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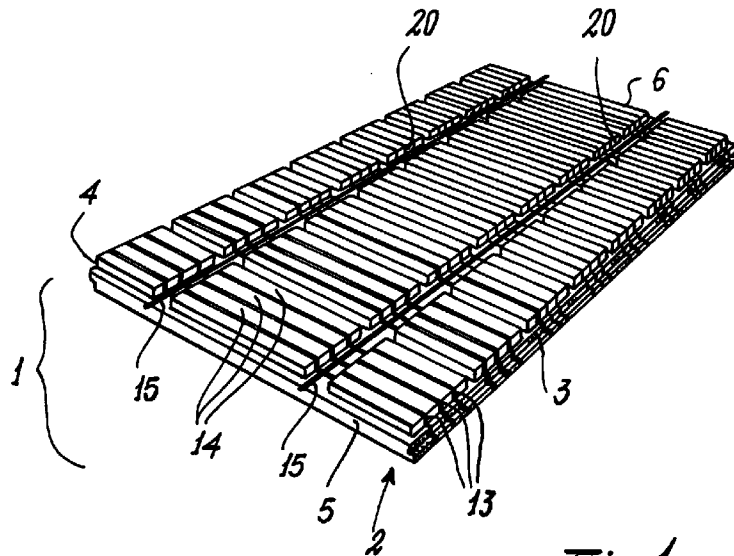
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(54) Roll-up insulating panel

(57) An insulating panel (1) comprises a body (2) having sides (3, 4; 5, 6) parallel in pairs, and opposing surfaces (7, 8). Said panel (1) comprises a plurality of mutually independent elements (14) positioned side by side to define said body (2) and arranged parallel to two (5, 6) of said sides, there being provided for said parallel

elements (14) at least one retention element (15) perpendicular to these latter and fixed onto one (7) of the two surfaces (7, 8) of the body (2) of the panel (1), said elements (14) enabling this latter to be folded and rolled up.



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Description

[0001] This invention relates to an insulating panel in accordance with the introduction to the main claim.

[0002] Known insulating panels comprise a generally rigid body of a material such as extruded polystyrene or the like. To insulate a flat surface (such as a wall, a roof or an under-roof) several panels are placed side by side and joined together to form an insulating surface covering the flat surface. These panels are of relatively large dimensions, and because of this are relatively difficult to arrange on the flat surface to be insulated. Moreover, if a large surface is to be insulated, the panel laying operation is very lengthy, hence involving high cost.

[0003] An object of this invention is to provide an insulating panel which is easier to lay than known panels, on any surface to be insulated.

[0004] A further object is to provide an insulating panel which is easy to handle and transport.

[0005] These and further objects which will be apparent to the expert of the art are attained by an insulating panel in accordance with the accompanying claims.

[0006] The invention will be more apparent from the accompanying drawing, which is provided by way of non-limiting example, and on which:

Figure 1 is a perspective view of an insulating panel constructed in accordance with the invention;

Figure 2 is a front view of the panel of Figure 1;

Figure 3 is a side view of the panel of Figure 1;

Figure 4 is a perspective view of a variant of the panel of Figure 1.

[0007] With reference to said figures, an insulating panel is indicated overall by 1. It is constructed for example of expanded material such as extruded polystyrene and comprises a body 2 having two greater-length sides 3 and 4 (formed in known manner) and two lesser-length sides 5 and 6. This body has an upper surface 7 and a lower surface 8 (with reference to said figures) in which, as in the case of Figures 1 to 3, there can be provided known parallel recesses 10 acting as water drainage elements (in the case of panels for use below the tiles of a dwelling roof).

[0008] According to the invention, the body 2 comprises a plurality of slits 13 parallel to two of the aforesaid sides and in particular, in the example shown in the figures, to the lesser-length sides 5 and 6. These slits, which are through slits, define a plurality of parallel unit elements 14 positioned parallel to said sides 5 and 6. The elements 14 together define the said body 2. As an alternative to the aforesaid, the slits 13 and the elements 14 can lie parallel to the other two sides 3 and 4 of the body 2.

