INSTALLATION INSTRUCTION NO. 4, FOR APPLICATION OF VAPOUR PERMEABLE MEMBRANES ON SHEATHINGS MADE OF BOARDS, AS SEALING OF COVERINGS LAID ON BATTENS.

This instruction concerns most important rules for installation of vapour permeable membranes, referred to as „ICM” with DoP type 120 – type 265 on sheathings made of boards in sloping roofs with ventilated coverings laid on battens and counter-battens. Basic rules of installation of ICM on boards are the same as for ICM stretched on roof truss and are set in Installation Instruction no. 1 (for roofs with slope ≥ 20 º) and in Installation Instruction no. 5 (for roofs with slope lower than 20º). Instructions comply with PSD (Polish Association of Roofers) Guidelines (Notebook no. 1 and 2).

Requirements for sheathing made of boards

1. Wooden sheathings made of boards should form a flat surface with irregularities on connections not bigger than 1 mm.
2. Humidity of the boards should not be bigger than 20%.
3. Minimal thickness of boards used for construction of sheathings should be 24 mm and should not be bigger than 38 mm.
4. In non-ventilated roofs (without ventilation gap under the sheathing), especially when thermal insulation of the roof is in contact with sheathing boards where ICM is laid, the sheathing boards should not be wider than 11 cm.
5. Non-calibrated and calibrated boards should be installed with gaps on contact with one another on their whole length. They cannot be connected by tongue and groove. Boards wider than 11 cm demand wider gap between them.
6. Boards should be impregnated, but the impregnators should be well-dried and absorbed by the wood. Wood preservatives and way of their application should not act destructively (damage or prevent flow of vapour) on ICM installed on boards.
7. Boards have to be fixed to every rafter by means of at least two torsion nails, ring nails or similar.

Installation of ICM

1. Basic fixing of ICM to the sheathing is formed by counter-battens.
2. Additionally, staples or nails with wide head fixing ICM on the sheathing should be placed in places where counter-battens will cover them. Such fixing of ICM can cause its damage if the number of fixing points is excessive. Additional fixing should have as little staples or nails as possible. Full sealing of such connection can be assured by tape sealing counter-batten from the bottom (tape MARMA K1).
3. To drive staples, upholstery staplers (tackers) are most suitable, because hammer staplers are not precise enough and promote hasty drive of excessive number of staples.
4. If there is a need to fix ICM between counter-battens, it is best to do that under overlap between following stripes of membrane.

Comments and reservations

1. Initial fixing of ICM (by means of nails or staples driven by tacker) and nails fixing the counter-battens could be a reason for leakage of membrane during its installation when it rains and there is no final covering yet. After correct installation of final covering, such big amounts of water cannot get under counter-battens to create water stains on beams of roof truss. If the investor is afraid of such stains, he should order the contractor to use foam sealing tapes sealed under counter-battens (tape MARMA K1).
2. ICM laid on sheathing are more exposed for damages than those stretched on roof truss (on construction beams), because mechanical damages are not so visible as by roof without sheathing. In addition, during roofing works, the sheathing is used as a communication platform which increases the risk of damages.
3. If ICM is laid on sheathing which is poorly or not diffusion-open (Sd > 0,3 m), under such sheathing there must be a ventilation gap or space separating sheathing from thermal insulation.
4. ICM laid on sheathing made of boards creates a material system which can be considered as rigid sealing defined in PSD (Polish Association of Roofers) Guidelines (Notebook 1, chapter 6.2.).



Additional information on websites:

 [www.marma.com.pl](http://www.marma.com.pl) i [www.dachowa.com.pl](http://www.dachowa.com.pl) .

**Instruction written according to the state of knowledge from**

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