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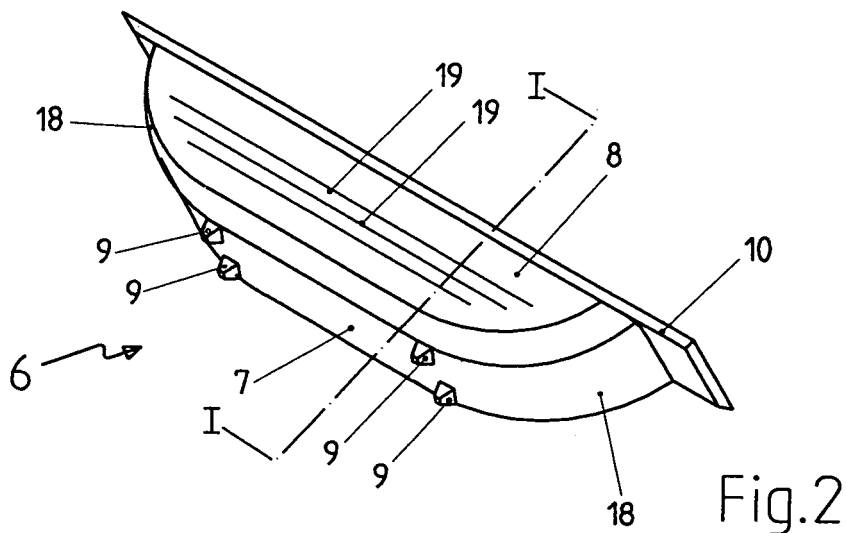
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(54) **Outer wall panel**

(57) Panel for an outer wall, comprising an assembly of two flat parallel plates separated by a peripheral profile, provided with a peripheral edge of a moisture and vapour-tight adhesive and at least one recess provided between the plates in the peripheral edge for at least partially receiving a fastening element therein, wherein the recess

is provided by an elongate holder element which can be countersunk in the peripheral edge substantially clear of the peripheral profile and which is formed substantially by an elongate bottom part, two opposite long wall parts and two opposite short wall parts, and holder element for such a panel.



EP 1 719 869 A2

Description

[0001] The invention relates to a panel for an outer wall, comprising an assembly of two flat parallel plates separated by a peripheral profile, provided with a peripheral edge of a moisture and vapour-tight adhesive and at least one recess provided between the plates in the peripheral edge for at least partially receiving a fastening element therein.

[0002] Such an outer wall panel is known and is applied in so-called curtain walls.

[0003] The known outer wall panels are normally manufactured from two parallel glass plates which are separated from each other by a hollow aluminium peripheral profile in which a desiccant is arranged. The two glass plates and the peripheral profile are joined together to form a double-walled glass outer wall panel using a moisture and vapour-tight mastic edge.

[0004] The known outer wall panels can be fastened in known manner against for instance aluminium vertical and horizontal profiles of an outer wall. Use is herein made in known manner of a T-shaped fastening element which consists of two transverse wings which are rotated into the respective recesses of two outer wall panels lying adjacently or above, and a central hollow middle part through which a screw can be inserted which can be screwed into a vertical or horizontal profile.

[0005] Outer wall panels are known in which the recess for receiving a T-shaped fastening element is formed onto the peripheral profile of the panel. Such a panel is expensive, and moreover has the drawback that the minimal distance between the plates required for the recess is too large in respect of the desired insulating properties.

[0006] It is an object of the invention to provide an outer wall panel which can be fastened in simple manner to an outer wall, which panel is provided with at least one recess in the peripheral edge, in which panel the plates can be adhered in moisture and vapour-tight manner at a mutual distance which is optimal in respect of the desired insulating properties of the panel.

[0007] It is a further object to provide such a panel that can be produced in simple manner.

[0008] These objectives are achieved, and other advantages gained, with a panel of the type specified in the preamble, wherein according to the invention the recess is provided by an elongate holder element which can be countersunk in the peripheral edge substantially clear of the peripheral profile and which is formed substantially by an elongate bottom part, two opposite long wall parts and two opposite short wall parts.

[0009] During the production of the outer wall panel such a holder element can be pressed between the plates into the peripheral edge formed by the adhesive as long as this adhesive has not yet cured.

[0010] In an embodiment of a panel according to the invention the bottom part is flat, the opposite long wall parts extend perpendicularly thereof and the opposite short wall parts extend obliquely and transpose gradually

into the bottom part.

[0011] The gradual transition between the short wall parts and bottom part gives the holder element a trough form which facilitates pressing of the holder element into the adhesive that has not yet cured.

