

CLADDING OR COVERING PANEL FOR LARGE OPENINGS

TECHNICAL FIELD OF THE INVENTION

5 The present invention relates to a cladding or covering panel for large openings or roofs in general as well as a cladding or covering including a plurality of such panels.

STATE OF THE PRIOR ART

10 Many claddings or coverings for roofs or the like have been proposed, as well as, of course, many methods of assembling them.

According to a known method, an insulating package is obtained on site, by installing a corrugated sheet directly on site, then an insulating material, such as rock wool, is applied on it and subsequently, if desired, a waterproofing membrane is applied.

15 The solutions that can be obtained by known methods are not satisfactory in terms of payloads, assembly times, laying times and costs.

Furthermore, in the field of roof covering or cladding panels, the need for an industrial product of controllable quality which, once installed, includes more functions such as, for example, the constraint to accessories, a limited size or
20 waterproofing has emerged.

DE202007018367U, EP3434846A1, EP2392746A1, GB1595180 and EP0143159A1 teach respective solutions according to the state of the prior art.

OBJECTS OF THE INVENTION

25 An object of the present invention is to provide a new panel for cladding or covering roofs or even for obtaining walls in general.

Another object of the present invention is to provide a panel as indicated above which makes it possible to obtain payloads higher than the solutions proposed so far.

30 Another object of the present invention is to provide cladding or covering

panels for roofs or walls which makes it possible to reduce assembly and laying times as well as costs with respect to traditional solutions.

Another object of the present invention is to provide a cladding or covering panel for roofs or walls that can be easily transported stacked with other
5 similar panels, ensuring low overall dimensions and low transport costs.

Another object of the present invention is to provide a panel for cladding or covering roofs or walls that ensures, in a single installation, to obtain waterproofing features greater than known solutions, even without the need for further waterproofing interventions.

10 A further object of the present invention is to provide a cladding or covering panel for roofs or walls that makes it possible the multi-functionality of the same, for example the attachment of second skins or false ceilings or ventilated facades.

Still another object of the present invention is to provide a cladding or
15 covering panel for roofs or walls that can be arbitrarily used both as an external covering and as an internal covering.

A further object of the present invention is to provide a cladding or covering panel for roofs or walls which ensures a controlled quality, since it is the result of an automated industrial process.

20 According to one aspect of the invention, a cladding or covering panel for roofs or walls is provided according to claim 1.

The dependent claims refer to preferred and advantageous embodiments of the invention.

25 BRIEF DESCRIPTION OF THE DRAWINGS

Other features and advantages of the invention will be more evident from the description of an embodiment of a unit, illustrated as an indication in the accompanying drawings in which:

- figure 1 is a front view of a pair of approached and engaged or connected
30 panels according to the present invention;

a deck) 3a of the first main supporting layer 3.

A panel or a plurality of panels according to the present invention can alternatively also be used for the construction of walls in general, and thus what is indicated hereinafter with reference to roofs, refers generally, if applicable, also to walls.

Moreover, the first layer 3 could also comprise coupled sub-layers, each made of a respective material.

Thus, for example, the first layer 3 could comprise, in the direction from the inside to the outside or vice versa, at least one first sub-layer made of mineral wool and at least one second sub-layer made of polyurethane. According to this non-limiting embodiment, the polyurethane could be applied and then made to expand close to and in part within the mineral wool.

The sheet 4 can be substantially flat, but also with slats, micro-ribs or wavy or with another shape.

The term “flat surface” or “flat face” in the present description means not curved or in any case devoid of recessed or raised sections such as to prevent a substantially uniform abutment engagement with another flat surface or face or with flat sections of another face or surface.

The face, in use, internal or external (internal in the case of roof and external in the case of deck) 4a of the sheet 4 is flat, wavy or with another shape.

The metal sheet 4 is adhered, glued or bonded in another way, for example by means of adhesive, to the internal or external face 3a of the first main supporting layer 3.

Moreover, in particular if the first layer 3 is made of mineral wool or glass wool, an internal or external face 4a (internal in the case of a roof and external in the case of a deck) of the metal sheet 4 is preferably constrained, for example glued, for its entire extension in a substantially uniform way to the internal or external face 3a of the first main supporting layer 3. If the first layer 3 is made of foam polyurethane or other expandable component, then the constrain between the first layer 3 and the sheet 4 could be obtained by adhesion following the

expansion of the polyurethane close to the sheet 4 before the final hardening or solidification of the polyurethane or expandable component.

Moreover, the metal sheet 4 preferably has a constant thickness.

5 The panel 1 is a compact body or, better still, movable as a single body or in one piece, so that it can be installed as a single component and in a single phase.

