

# INSTALLATION INSTRUCTIONS - DENSIMA



# GENERALITIES

The installation of the Aluthermo® DENSIMA roof underlay will be carried out in accordance with the manufacturer's instructions and the national rules applicable in this respect. During execution, the necessary measures will be taken to evacuate rainwater outside the shell. The contractor will take all protective measures to prevent damage to the roof underlay.

Aluthermo® DENSIMA is insulation, a vapour barrier and a roof underlay in a single product designed to be thicker to meet European standards. Ideal for renovating your roof.

Aluthermo® DENSIMA is non-symmetrical and consists of the following successive layers:

1. A reflective upper membrane that is highly permeable to water vapour. The upper membrane is clearly recognisable by its marking:

**EXTERNAL SIDE - FACE EXTERIEURE - BUITENZIJD**

2. A 37mm thick water-repellent polyester padding
3. A layer of dry air bubbles enclosed in polyethylene.
4. A pure, 30-micron bottom aluminum foil treated against oxidation.

**To make it easier during reading, the upper membrane, which is reflective and highly permeable to water vapour, will be called the "upper membrane". The complex formed by the layer of dry air bubbles and the pure, 30-micron bottom aluminum foil treated against oxidation will be called "lower aluminum".**

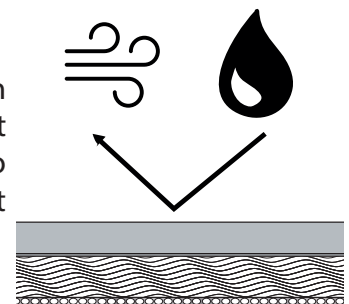
## CAUTION - BEFORE YOU START

### 1. WATER- AND AIR-PROOF:

To minimise convection losses, it is absolutely essential that the insulation forms an airtight envelope outside the building.

### 2. AIR LAME :

In order to promote the insulating power of Aluthermo® on energy exchanges by radiation, it is recommended to respect an air gap of min. 2 cm on either side of the Aluthermo®. To maximise the acoustic result, the Aluthermo® DENSIMA must be tightened well, in order to avoid any contact point



### 3. CAUTION AGAINST FIRE :

Never expose Aluthermo® DENSIMA to an intense heat source (welding, flame, sparks, etc.).

Chimney: never put Aluthermo® DENSIMA in contact with a chimney. Keep a minimum distance of 20 cm from the screen located near chimney ducts and, generally, keep away from any heat source.

In case of welding, remove Aluthermo® DENSIMA, even if a flame arrestor is present, and always ensure that it is not exposed to the projection of flaming debris or sparks.



### 4. THE UPPER MEMBRANE :

The upper membrane is easily distinguished from the lower aluminum. This upper membrane is waffled and less shiny. It must always be turned on the colder side, outside the building, while the lower aluminium foil must always be turned on the warmer side, inside the building. The upper membrane is clearly recognisable by its red marking:

**EXTERNAL SIDE - FACE EXTERIEURE - BUITENZIJD**

## 5. THE COUNTER BATTEN OF 4 CM :

The counter batten must have a minimum thickness of min. 4 cm to ensure a sufficient top layer of air.

## 6. THE ALUTHERMO® SCISSORS :

The Aluthermo® DENSIMA will be cut using a solid pair of scissors. We recommend the Aluthermo® scissors specially developed for this purpose.

# IMPLEMENTATION :

Aluthermo® DENSIMA has a built-in self-adhesive two-point cover. The "upper membrane" and the "lower aluminium" have a self-adhesive cover. This built-in cover prevents possible added thickness and facilitates installation while ensuring a perfect airtightness.