[0009] To connect the elements 14 together, on at least one surface 7, 8 of the body 2 there is provided at least one connection element 15 (two in Figures 1 to 3 and three in Figure 4) fixed to this surface. The connec-

tion element 15 is positioned preferably perpendicular to the direction of the slits 2 and hence of the elements 14. The connection element is of plastic material and is bonded to the surface (7 for example) of the body 2 for example by partial melting by the application of heat, and corresponding melting of a surface layer of the body 2. The element 15 can be positioned either in a recess 20 provided in the surface 7 (Figures 1, 2) or directly on this latter (Figure 4).

[0010] The panel 1 is obtained by firstly forming it as one piece and then making the slits 13 at equal distances apart, for example 4 cm. The distance between the slits is a sub-multiple of the distance between the sides (5, 6 in the example) to which they are parallel, or of the distance between drainage channels 10, if provided in the body 2. After making the slits and while automatically keeping the body together in known manner (ie maintaining the elements 14 mutually adjacent), the connection element 15 is positioned on the body 2 and is heated to bond it to the surface 7.

[0011] At this point the panel is complete and can be rolled up by folding it on itself along the surface 7 on which the connection element is present. This allows the panel to be easily transported and in particular easily laid, which is achieved by unrolling it directly onto the surface to be insulated.

[0012] A preferred embodiment of the invention has been described. Others are however possible. For example, the element 15 could be fixed to the surface 7 in a manner different from that described, for example by gluing or by mechanical fixing means.

[0013] The invention enables panels to be formed of considerable length (measured parallel to the sides 3 and 4) and relatively large width (measured parallel to the sides 5 and 6).

Claims

1. An insulating panel (1) comprising a body (2) having sides (3, 4; 5, 6) parallel in pairs, and opposing surfaces (7, 8), said panel (1) being characterised by comprising a plurality of mutually independent elements (14) positioned side by side to define said body (2) and arranged parallel to two (5, 6) of said sides, there being provided for said parallel elements (14) at least one retention element (15) perpendicular to these latter and fixed onto one of the two surfaces (7, 8) of the body (2) of the panel (1), said elements (14) enabling this latter to be folded and rolled up.
2. An insulating panel (1) as claimed in claim 1, characterised in that the side-by-side elements (14) are of constant and equal dimensions, which are a sub-multiple of a characteristic dimension of the panel (1), such as the distance between two opposite sides or the distance between drainage recesses (10) if provided on the panel (1).

3. An insulating panel as claimed in claim 1, characterised in that the side-by-side elements (14) are separated from each other by a through slit (13).
4. An insulating panel as claimed in claim 1, characterised in that the retention element (15) is bonded to the panel body (2). 5
5. An insulating panel as claimed in claim 4, characterised in that the retention element (15) is associated by hot deformation with the panel body (2). 10
6. An insulating panel as claimed in claim 4, characterised in that the retention element (15) is glued to the panel body (2). 15
7. An insulating panel as claimed in claim 1, characterised in that the retention element (15) is mechanically fixed to the panel body (2). 20
8. An insulating panel as claimed in claim 1, characterised in that the retention element (15) is inserted into a slot (15) perpendicular to the side-by-side elements (14). 25

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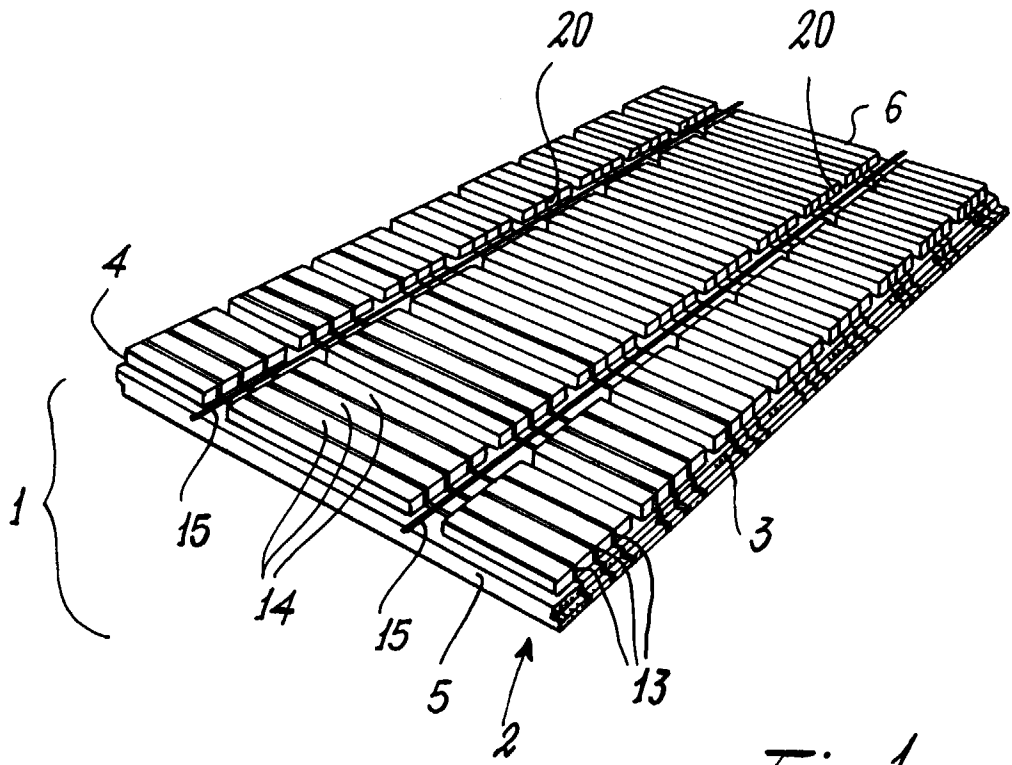


