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(54) **SEALING FLASHING**

(57) The subject of the invention is a flashing designed for sealing the connection of a roof penetrating structure, having a double-sided tape 4, 5 acting as a sealant and an attachment means for the components of the sealing flashing on a roof, whereas the tape has a layered structure with cross-linked butyl as a carrier 4', 5', and at least one adhesive layer 4", 5" is a layer of acrylic adhesive.

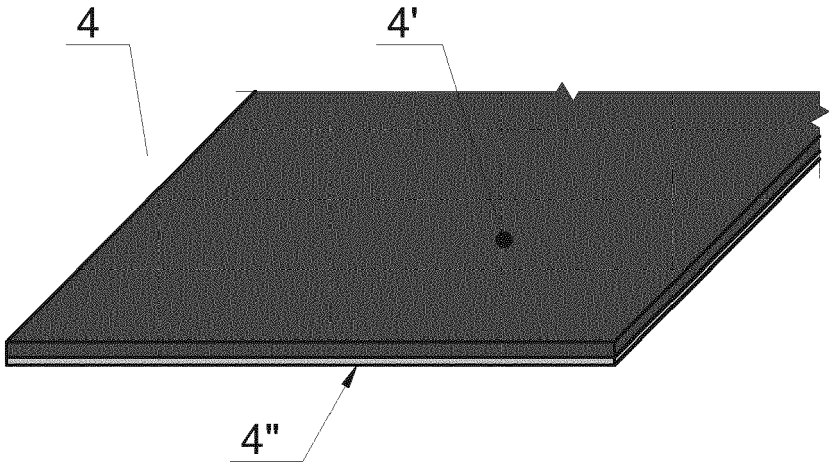

Fig. 3

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Description

[0001] The subject of an invention is a flashing for sealing a roof penetrating structure. Said flashing, comprises a double-sided tape, acting as a sealant and an attachment means for the components of the sealing flashing, particularly the flashing's apron to the roof. Said tape comprises a layered structure with butyl, preferably cross-linked butyl, as a carrier.

[0002] There is slready known a solution showing a flashing designed for sealing connection of a skylight type window with the roofing. Said flashing comprises an upper element adjoining an upper window frame member, two side elements adjoining a two side window frame members and a bottom element adjoining a bottom window frame member. The flashing's elements are connected together in an overlapping manner in accordance with the direction of the roof's incline. In cross-section, flashing elements are L-shaped with a vertical arm adjoining the wall of the corresponding window frame member, while the horizontal arm lies on the roofing. Apart from the already mentioned two arms, the flashing's bottom element also comprises an apron attached to its horizontal arm. Said apron is made of a lead or aluminium-and-plastic material and is moulded at the flashing's production stage by being bent into a pleated or sinusoidal shape. The apron is covered with strip of butyl protected with paper.

[0003] During installation of the apron, any excess of material, gathered in pleats or sinusoids is rolled out on the roofing so that it matches its shape. Then, after removing the protective paper from the adhesive tape of formable butyl, the apron is glued to the roofing. Butyl fills in the pleats of the apron, ensuring that it sits tight against the roof tiles.

[0004] There are also known double-sided adhesive tapes made of a carrier of PET, PP, or PVC plastic sheet or a non-woven fabric comprising mostly of PP, whereas the adhesive materials are based on butyl resins.

[0005] The butyl accumulated in the material collected in the apron flashing's pleats does not limit unrolling of the apron flashing, i.e. does not "pull the pleats" back again, though this happens when using tapes whose carrier is PET, PP or PVC.

[0006] The butyl tape is configurated to prevent any uncontrolled peeling of the apron flashing off the roofing. However, butyl used hitherto, especially at high temperatures, "melts away" and its adhesive properties are not sufficient to ensure long-lasting and firm adhesion of the apron to the roof. The aim of this invention is an apron with a new two-sided tape that seals and affixes the flashing's apron on the surface of the roofing. Said two-sided tape is characterised by adhesive and sealing properties that are better than existing solutions by using cross-linked butyl with at least one adhesive layer made of an acrylic adhesive onto said cross-linked butyl.