## 1. HORIZONTAL CONNECTION OF ALUTHERMO® DENSIMA STRIPS :

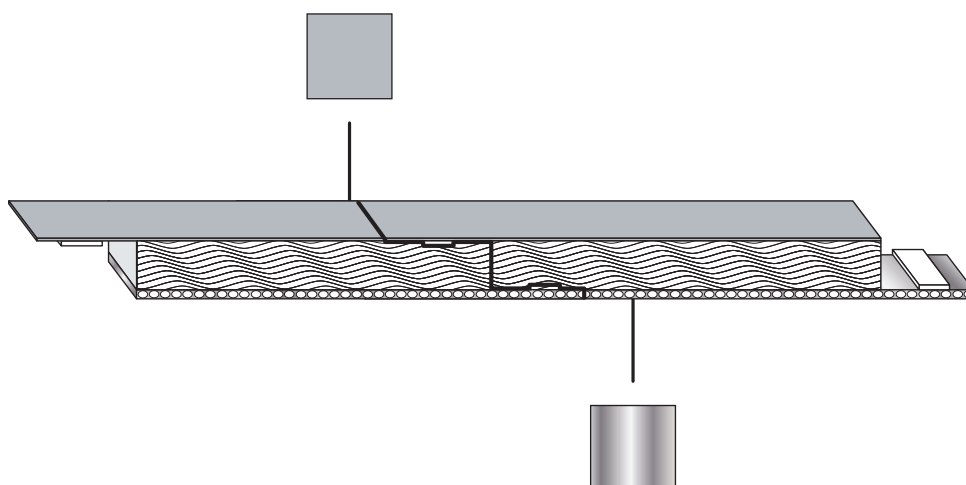
To connect a strip of Aluthermo® DENSIMA to the next one, proceed as follows:

The first strip of Aluthermo® DENSIMA is unrolled parallel to the bottom of the roof. The cover, with the self-adhesive strip integrated in the "upper membrane", is always facing down the roof, while the self-adhesive cover integrated in the "lower aluminium" is always facing the ridge - the top of the roof.

Then the self-adhesive cover integrated into the "lower aluminium" is folded down on the rafter and the Aluthermo® DENSIMA is temporarily fixed about 3 cm from the upper edge of the cover using wide-head nails. Later on, the membrane will be permanently fixed by the counter batten with a minimum thickness of 4 cm.

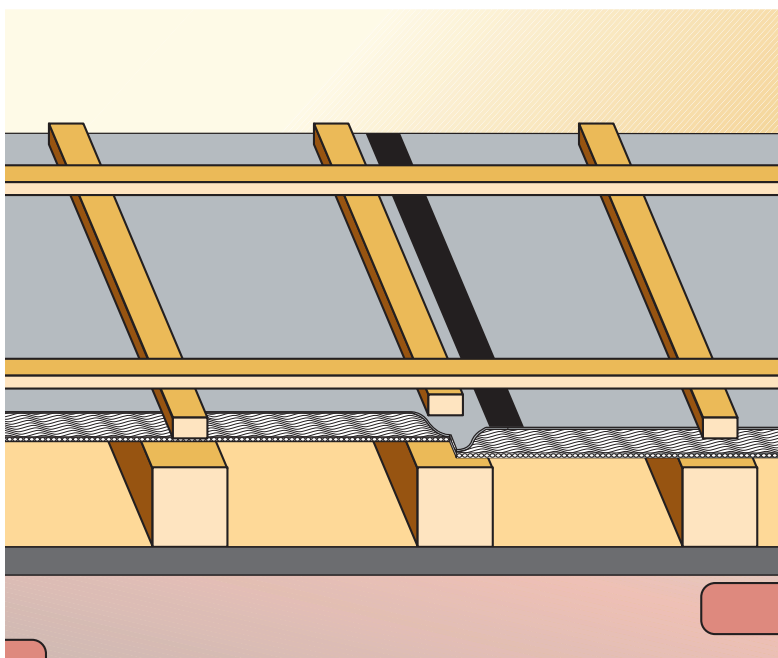
The second strip of Aluthermo® DENSIMA is then unfolded parallel to the first strip, ensuring that the polyester padding of each strip of Aluthermo® DENSIMA is laid side to side.

