

DUTCH TILES

Installation Instructions



DUTCH TILES

CHARACTERISTICS

Dimensions: 25 x 42 cm

Pieces/m²: 14,5

Pieces/ Palette: 280

Weight/Piece: 3,2 kg (approx.)

Weight/Palette: 896 kg (approx.)

Batten spacing: 35,5 cm

Minimum roof pitch: 30% (17°)



INSTALLATION

1. Roof

The roof where tiles are to be laid may have either single or double insulation. The main elements of a roof are the rafter, decking, permeable membrane, shim, batten and insulation.

Insulation is preferably made of extruded polystyrene (XPS) with a proposed approximate height 1 cm less than the height of the batten in order to allow ventilation and not prevent proper installation of the tile on the battens.

The **decking** may either be made with tongue and groove paneling (visible decking) or scuretto (concealed decking).

The **batten** is usually 5cm x 5cm and it is impregnated (particularly in the case of concealed decking) so as to offer longer service life and protection against factors that affect its strength.

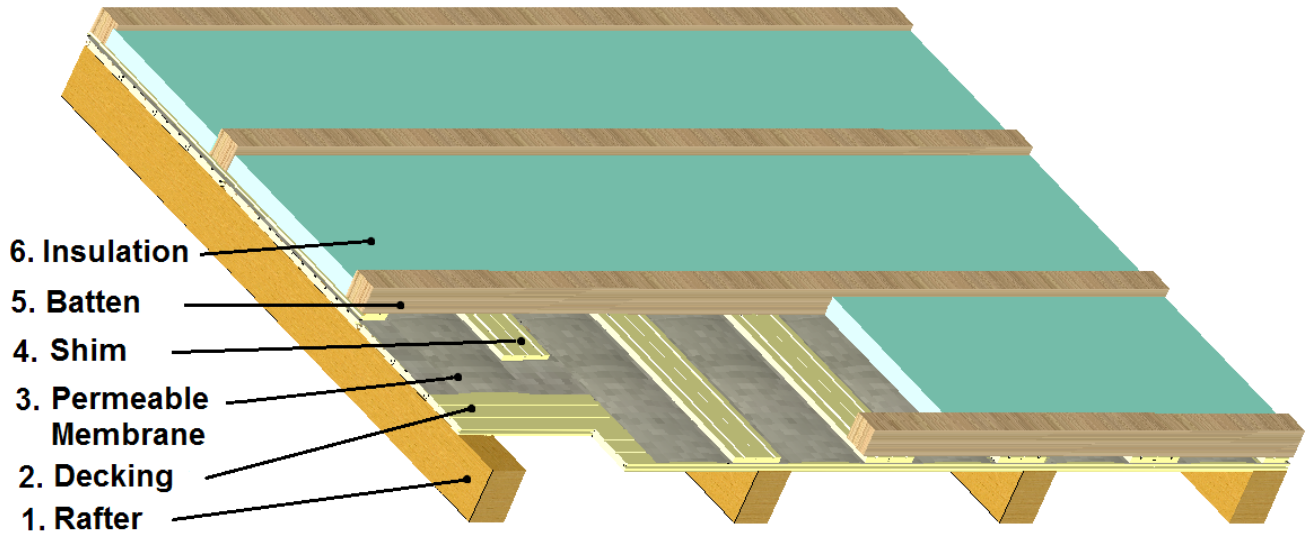
The proposed **permeable membrane** is a double layer membrane and forms a concave surface between supports so as to facilitate water drainage in case of penetration.

Double roof insulation is recommended where there's an attic under the roof (visible decking).