[0007] The flashing according to the invention seals a roof penetrating structure, especially a skylight type window, which is made up of four window frame members joined together: an upper window frame member, a bottom window frame member and two side window frame members. The flashing forms a closed frame composed of the following elements: an upper element, a bottom element and two side elements, connected together in an overlapping manner. The flashing's elements adhere closely to these window frame members to form a closed frame around them. In cross-section, flashing elements are L-shaped with a vertical arm adjoining corresponding window frame member, while the horizontal arm lies under the roofing on a vapour-permeable flashing.

[0008] The flashing elements are attached by means of a vertical arm to the window frame members of the roof penetrating structure by means of fasteners, preferably screws.

[0009] In addition to the above mentioned two arms, the bottom element also comprises an apron, attached to this arm. In case of profiled roofing, the apron lies on the roofing and takes on its shape, closely adjoining said roofing. In case of flat roofing, e.g. tar paper, the apron constitutes an extension of the horizontal flashing arm, and is made of the same material as said arm and also lies on the surface of the roofing.

[0010] The two-sided tape is arranged for attaching the apron of the bottom element to the roofing. The double-sided tape comprises a layered structure with a carrier made of cross-linked butyl and at least one adhesive layers. At least one adhesive layer is arranged for covering one of the outer surfaces of said carrier, so that, when installed, this adhesive layer serves to attach the apron flashing to the roofing surface. The tape's second adhesive layer is arranged for connecting the tape with the underside of the apron. Present solution has been shown in two embodiments, wherein the tape comprises two adhesive layers which are a layer of acrylic adhesive or one adhesive layer of acrylic.

[0011] When the flashing is installed, the tape is not visible from the outside and its width and length is at most equal to the width and length of the apron flashing to which it is attached. The length is defined as the apron flashing's longest dimension, while the width is the dimension perpendicular to the length dimension.

[0012] In the flashing supplied state, the double-sided tape can be glued to the apron by means of one adhesive layer, whereas the second adhesive layer is then covered with a protective tape that is removed immediately before the apron flashing is shaped on the roofing. Also in the flashing supplied state, the tape may be a separate element, in this case the two adhesive layers of which are covered with a protective tape.

[0013] The proposed solution provides an installation solution for a roof mounted flashing that is more effective and efficient than any previous. The tape easily adapts to the shape of the surface to which it is attached. Thanks to the cross-linked construction of the butyl carrier, at higher temperatures the polymeric mesh keeps the butyl in a compact form, ensuring it does not melt away over

the roof. In turn, the use of at least one adhesive layer made of acrylic adhesive increases the tape's adhesion to the flashing element and to the surface to which the element is attached, since crossed linked butyl is characterised in lower adhesive properties than no crossed linked butyl.

[0014] The invention is presented in the drawings, wherein:

Figure 1 presents a skylight type window in a roof with the lower flashing element prior to attaching the apron to the roofing surface,
Figure 2 presents a skylight type window in a roof with the sealing flashing after attaching the apron to the roofing surface,
Figure 3 shows a cross-section of the double-sided tape according to the first embodiment,
Figure 4 shows a cross section of the double-sided tape according to the second embodiment.

Embodiment 1

[0015] The flashing according to the solution is made up of an upper element 1, a bottom element 2, and two side elements 3. The flashing's bottom element comprising an apron 2', which is attached to the roofing surface by means of double-sided tape 4. The double-sided tape 4 comprises an carrier 4' made of cross-linked butyl and comprises one outer acrylic adhesive layer 4" which secures the apron flashing 2' to the roofing. The second side of the carrier 4' is arranged for securing the tape 4 to the underside of the apron 2'.

Embodiment 2

[0016] In the second embodiment of the flashing, the double-sided tape 5 comprises a butyl carrier 5' and acrylic adhesive layers 5" mounted on two outer surfaces of the carrier. One layer of acrylic adhesive serves to attach the apron to the roofing surface, while the second layer of acrylic adhesive serves to secure the tape to the underside of the apron.

