

termPIR[®]
insulation boards



Insulation boards from G6r-Stal

termPIR[®] INSULATION BOARDS



FLAT ROOF INSTALLATION INSTRUCTION ON TROUGHED SHEET METAL

GENERAL RECOMMENDATIONS

For mechanically installed flat roofs we use the following insulation boards: termPIR® AL, termPIR® MAX 19 AL, termPIR® BT, termPIR® WS, IZOPROOF®.

The method of installing successive layers should be carried out in such a way that the flat roof fulfils its tasks permanently and during its use the roof covering is not damaged or dampness of the thermal insulation has not occurred. The individual components must be installed in accordance with good building practice and the manufacturer's recommendations.

The termPIR® boards can be installed in one or two layers. When laying the roof in one layer, it is recommended to use boards with TAG (tongue and groove cutter) or LAP (stepped cutter), and FIT (flat cutter) may be used when laying in two layers.

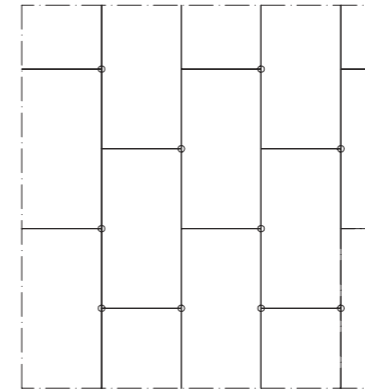


Fig. 1. Laying the first layer

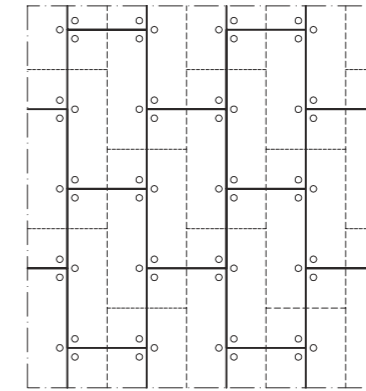


Fig. 2. Laying the second layer

METHOD AND SEQUENCE OF INSTALLATION

STAGE 1: INSTALLATION OF STRUCTURAL METAL SHEETS

The troughed sheet as a substrate for the thermal insulation boards should be laid loosely and mechanically fixed to the roof structure. The number and type of connectors should be in accordance with the designer's recommendations.

STAGE 2: INSTALLATION OF THE VAPOUR BARRIER

The vapour-proof membrane is placed successively on a properly fixed and cleaned troughed sheet metal base. It is important to remember about the proper direction of laying successive strips of membrane. Laps shall be laid in the direction of the roof pitch and their size shall be specified by the supplier.

STAGE 3: INSTALLATION OF termPIR® BOARDS

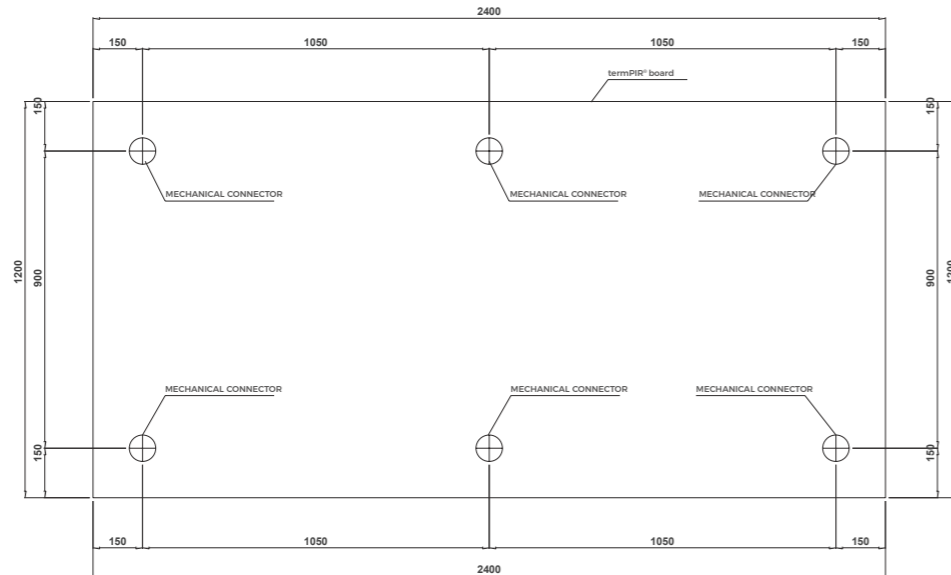
termPIR® boards are mounted on an unfolded vapour-proof membrane by placing them with their longer side perpendicular to the sheet folds.