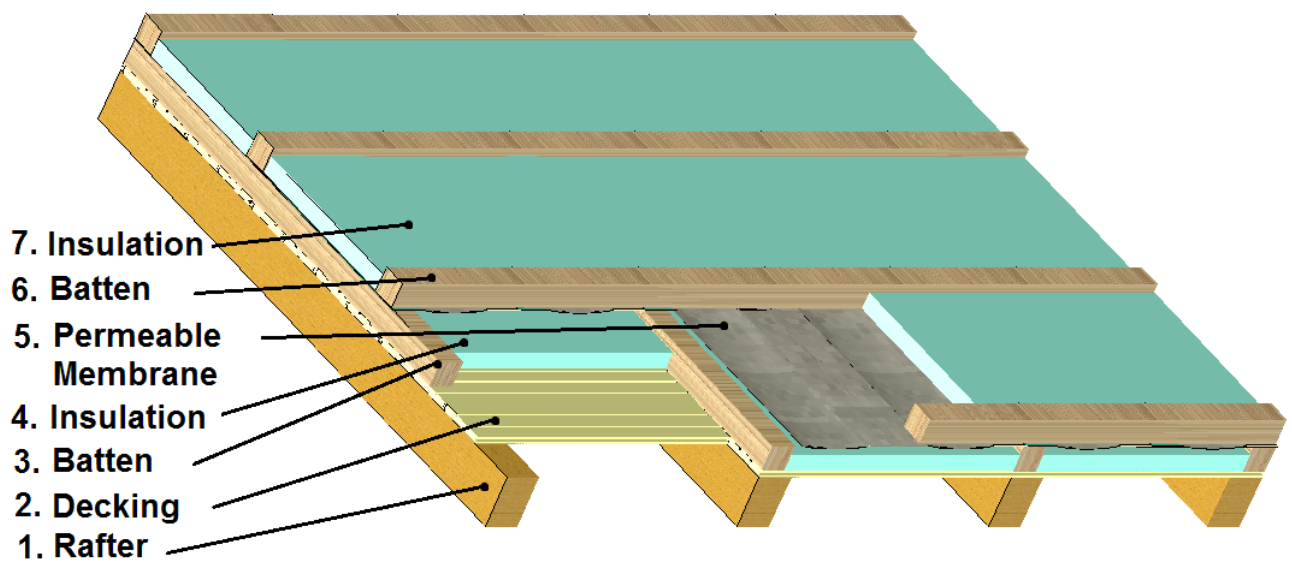
Single insulation is applied in case of slabs (concealed decking). To ensure ventilation and avoid heat, moisture and fungi growth, it is proposed to provide for openings at 4 points of the roof under the tiles (areas without insulation and permeable membrane) so as to ensure air circulation.

The two different types of roofs and the respective composing elements based on insulation (single or double) are:

SINGLE INSULATION



DOUBLE INSULATION

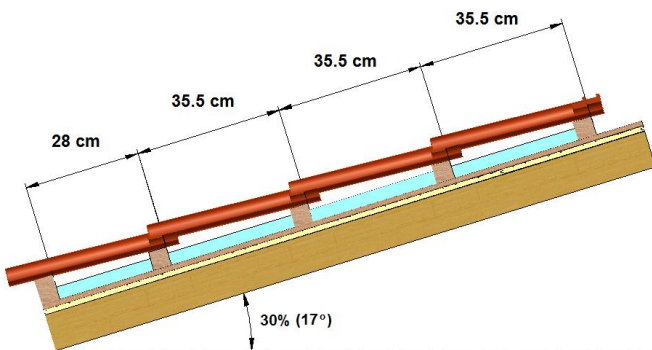


2. Tiles

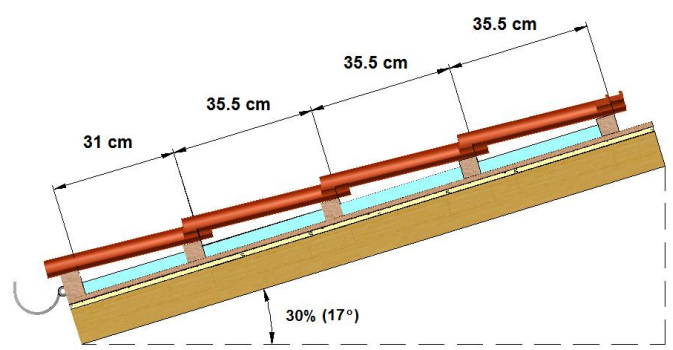
Dutch roof tiles are laid on battens spaced out at 35,5 cm.

The distance between the first and the second batten varies depending on whether a gutter is installed at the end of the roof, whereas the distance between subsequent battens remains fixed. When a gutter is installed, the indicative distance between the first two battens must be 31cm compared to 28cm without gutter.