Claims

1. A sealing flashing arranged for sealing connection of a roof penetrating structure with a roofing, which comprising an upper element (1), a bottom element (2) joined together in a shape of closed frame by two side elements (3), where flashing elements are L-shaped in cross-section, such that the vertical arm is arranget to adjoin the corresponding wall of the roof penetrating structure, while the horizontal arm of the upper and two side elements are arranged to lie under the layer of the roofing but on the roof's vapour-permeable flashing, and the flashing's bottom element (2) is equipped with an apron (2') configurated to lie on the surface of the roofing, **characterized in that** the apron (2') comprises a double-sided tape (4) which comprising a layered structure made up of a carrier (4', 5') and at least one adhesive layer (4", 5"), while the carrier (4', 5') is a layer of cross-linked butyl, and at least one adhesive layer (4", 5") covers the outer surface of the carrier (4', 5'), so that when installed, this adhesive layer (4", 5") is arranged to attach the apron (2') to the roofing.

2. The sealing flashing according to claim 1, **characterized in that** one adhesive layer (4", 5") of the tape (4, 5) is made of acrylic adhesive.

3. The sealing flashing according to claim 1 or 2, **characterized in that** the two adhesive layers (5") are made of acrylic adhesive.

4. The sealing flashing according to claim 1 or 2 or 3, **characterized in that** the second adhesive layer (4', 5") is attached to the outer surface of the carrier and is arranged for connecting the tape with the underside of the apron (2') flashing.

5. The sealing flashing according to claim 1 or 2 or 3 or 4 **characterized in that** the tape (4, 5) has a width not greater than the width of the apron (2') flashing to which it is attached.

6. The sealing flashing according to claim 1 or 2 or 3 or 4, **characterized in that** the length of the tape (4) is at most equal to the length of the apron (2') flashing to which it is attached.

7. The sealing flashing according to claim 1, **characterized in that** the tape in supplied flashing state features a tape protecting at least its one adhesive layer.