The protective film covering the self-adhesive strip integrated in the "lower aluminium" of the first Aluthermo® DENSIMA strip you have applied is removed, and the lengthwise cover is then glued. Then, the cover, with the self-adhesive strip integrated in the "upper membrane" of the 2nd Aluthermo® DENSIMA strip, is folded down onto the "upper membrane" of the first Aluthermo® DENSIMA strip. The protective film covering the integrated self-adhesive strip is removed and the lengthwise cover is then glued.





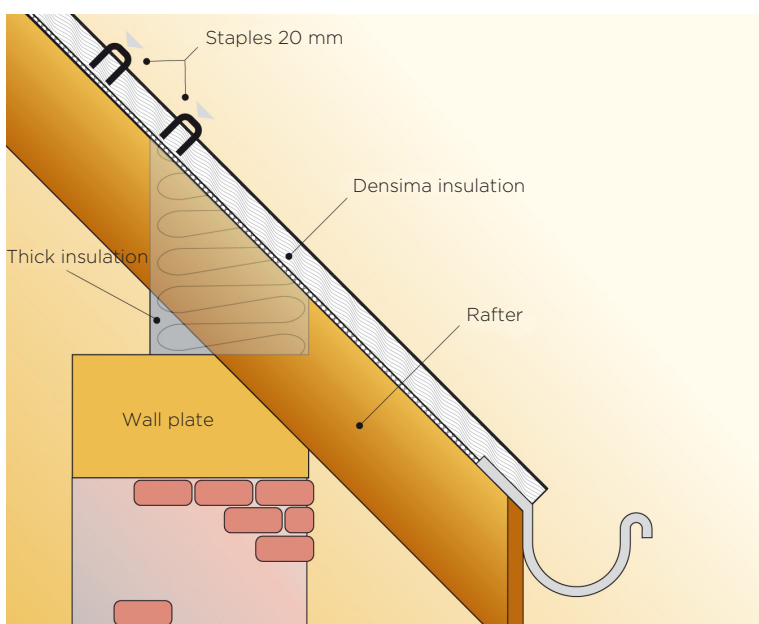
## 2. VERTICAL CONNECTION OF THE ALUTHERMO DENSIMA STRIPS :



The vertical connection between two strips of Aluthermo® DENSIMA will always be made at the level of a rafter and as follows: in order to achieve a cover, the polyester padding of the strip to be covered is detached from the "upper membrane" and shortened by approximately 20 cm over the entire width of the Aluthermo® DENSIMA using Aluthermo® scissors, taking great care not to damage the "upper membrane".

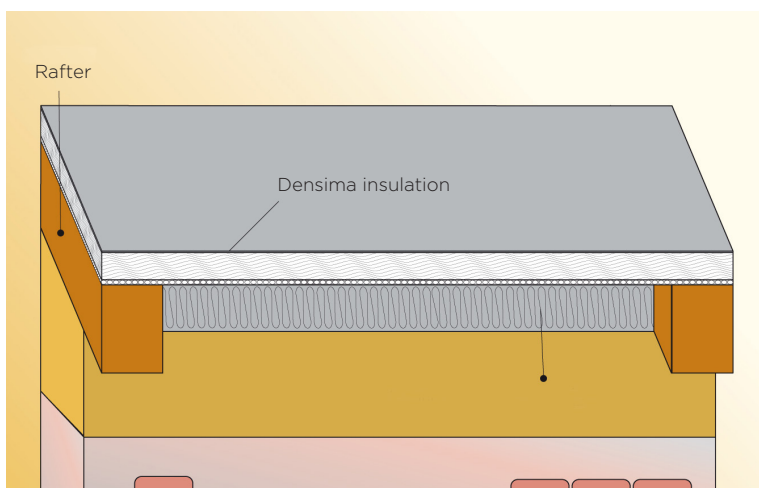
Then, the Aluthermo® DENSIMA will come to rest against the first strip in the middle of the rafter. The cover you have just made is folded down. Before gluing this cover with DAFA® UV BLACK adhesive, and to avoid any traction on the adhesive, the counter batten is applied. The counter batten must have a thickness of min. 4 cm.