Moreover, the panel 1 or rather a respective first main supporting or insulating layer or block 3 can have four edge faces, one front, one rear (not visible in the figures) and two side edge faces 1a, 1b.

10 The panel 1 then includes a face, in use, lower or internal, and a face, in use, upper or external. The lower, in use, face can correspond, for example, to the face, in use, internal 3a (in the case of use as a roof) of the first main supporting or insulating layer or block 3 or of the sheet 4. The face, in use, external can instead correspond to the external face of a fretted sheet component 6 (in the case of use
15 as a roof), which will be discussed in greater detail later. The reverse applies to the use as a deck of the panel.

Two or more of the edge faces, in particular the side edge faces, can have engagement or interlocking means 2f, 2g with respective means for engaging or interlocking adjacent panels.

20 Thus, for example, starting from a side edge face of a panel 1 or of a respective first main supporting or insulating layer or block 3, a projecting portion 2f could extend for insertion to size or forced into a corresponding seat 2g delimited in a side edge face of an adjacent panel.

Clearly, each panel 1 or a respective first main supporting or insulating
25 layer or block 3 could have, as indicated above, a projecting portion 2f on one side edge face and a seat 2g on the other side edge face.

Of course, different engagement or interlocking means could also be provided.

Preferably, apart from the engagement or interlocking means, one, some or
30 all of the edge faces of the panel 1 can be flat.

Furthermore, the lower face and/or the upper face can be flat as well as substantially orthogonal to the edge faces of the panel 1.

The panel 1 then comprises at least one fretted or corrugated sheet component 6 applied or adhered to the first main layer or block 3, in particular on
5 at least one face, in use, external or internal 3b of the first main supporting layer 3.

The sheet 6 has a plurality of linking sections, if desired substantially flat 7 alternating with recessed sections 8, the linking sections 7 each defining a first concavity or concave zone C1 facing the other elements of the panel 1.

Clearly, the corrugated sheet component 6 would also define second
10 concavities or concave zones C2 facing away from the panel 1 and alternated with respect to the first concavities C1, which second concavities C2 would be defined by the recessed sections 8.

Of course, the linking sections 7 could also be slightly curved or with inclined sections. Moreover, the linking sections 7 could also be very narrow until
15 they almost constitute a connecting edge between adjacent recessed sections 8.

One or more of the recessed sections 8 could comprise a curved portion or two side portions 8a each extending from a respective linking section 7 as well as a base portion 8b for bridge connecting the side portions 8a of the recessed sections.

20 More specifically, the side portions 8a could be slightly curved or substantially inclined so as to converge while approaching the respective base portion 8b, i.e. the distance between the side portions 8a of the same recessed section 8 decreases while approaching the respective base portion 8b.

Of course, one or more of the recessed portions 8 could be delimited only
25 by a pair of side portions 8a, as well as, as indicated above, by a curved portion or by combinations or variants of such solutions.

Preferably, the recessed portions 8 of the same fretted sheet component 6 all have the same geometry and the same dimensions.

Advantageously, the base portions 8b or the lower, in use, ends of a fretted
30 or corrugated sheet component 6 are aligned with each other or substantially

aligned (this in the event that these portions 8b are not flat) in the same plan.

Preferably, the linking sections 7 or the upper, in use, ends of a fretted or corrugated sheet component 6 are aligned with each other or substantially aligned (this if the linking sections 7 are not flat) in the same plane.

5 The fretted or corrugated sheet component 6 can have, at at least one linking section 7, a hooking portion 18 (see in particular figure 4) for additional elements or accessories, such as false ceilings or LEDs.

Preferably, the hooking portion 18 is formed undercut in the linking section 7. Of course, the linking section 7 is between two recessed portions 8.

10 If desired, the hooking portion 18 comprises a substantially flat or bottom segment 18a and two segments 18b connecting the substantially flat segment 18 with the remaining segments of the respective connecting section 7.

In this case, the two connecting segments 18b could be inclined so as to each form an acute angle with the plane segment 18a.

15 Preferably, the hooking portion 18 allows the snap or interlocking fastening of additional elements or accessories. Thus, for example, if the plurality of panels 1 is used as a roof (thus with the frets facing the outside of the structure), it is possible to use the hooking portions 18 of one or more frets to hook a second skin or second covering for the determination of a ventilation
20 chamber, while, if the plurality of panels is used as a flat covering or deck (thus with the frets facing towards the inside of the structure), it is possible to use the hooking portions 18 of each fret to hook false ceilings or LEDs.

Advantageously, a corrugated sheet component 6 has at the respective sides or flanks, connection or contact means 6a, 6b, for example for snap
25 fastening or even only laying against approached and adjacent sheet components.