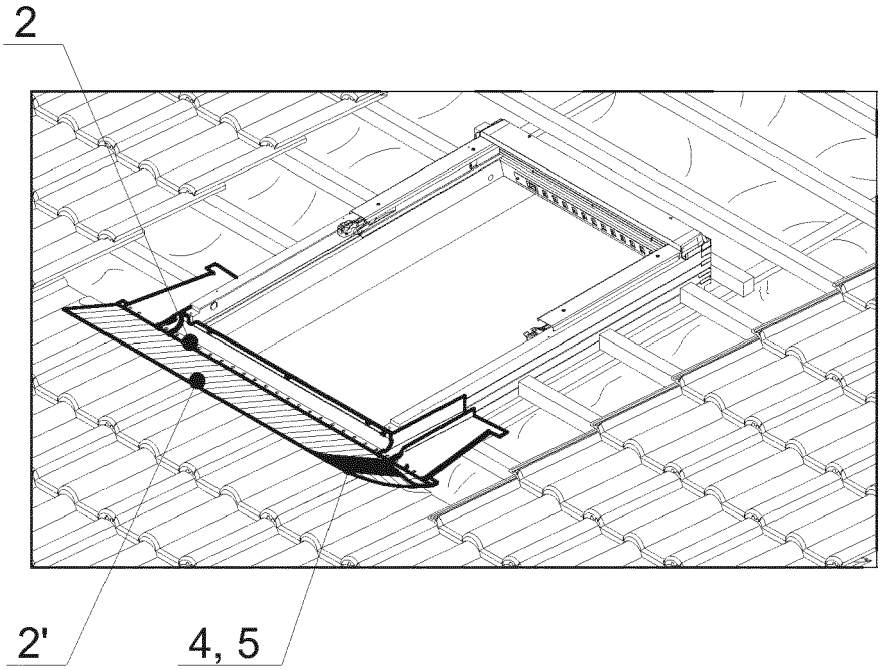

Fig. 1

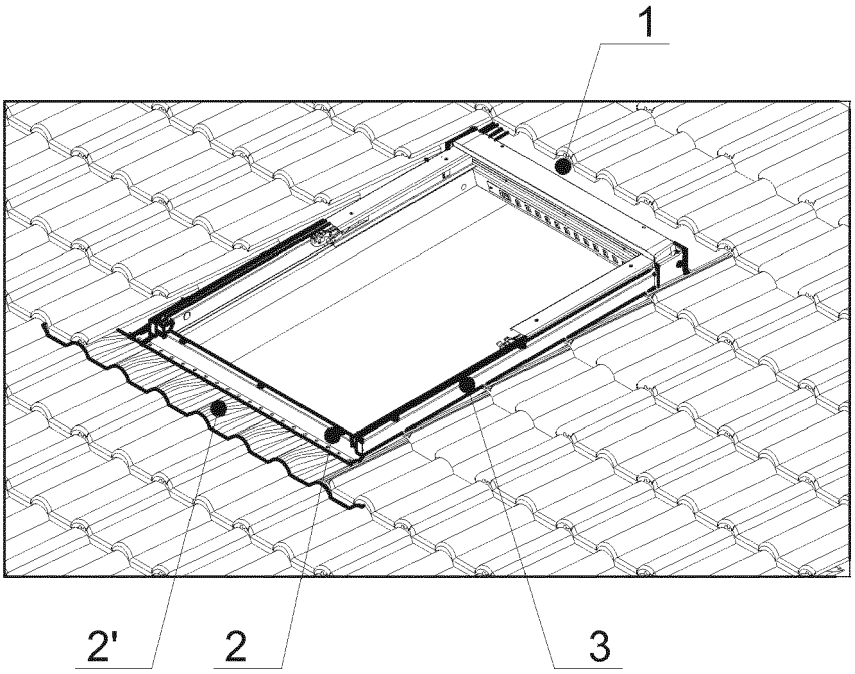

Fig. 2

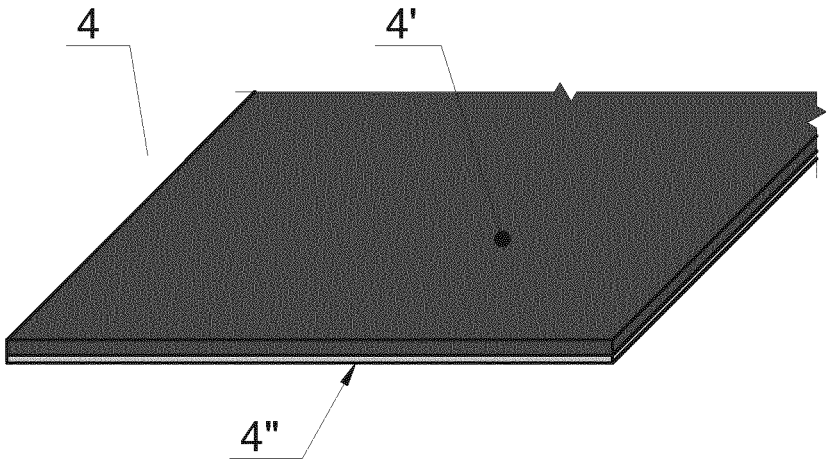

Fig. 3

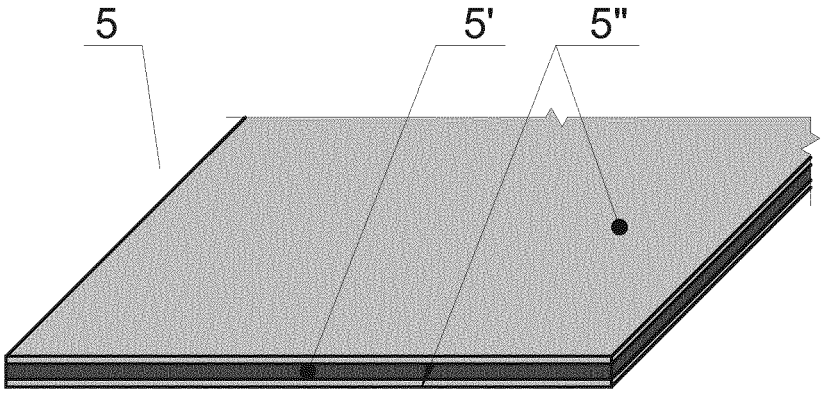

Fig. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 17 20 0244

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	15 March 2018	Demeester, Jan

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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