## 3. AT THE BOTTOM OF THE ROOF :

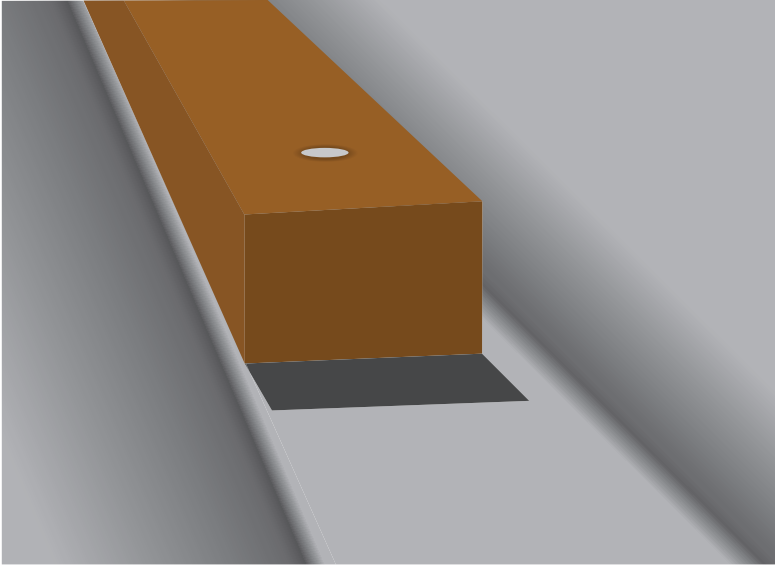


It is necessary to avoid any outside air passage underneath the Aluthermo® DENSIMA and to close and airtight the space between the rafters at the level of the wall plate.

Then, the first strip of Aluthermo® DENSIMA is unfolded. At the level of the gutter, the cover, with the self-adhesive strip, integrated in the "upper membrane", will cover the drainage system, and is fixed to it with self-adhesive. Care should be taken to avoid any water pockets or counter-slopes.

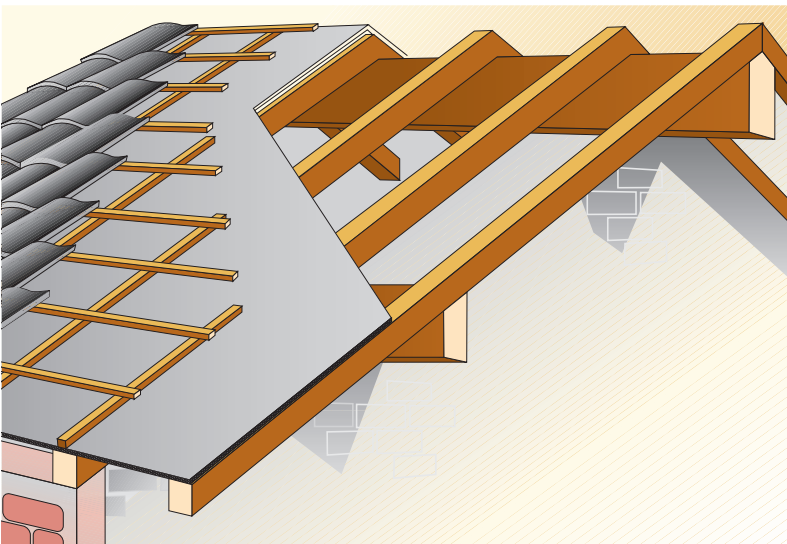


#### 4. DAFA NAIL SEALING TAPE :



The counter-battens must be at least 4 cm thick. Before laying them, make sure that the DAFA (or similar) nail sealing strip is laid between the counter-batten and the Aluthermo® Densima.