In this way we minimize the number and length of unsupported joints. The boards should be installed in a staggered system, so that they are tightly adjacent and the joints of adjacent rows and layers do not overlap. Further boards should be mechanically fixed with connectors. Gaps larger than 3 mm must be filled with low-pressure mounting foam.

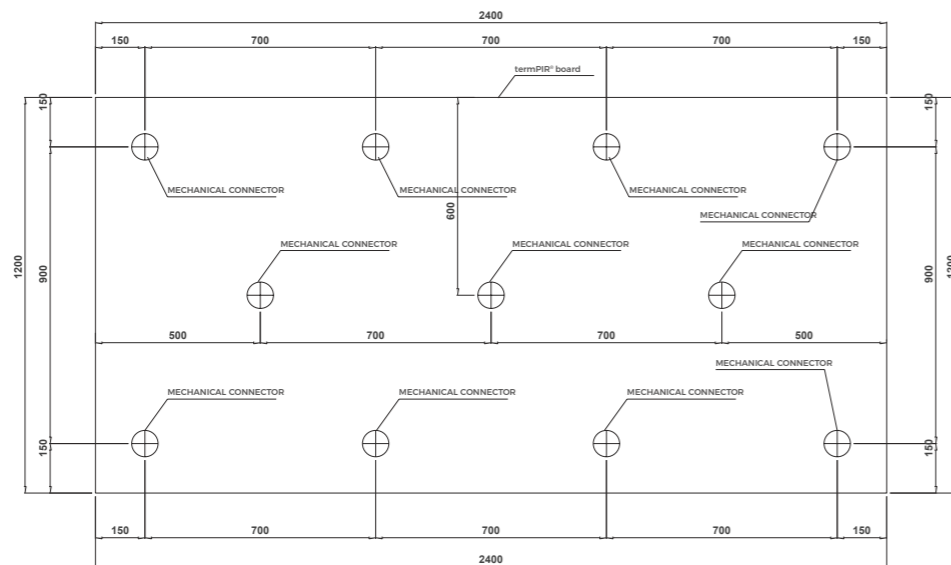
In addition, care must be taken to ensure that the thickness of the board is not less than 1/3 of the distance between the adjacent folds of the troughed sheet used. For 40 mm boards, the joints should rest on the top wave of the load bearing sheet. The first layer is fastened with connectors (telescopic connectors) in the amount necessary for proper assembly of the complete roof (to avoid displacement of the bottom layer - 1 connector / board).

The top layer of boards (and single-layer insulation) is mechanically fastened depending on the roof zone. The number of mechanical fasteners per sqm of termPIR® boards should be determined on a case-by-case basis by the relevant designer.

In order to ensure safe operation of the board, it is important not only to determine the minimum number of mechanical fasteners per sqm of insulation, but also the correct placement of fasteners. Each single 1200x2400 mm termPIR® board, regardless of the number of fasteners per sqm specified by the designer as the absolute minimum, must always be fixed as shown below:



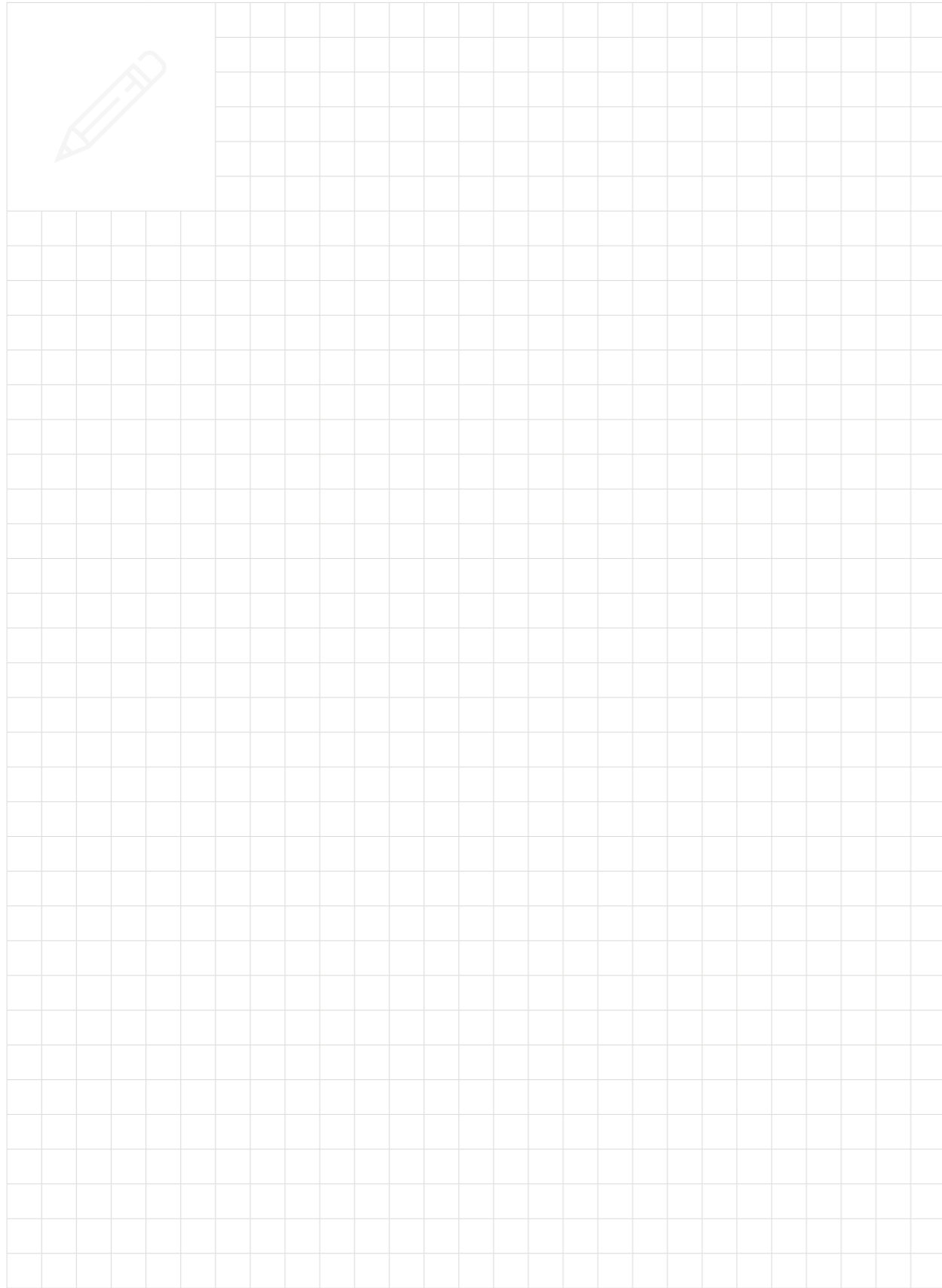
You should pay special attention when the roof waterproofing will be a material whose external surface has a high emissivity coefficient equal to or higher than 0.95 (dark colors - black or close to black, dark matt surfaces). Such a roof covering will put a high thermal load on the insulation boards on sunny days. Therefore, in such a situation each single 1200x2400 mm termPIR® board, regardless of the number of fasteners per sqm specified by the designer as an absolute minimum, must always be fixed as shown below:



In both of the above cases, any additional mechanical fasteners resulting from the designer's calculations should be placed evenly on the internal surface of the termPIR® board, not exceeding the limit of 150 mm from the external perimeter of the board.

STAGE 4: INSTALLATION OF WATERPROOFING

Various types of waterproofing can be laid on termPIR® boards. The installation of the membranes is most often performed by means of connectors or torching on of successive waterproofing strips together. Detailed guidelines for the installation of roofing are specified by the designer who takes into account all the conditions that prevail at the construction site of the building (wind load, shape of the terrain, roof geometry, etc.). Roof edges should be properly secured by means of flashings. For this purpose, the panels must be cut and a suitable roof pitch must be shaped to prevent rainwater from accumulating on the roof.



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