Fig. 1

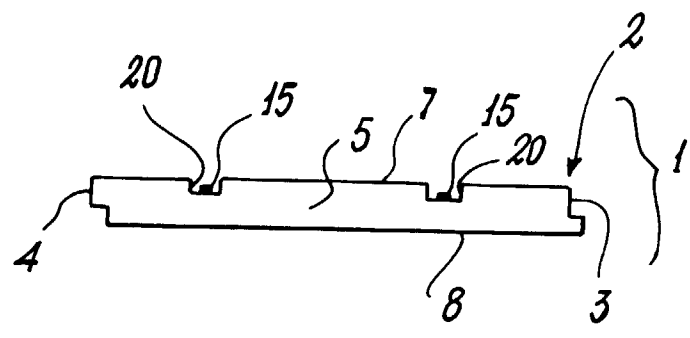


Fig. 2

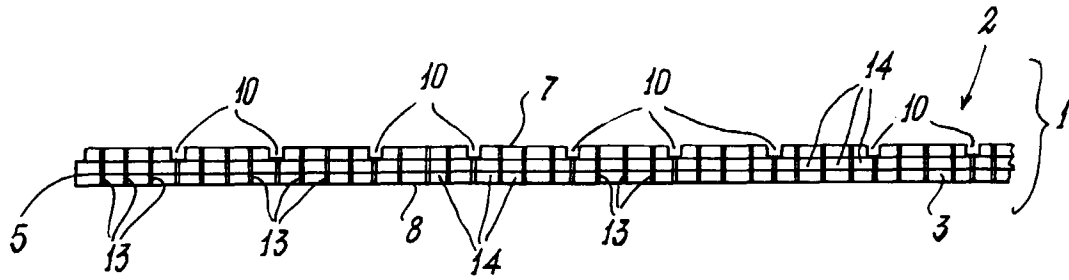


Fig. 3

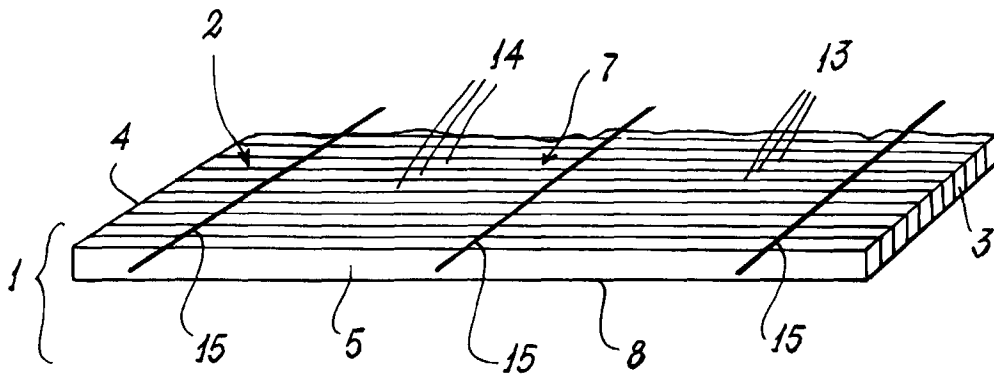


Fig. 4