MOUNTING INSTRUCTION

1. Description of the construction

The system consists of the thermo insulation finishing panel and the items of fixing and sealing.

The wooden anti-septiced vertical balks are fixed to the heated building wall. The measurements of the balks are chosen to every particular project (the description follows). The fixing is performed with stone spikes, which measurements are chosen accordingly to the type and weight of the wall. The lower part of the heated wall is delimited from the building plinth with the horizontal range of the anti-septiced wooden balks and is exposed using spirit-level or any other means to define the level.

The thermo insulation finishing panel is fixed on the prepared carcass from the wooden balks The panel is screwed to the balks with the galvanized wood screws. It is possible that thermo insulation finishing panel could be screwed directly to the wall without using the wooden carcass.

For reaching heat resistance of the construction higher than the thermal insulation panel has, the additional heat insulation material could be put into the spaces between balks, fixing it to the wall with the plastic dowels – holders.

The sealing of the joints of the thermo insulation finishing panel is performed with the help of the special sealant. The lower and the upper ranges of the panels are protected from the influence of the surroundings with the polyester (or aluminum) tin profiles. For the heating and decoration of the windows reveals can be applied the additional unit, which is made accordingly to every particular project.

2. The technology of work performance

The works of the heating of the outer walls with thermo insulation finishing panel consist of four stages:

1. The fixing of the wooden balks (carcass).
2. The stowage and fixing of the additional heat insulation layer (if required).
3. The fixing of the thermo insulation finishing panels and the up-building of the upper sealing profile.
4. The sealing of the joints.

2.1. The fixing of the wooden balks (carcass)

In the lower part of the building wall is being fixed the horizontal range of the balks. Starting from the edge of the heated wall in step 515...775 mm are being fixed the vertical wooden balks which are of 70 - 80 mm width. The thickness of either horizontal range balks either vertical balks is chosen in the following:

d_{min}= 32 mm – in case when additional insulation is not used.

$d = d_{ins}$– in case when additional insulation is used,

where d_{ins} - the thickness of the additional heat insulation.

In the lower part of the heated wall is being fixed the horizontal range of the wooden balks. Before fixing the wooden balks are being anti-septiced and covered with incombustible compound. The balks are being fixed to the wall with stone spikes which measurement ant types are chosen accordingly to the type and weight of the wall (brickwork, reinforced concrete, wood or other).

2.2. The stowage and fixing of the additional heat insulation layer

For example:

- required to reach the heat resistance of the wall R=5,00 m^2 K/W;
- thermo insulation finishing panel heat resistance R=1,30 m^2 K/W;
- heat resistance of the present building wall R=2,30 m^2 K/W (in particular case);
- required to use stone wool with λ = 0,034 W/mK.

In this case the thickness of additional heat insulation board should be:
d_{ins}= R x λ = (5,00 - 1,3 – 2,30) m^2 K/W x 0,034 W/mK= 0,049 m.
We select the heat insulation thickness equal to 50 mm.
We select the wooden balks thickness: d = d_{ins} = 50 mm.

The additional heat insulation layer (stone wool) is put into the spaces between vertical balks, which are affixed to the wall with the plastic dowels – holders. This is performed trough the layer of the heat insulation boring in the wall the apertures of 10 mm and hammering in the plastic dowels – holders. The length of the holder's trotter should be not less than 25 mm bigger than the thickness of the heat insulation layer. The number of the holders should be not less than two for one heat insulation board, which measurements are 550 x 1000 mm.

2.3. The fixing of the thermo insulation finishing panel

The thermo insulation finishing panels are of the following measurements:
- the length - 1413 mm;
- the width - 465 mm;
- the thickness - 53 mm;

Before mounting the first range on the lower range of the balks is being fixed the profile of the polyester or the aluminum tin which protects the lower edge of the panel from the influence of the humidity.

To the vertical wooden carcass with the wooden talks itemized in steps (515...775 mm) the panel is affixed with eight rustproof woodscrews 4,5 x 45 – 4,5 x 55 in steps of 350 mm. Affixing is performed on the stitches of the panel. The frame of the panel is characterized that all four edges have ladder joints, which ensure the sealing of the joints of the boards.
The measurement of the building wall angle mounting is performed in the following:
- the board is cut with the angle of 45^0 using the saw with the disc of the diamond blades;
- the cut place is covered with silicon sealing layer;
- the boards are compacted in the way that a part of sealant would be extruded from the stitches what ensures reliable sealing;
- the board is screwed to the balks of the wooden carcass;
- the abundance of the sealant is removed from the stitch.

The covering of the reveal of the building windows can be performed with the help of the special thinned unit (its width is about 30 mm).

The upper range of the thermo insulation finishing panels is covered from top with special profile of the tin. This profile is intended for the protection of the top edge of the panel from the humidity.

4. The sealing of the joints

The sealing of the joints is performed in purpose to protect the thermo insulation finishing panel from the effusion of the humidity to heat insulation layer. The sealant "Silicone" or any other analogical sealant intended for outside works is used for it. While the sealant is not yet hard enough, the place of sealing is sprinkled with the filler of the joints (special basaltic sand). In this case the processed place of the panels joint is almost invisible.