[0012] For strengthening thereof the holder element is preferably provided on its top side with a flat peripheral edge extending transversely of the wall parts.

[0013] In order to prevent the adhesive being pressed out by the holder element between the bottom thereof and the peripheral profile, in an advantageous embodiment the holder element is provided on its bottom part with foot elements.

[0014] Such a holder element can be pressed up to a determined depth into the adhesive, whereafter it supports with the foot elements on the edge profile.

[0015] In another embodiment of a panel according to the invention the holder element is provided with longitudinal ribs on the sides of the long wall parts remote from each other.

[0016] Such longitudinal ribs serve for fixation of the holder element immediately after arrangement thereof in the peripheral edge, during the period that the adhesive has not yet cured.

[0017] A holder element in a panel according to the invention can be manufactured from any suitable material, from a metal as well as from a plastic material.

[0018] The invention further relates to a holder element for an above described outer wall panel.

[0019] The invention will be elucidated hereinbelow on the basis of an exemplary embodiment with reference to the drawings.

[0020] In the drawings

Fig. 1 shows in cross-sectional view a detail of an outer wall with parts of two adjacent coupled wall panels according to the invention and a horizontal profile in a vertical section through a pair of corresponding holder elements and a T-shaped fastening element, and

Fig. 2 is a perspective view of an embodiment of a holder element for an outer wall panel as shown in fig. 1.

[0021] Corresponding components are designated in the figures with the same reference numerals.

[0022] Fig. 1 shows a detail of an outer wall with two outer wall panels 1, each assembled from two parallel glass plates 2, 3 which are separated from each other by a hollow aluminium peripheral profile 4 and which are adhered to each other by a peripheral edge 5 of a moisture and vapour-tight adhesive. Panels 1 are provided with a number of holder elements 6 according to the invention, of which are shown a bottom part 7, long wall parts 8 extending therefrom, feet 9 supporting on peripheral profiles 4, and an edge 10. Using a T-shaped fastening element 13 the panels 1 are indirectly fastened to a horizontal profile 11, separated therefrom by a profile

12 of a compressible neoprene plastic material. The T-shaped fastening element 13 consists of two transverse wings 14 which are rotated into the respective holder elements 6 of outer wall panels 1, and a central hollow middle part through which protrudes a screw 15 which is screwed into a screw channel 16 formed for this purpose in horizontal profile 11. The (in this embodiment horizontal) gap between outer wall panels 1 is sealed by a strip 17 of a flexible material.

[0023] Fig. 2 is a perspective view of a holder 6 which is shown in fig. 1 in the section along the broken line I-I, having in addition to the above-mentioned components the oblique short wall parts 18 transposing gradually into the bottom 7, longitudinal ribs 19 on the long wall parts 8, and a flat peripheral edge 10 extending transversely of wall parts 8, 18.

Claims

1. Panel (1) for an outer wall, comprising an assembly of two flat parallel plates (2, 3) separated by a peripheral profile (4), provided with a peripheral edge (5) of a moisture and vapour-tight adhesive and at least one recess (6) provided between the plates (2, 3) in the peripheral edge (5) for at least partially receiving a fastening element (13) therein, **characterized in that** the recess is provided by an elongate holder element (6) which can be countersunk in the peripheral edge (5) substantially clear of the peripheral profile (4) and which is formed substantially by an elongate bottom part (7), two opposite long wall parts (8) and two opposite short wall parts (18).
2. Panel (1) as claimed in claim 1, **characterized in that** the bottom part (7) is flat, the opposite long wall parts (8) extend perpendicularly thereof and the opposite short wall parts (18) extend obliquely and transpose gradually into the bottom part (7).
3. Panel (1) as claimed in claims 1-2, **characterized in that** the holder element (6) is provided on its top side with a flat peripheral edge (10) extending transversely of the wall parts (8, 18).
4. Panel (1) as claimed in any of the claims 1-3, **characterized in that** the holder element (6) is provided on its bottom part (7) with foot elements (9).
5. Panel (1) as claimed in any of the claims 1-4, **characterized in that** the holder element (6) is provided with longitudinal ribs (19) on the sides of the long wall parts (8) remote from each other.
6. Panel (1) as claimed in any of the claims 1-5, **characterized in that** the holder element (6) is manufactured from a metal.
7. Panel (1) as claimed in any of the claims 1-5, **characterized in that** the holder element (6) is manufactured from a plastic material.
8. Holder element (6) for a panel (1) as claimed in any of the claims 1-7.

