resistance of joints:</b>	min. 150 N/50 mm	EN 12316-2



## MOUNTING PLATE INSTALLATION ON BITUMEN ROOF (during the installation of new roof)



1. On multilayer bitumen roofs, the mounting plate may be installed between the suitable welded underlay membrane and the top membrane by following the steps in this instruction. The fixing can be made with weldable or glueable rubber bitumen membrane. The bonding shall be carried out by bitumen rubber by hot-gluing.
2. If suitable underlay membrane is not yet at the site, cut a piece of membrane slightly larger than the mounting plate, e.g. 500 x 500 mm.
3. Weld or glue the piece to a desired place on the roof structure that is intended to be a substructure for a welded bitumen, according to the instructions of the membrane manufacturer.
4. Install the lock screw into the center hole of the mounting plate.
5. Mark the desired place for the mounting plate on the bitumen membrane - if the installation is to be done on top of the 500 x 500 membrane piece, the plate should be installed in the middle of the piece.
6. When using the welding method, the marked area is heated to a boil and the mounting plate is carefully placed in the marked position.
7. If the top membrane will not be installed directly after installing the mounting plate, secure the temporary fixing by using bitumen-based glue.
8. Make a hole for the lock screw in the overlying membrane.
9. Completely weld the membrane over the mounting plate.
10. The through-hole of the bolt is carefully sealed with bitumen-based substance (thread protection is recommended).
11. Carefully inspect for a proper adhesion between the welded surfaces around the mounting plate.

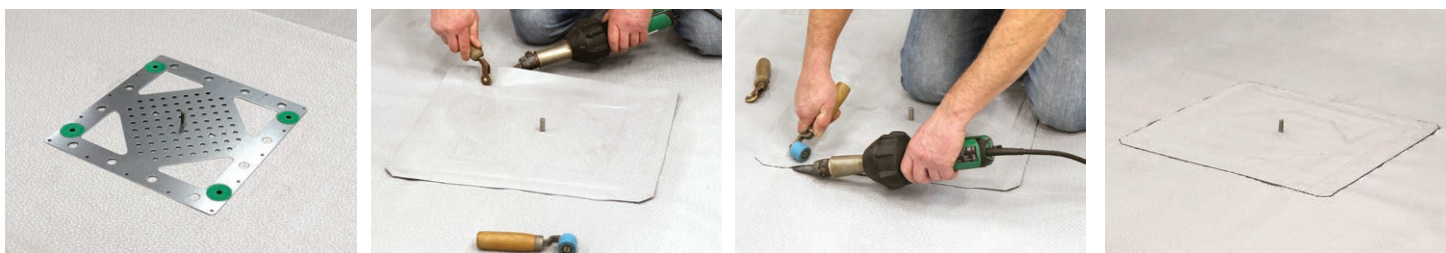
## MOUNTING PLATE INSTALLATION ON TOP OF READY BITUMEN ROOF



1. Mark the desired place for the mounting plate on the bitumen membrane. The membrane that acts as mounting base must be suitable for welding or adhesive bonding. If necessary, the membrane can be reinforced with suitable bitumen membrane piece that has rubber bitumen surface on both sides (the size of the bitumen membrane piece min. 500 mm x 500 mm).
2. Install the lock screw into the center hole of the mounting plate.
3. When using the welding method, the marked area is heated to a boil and the mounting plate is carefully placed in the marked position.
4. Cut a min. 700 x 700 mm piece of top membrane (when using on both sides bituminous underlay piece, the edge overlap of the top membrane from the outer edge of the underlay is min. 100 mm, leaving an edge distance of at least 150 mm to the mounting plate).
5. Make a hole for the lock screw in the overlying membrane.
6. Completely weld/glue the membrane over the mounting plate.
7. The through-hole of the bolt is carefully sealed with bitumen-based substance (thread protection is recommended).
8. Carefully inspect for a proper adhesion between the welded surfaces around the mounting plate.