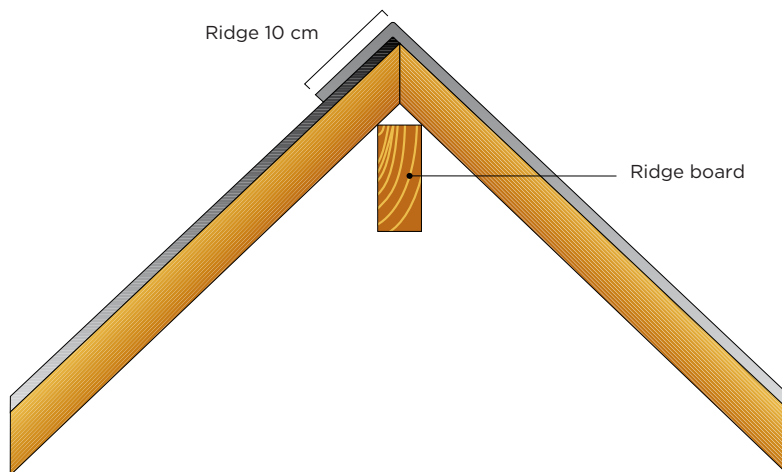
#### 5. AT THE GABLE :



The Aluthermo® DENSIMA is stopped at the outside lines of the gable.

To avoid convection losses as much as possible, it is absolutely essential that the insulation forms an airtight envelope outside the building. So don't forget to check if the last rafter that rests on the gable is airtight.

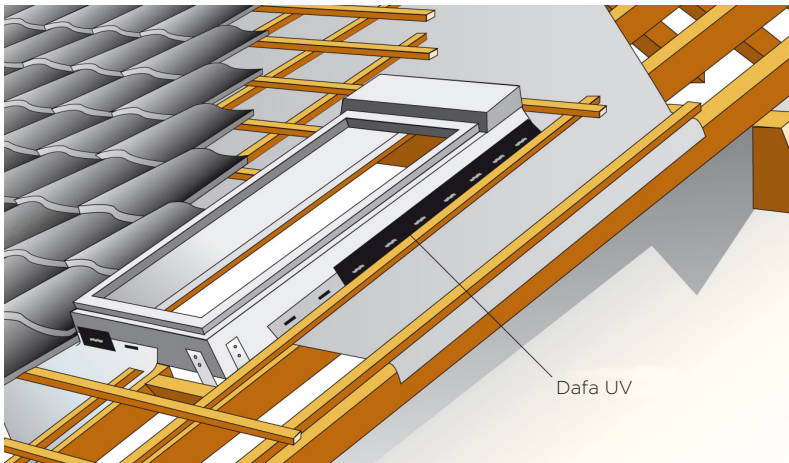
#### 6. RIDGES :



When making the ridge, the Aluthermo® DENSIMA® strip must cover both sides. To form a waterproof cover with the Aluthermo DENSIMA® strip on the opposite side, care should be taken to detach the polyester padding from the "upper membrane" and shorten it by at least 10 cm over the entire length of the Aluthermo® DENSIMA. The cover thus formed will be folded down onto the other Aluthermo® DENSIMA strip, ensuring that the polyester padding of each Aluthermo® DENSIMA strip is laid side to side.

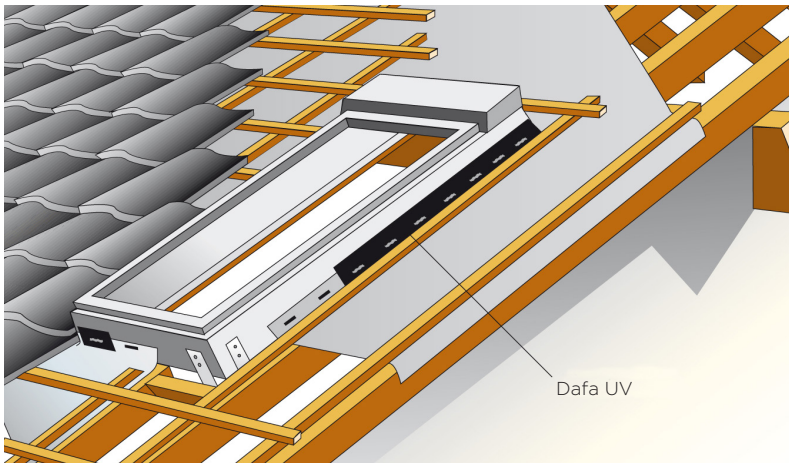
The protective film covering the self-adhesive strip integrated into the complex formed by the air bubble layer and the aluminium foil of the first Aluthermo® DENSIMA strip you have applied is removed and the lengthwise cover is then glued. Then, the cover you have formed with it is folded over the upper, highly vapour-permeable membrane of the first strip of Aluthermo® DENSIMA and closed with DAFA® UV BLACK adhesive.