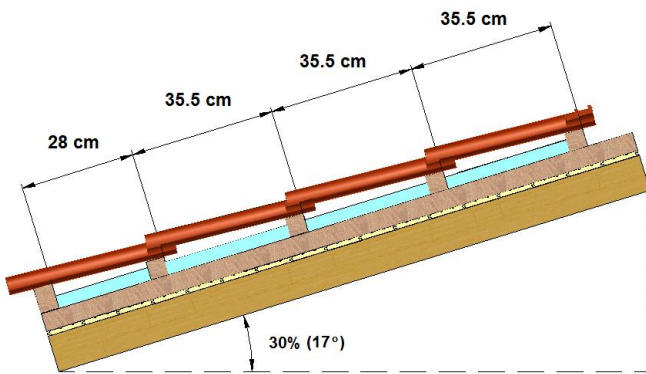
Sketch illustrating roof type and distance/pitch values



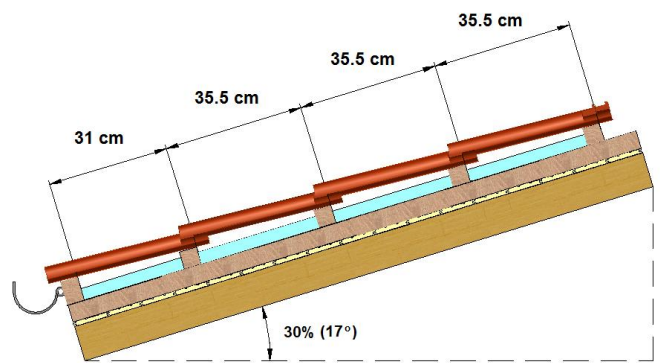
Single insulation roof without gutter



Single insulation roof with gutter

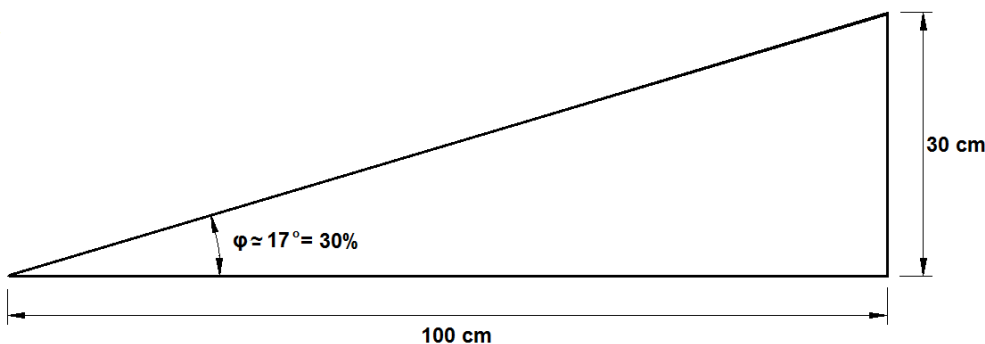


Double insulation roof without gutter



Double insulation roof with gutter

Roof pitch calculation

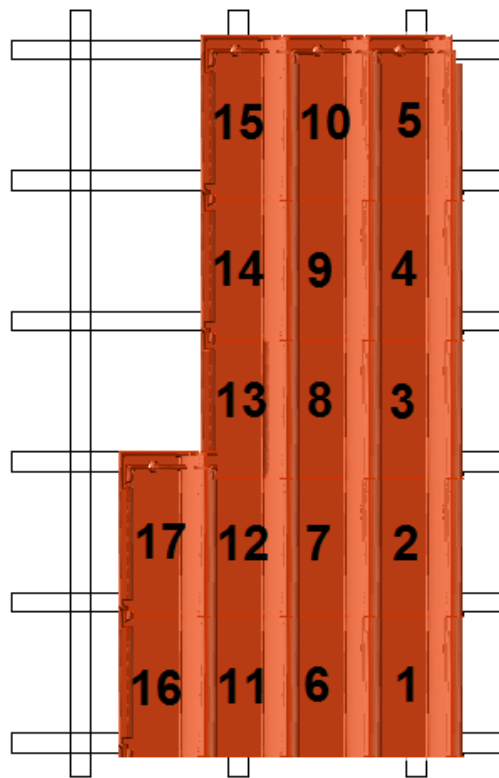


$$\text{pitch (\%)} = \tan(\varphi) \times 100\%$$

$$\varphi \approx 17^\circ \Rightarrow \tan(17^\circ) = 0,30$$

$$\Rightarrow \text{pitch} = 30\%$$

Dutch roof tiles are laid in a row pattern, starting from the bottom right corner as illustrated in the figure below:



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