Install products on the mounting plate according to the installation instructions for each product.

## MOUNTING PLATE INSTALLATION ON PVC-BASED MEMBRANE



1. Install the lock screw into the center hole of the mounting plate.
2. Place the mounting plate in the desired location.
3. The mounting plate is supported on its base by suitable insulation fasteners (min. 4 fasteners per mounting plate). If the base is hard, the mechanical fixing is done by using wood screws at the edges of the mounting plate (see section "Mounting plate installation with screw fastening").
3. Cut a 500 mm x 500 mm piece of membrane.
4. Make a hole for the lock screw in the cut piece.
5. The piece is carefully welded all over the mounting plate and minimum 50 mm area around the mounting plate.
6. Seal the lock screw's hole (special attention must be paid to this step).
7. Ensure that the PVC-membranes around the mounting plate are perfectly adhered to each other.

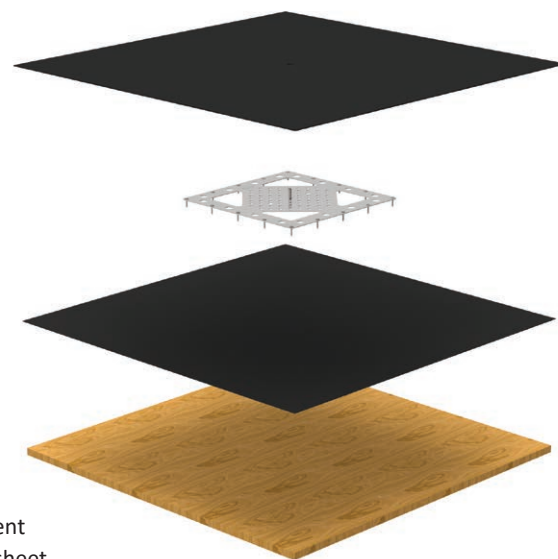
## MOUNTING PLATE INSTALLATION WITH SCREW FASTENING

1. Install the lock screw into the center hole of the mounting plate.
2. Place the mounting plate in the desired location.
3. The mounting plate is fixed to its base with screws from each screw hole (16 pcs, 4,2x25 mm fully fat-head wood screws, e.g. Ruukki Classic screws).
4. Top sheet membrane, e.g. bitumen or PVC membrane, is placed on top of the mounting plate, according to the methods described in this instruction, and membrane manufacturer's instructions.
5. Ensure that the end result is watertight.

Options for the substructure:

- min. 20 mm full tongue and groove boarding
- min. 15 mm OSB panel

Note: The product has been tested with screw fixing without surface materials. i.e. sufficient fixing strength is already achieved with screws, and the strength requirement for the top sheet membrane over the mounting plate apply to this installation method. Waterproofing is installed on a site-specific basis in accordance with the manufacturer's instructions.



## MOUNTING PLATE INSTALLATION DIRECTLY ON TOP OF THERMAL INSULATION

Certified product assemblies installed with mounting plate have been type-tested directly over various types of thermal insulation. In the type-tested assemblies, the insulation properties have been:

Soft thermal insulation (wool)

- Lower insulation level, compressive strength 20 kPa
- Upper insulation level, compressive strength 60 kPa

Hard thermal insulation

- FF-EPS 60S SILENT (Finnfoam)

## THE USE OF INSULATION FASTENERS AS AN ADDITIONAL FIXING FOR MOUNTING PLATE ON BITUMEN ROOFS

For PVC-based membrane roofs, mechanical anchoring of the mounting plate is always recommended. With PVC roofing it is important that the plate is not allowed to warp under the roofing due to external forces.

