INSTALLATION INSTRUCTION NO. 9,  FOR APPLICATION OF VAPOUR PERMEABLE MEMBRANES AS INITIAL COVERING MEMBRANE (ICM) IN NON-VENTILATED ROOFS WITH UNUSED ATTIC

This instruction concerns the most important regulations for application of initial covering membranes with vapour-permeability DoP type 120 – type 265 in non-ventilated roofs with ventilated coverings with unused attic (partly or completely).

Pic.1

Pic.2

Non-ventilated roof with ventilated covering with completely unused attic is shown in the pic. 1. Whereas non-ventilated roof with ventilated covering with partly unused attic is shown in the pic. 3. In the second example, there are non-ventilated spaces behind knee walls (on the side) and over collar beam (under ridge).

In this type of roofs, over newly built constructions, in the attic space, big amount of water vapour can gather during first 2-3 years of exploitation. In cold periods (autumn, winter, spring), condensate can form on ICM because of the temperature difference. It results from the laws of physics and this process does not depend on the vapour-permeability of ICM, under which the vapour condensates and turns into water and ICM does not let water through. Because of that, a big amount of condensate can gather on ICM for many days causing the fall of water on thermal insulation.

The best method is to ventilate those empty spaces over thermal insulation, by causing an airflow inside the roof under ICM and over thermal insulation. It can be done in many different ways, but generally we can divide them into:

1. constant ventilation – it consists in building the roof in such way that the attic is ventilated always as in both pictures, by windows (marked with dotted lines) in gable walls (then roof is ventilated), according to the regulations specified in norm DIN 4108 – 3;
2. periodically, only during the first years of building exploitation – after technological moisture has evaporated, temporary ventilating elements are removed.

It is easiest to run the airflow by putting ventilation inserts between overlaps of strips of ICM, manufactured especially for this purpose or made of different waste materials as wedges (pic. 3). After ca. 3 years those inserts can be removed.

On attics where different equipment like recuperators, air conditioners etc. are mounted, ventilation of the attic must be permanent.

**Installation of ICM on roof truss according to instruction no. 1 or no. 5 available on websites given below.**

**Instruction written according to the state of knowledge from May 2019.**

Additional information on websites****: [www.marma.com.pl](http://www.marma.com.pl) and [www.dachowa.com.pl](http://www.dachowa.com.pl) .

Pic.3