## 7. ROOF WINDOWS :



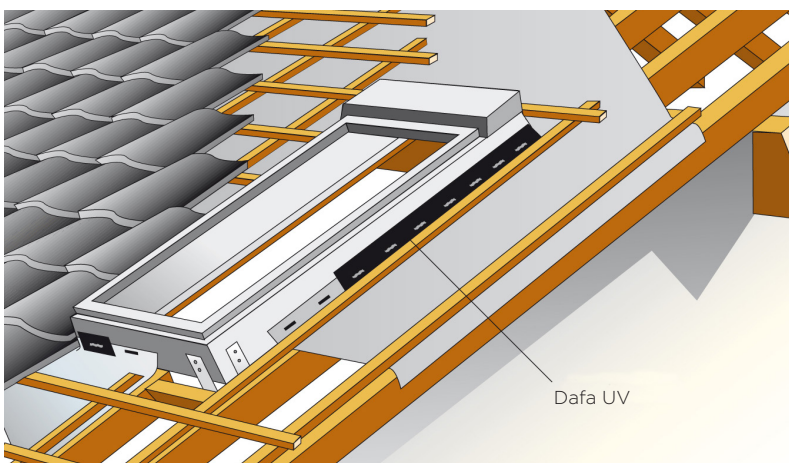
Observe the installation instructions of the window manufacturer. Draw the location of the window on the Aluthermo DENSIMA and cut along the two diagonals. Detach the polyester padding together with the air bubble layer and aluminium foil and fold the membrane back. Put the window down. The padding will be cut by moulding the window. Fold the membrane over the wooden frame. Pull it up to within 5 cm of the top edge of the frame. Trim the excess. Glue the edges and corners using DAFA® UV BLACK.

## 8. AIR VENTS :



The membrane is cut with a slightly smaller diameter than the diameter of the air vent. The connection will be sealed using the DAFA® COLLIER UNIVERSAL ROOF UNDERLAY

## 9. CHIMNEY CONNECTION :



Chimney connection: if the outside temperature of the chimney exceeds or reaches 80°C, stop the Aluthermo® 20 cm away from it. This distance can be bridged by non-combustible M0-rated insulation.