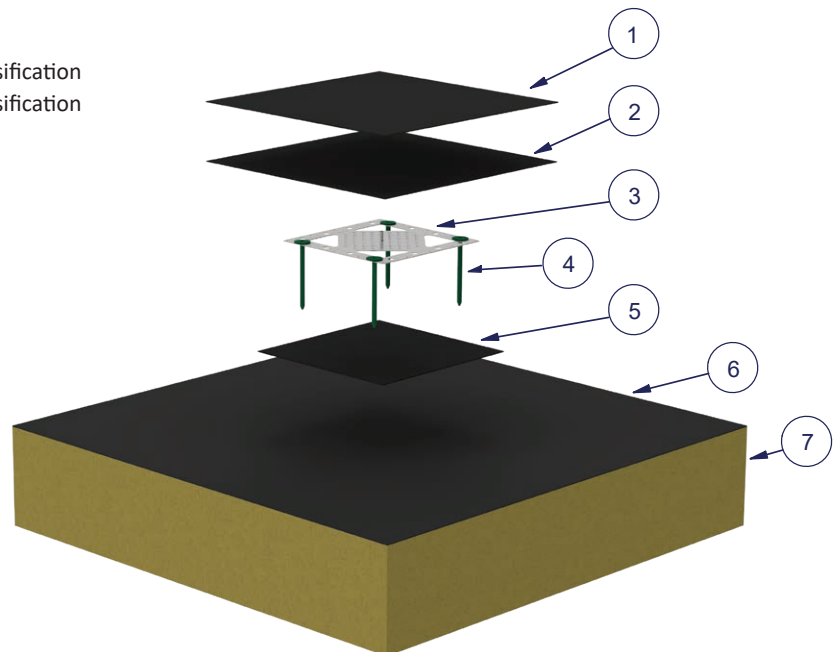
With bitumen roofing, the mounting plate can also always be anchored to the substructure with insulation fasteners, but it is recommended that this should be done at least in the following cases:

- Installation of solar panels and similar equipment mounting systems that create plucking load on the mounting points.
- When installing a single products on the top of ready bitumen roof, such as an anchor point for a safety rope.
- When installing on a slope steeper than 1:10

When bitumen roofing is penetrated with an insulation fastener, care must be taken to ensure that the waterproofing rating specified for the roofing is still met after the installation. For example, if two layers of waterproofing are penetrated, two layers of membrane must be installed on top of the mounting plate accordingly. For more information on waterproofing classification and implementation options, please contact the site designer or the bitumen roofing supplier.

## INSTALLATION ORDER OF THE PRODUCTS WHEN USING INSULATION FASTENERS AND BOTH SIDES BITUMINOUS UNDERLAY MEMBRANE

1. Top membrane piece according to waterproofing classification
2. Top membrane piece according to waterproofing classification (if needed)
3. Mounting plate for waterproofing membrane roof
4. Insulation fastener
5. Both sides bituminous underlay piece
6. Bitumen membrane roofing as rooftop
7. Roof insulation layer



## MAINTENANCE

Pisko products are hard-wearing and safe to use, guaranteed by the ongoing quality control and development work by Piristee Ltd, as well as correct installation of the products. To ensure the reliability and safety of the products, the property owner must carry out yearly inspection and maintenance procedures.

- Check the tightness of joints, connections and screws.
- Check the roof attachments (fixings).
- Check in particular that the mounting plate has not slipped laterally between the membranes (shear forces).
- For waterproofing membrane roofs, pay particular attention to the overall condition, watertightness and integrity of the waterproofing membrane roofing, the mounting plate and the joints between the products attached to the mounting plate, and the attachment of the waterproofing membrane roofing to its substructure. If necessary, the waterproofing membrane roofing shall be maintained in accordance with the roof manufacturer's instructions.
- Water that gets between the insulation layers can damage the mounting plate over time, so special attention should be paid to waterproofing.
- Ensure any excessive snow load is cleared to minimize the strain on structures, fixed devices and attachment points (as necessary; there might be a need to do this several times during the winter).
- As necessary, clear the attached devices of snow and ice.
- Check the surfaces of products attached to the mounting plate and, if necessary, repair local defects and repaint.
- Replace or repair any damaged or faulty parts as soon as possible – damaged products must not be used.