## 10. VALLEYS :

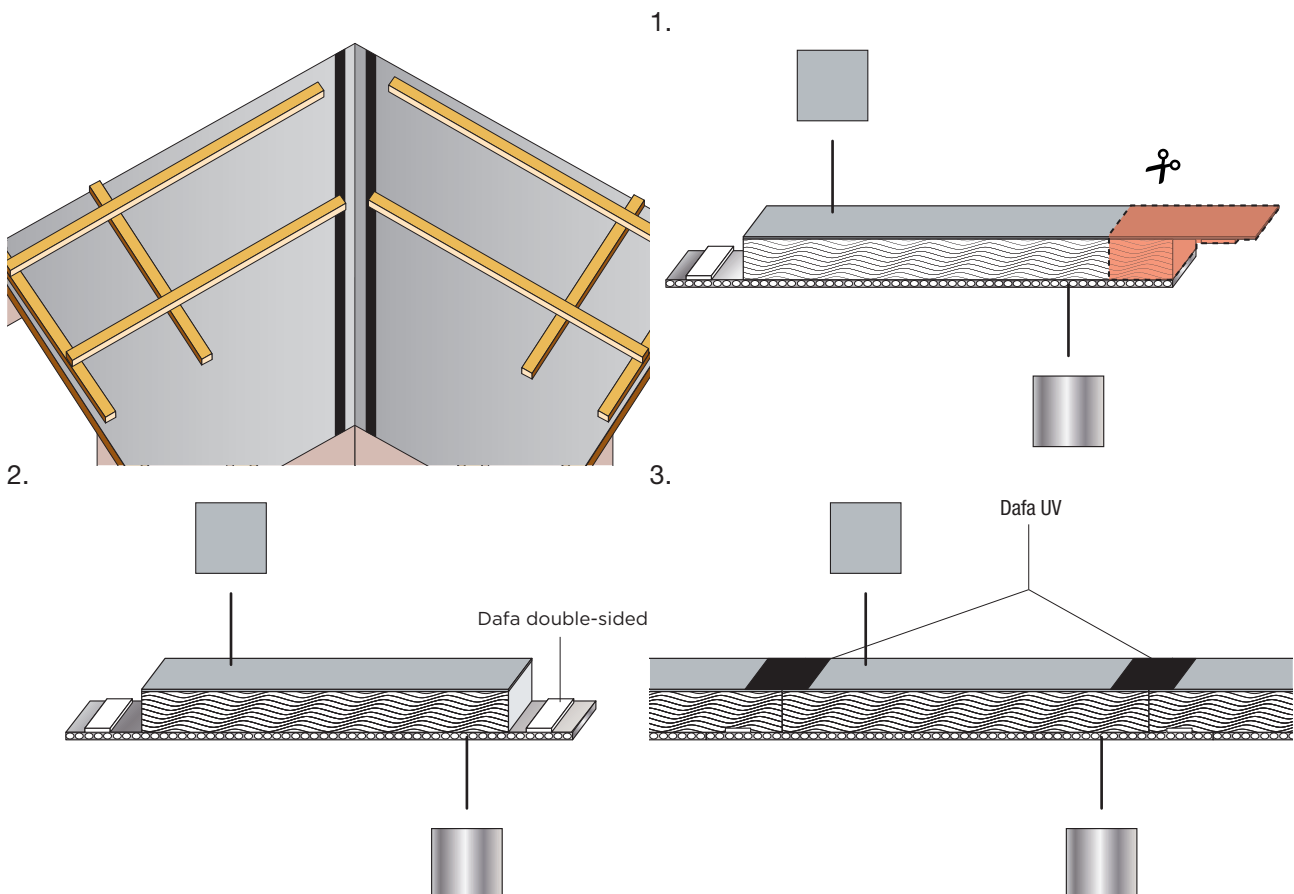
Place a strip of Aluthermo Densima along the valley. This Aluthermo DENSIMA strip has a built-in self-adhesive two-point cover. The "upper membrane" and the "lower aluminium" have a self-adhesive cover,

The cover of the "lower aluminium" is maintained. On the opposite side, care should be taken to detach both the "upper membrane" and polyester padding from the "lower aluminium" and to shorten the complex of "upper membrane" and polyester padding by at least 10 cm over the entire length of the Aluthermo® DENSIMA - so as to create a lower cover similar to that on the opposite side.

In order to subsequently create an airtight joint with the other Aluthermo® DENSIMA strips, a DAFA Double Side adhesive will be applied to this cover.

Then, lay the horizontal strips of Aluthermo® Densima, taking care to detach and shorten the polyester padding by a sufficient distance to form a cover that will cover the strip of Aluthermo® Densima that you placed along the valley, ensuring that the polyester padding of each strip of Aluthermo® DENSIMA is laid side by side.

The protective film covering the self-adhesive strip integrated in the "lower aluminium" of the first Aluthermo® DENSIMA strip you have applied is removed and the lengthwise cover is then glued. Then, the cover you have formed with the "upper membrane" is folded back over the "upper membrane" of the Aluthermo® DENSIMA strip laid along the valley and closed with DAFA® UV NOIR adhesive.



The list of applications is not exhaustive.  
Aluthermo® DENSIMA is used in a wide  
range of industrial applications.

For these uses, as well as any additional  
questions, our technical sales team our  
technical sales team is at your at your  
disposal.

Please do not hesitate to contact us:



**Effective. Thin. Easy to install.**

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