Preferably, the connection or contact means 6a, 6b can include a first final part 6a of the fretted sheet component 6 for connecting, linking or resting on an adjacent fretted sheet component having a shaped section 16, 17 (see in particular figures 2 and 3) suitable for allowing an engagement, interlock or connection of
30 adjacent panels 1 so as to delimit at least one opening or chamber W1, W2 for the

collection or entrapment of water or humidity intended to limit or prevent infiltration of water or humidity towards the joint 11 between engaged and adjacent panels.

This expedient is designed to improve the water tightness of the constrained panels, in particular in the case of roofs with low slopes or flat coverings, since actually water or humidity cannot pass through or reach the joint 11 between adjacent panels or rather the zone of constraint, engagement or abutting between first layers 3 of adjacent panels 1 or better between side edge faces 1a, 1b of the same.

According to the non-limiting embodiment illustrated in the figures, the shaped section 16, 17 comprises at least one curved or bent part 16a, 17a, 17b so as to each define a respective concavity or recessed area facing the respective panel 1 or away from it.

In this case, a first final part 6a can be laterally protruding or cantilever with respect to the other components of the respective panel 1, in particular with respect to the side or end of the first main supporting or insulating layer or block 3 and of the first metal sheet 4. Second this variant, the first final part 6a delimits a fitting or housing zone FZ of a final part 6b of another panel, which is not filled by the first layer 3.

Said first final part 6a can include a first shaped section 16 with a first recessed curved part 16a defining a concavity facing towards the respective fitting or housing zone FZ.

Moreover, the first shaped section 16 can include a free terminal end, if desired, flat or straight 16b adjacent and subsequent to the first recessed curved part 16a.

Preferably, the first shaped section 16 is defined at a segment cantilever with respect to a first final linking section 7a.

Alternatively or in addition to what has now been indicated, a second final part 6b of the panel may not protrude with respect to the other components of the panel, i.e. with respect to the first main supporting or insulating layer or block 3

and to the first metal sheet 4. In accordance with this variant, the second final part 6b is actually filled or underlying by the first layer 3.

According to this variant, the second final part 6b comprises in sequence a terminal connection segment 8c of a terminal recessed section 8, a second terminal connection section 7b and then an end portion 8d inclined with respect to the second linking section 7b.

In this case, the second shaped section 17 is formed or delimited in the connection segment 8c or in the second final linking section 7b of the second final part 6b.

According to this variant, the connection segment 8c of the second final part 6b comprises one or more recessed 17a or in relief 17b curved parts delimiting a concavity facing towards or away from the respective panel.

Preferably, the fretted sheet components comprise, on a first side, a first final part 6a and, on the other side, a second final part 6b.

Therefore, the connection or contact means can comprise the end parts 6a, 6b of panels 1 or sheets 6 adjacent to be engaged, for example as indicated below, if desired with lean or even snap or interlocking engagement.

More particularly, according to a preferred variant, a final part 6a of a sheet 6 is laid on and around a final part 6b of an adjacent sheet and then a fixing screw or similar means (not shown in the figures) is inserted in these final parts 6a, 6b leaning against each other, in particular at a respective linking section 7a, 7b. Clearly, in this case the screw or fastening means would also engage within the first main supporting or insulating layer or block 3.

The first main supporting layer 3 can be applied on the fretted sheet component 6, so as to actually fill the first concavities or concave zones C1 or in such a way that between the, in use, upper or lower (depending on the use as a roof or deck) surface or face of the first layer 3 and the recessed sections 8 of the fretted or corrugated sheet component 6 or better the external face of the components of the recessed sections 8 are delimited by a series of first through openings.

Basically, according to this variant each through opening would be defined by a respective first concavity or first concave zone C1 of a fretted sheet component closed from the external or internal face (external in the case of use as a roof and internal in the case of use as a deck) of the first main supporting or
5 insulating layer or block 3.

If the first main supporting layer 3 fills the first concavities or concave zone C1, then if the first layer 3 comprises at least one first sub-layer made of mineral wool and at least one second polyurethane sub-layer, one could have, for example, mineral wool filling the first concavities or concave zones C1 and
10 polyurethane outside these zones. According to this variant, the mineral wool could not even constitute a single sub-layer, but several blocks or small layers each filling a respective fret.

As regards the connection of the first layer 3 on the fretted sheet component 6, the layer 3 is abutting or leaning against respective parts of the
15 fretted sheet component 6.

Furthermore, the first layer 3 could be glued or bound by other suitable means, such as adhesive, screws, pins, on the fretted sheet component 6.

In addition, as indicated above several times, the structural composition of the panel 1 described up to now, allows the multifunctional use of the same both
20 as a “roof” and as a “deck” as needed.

Therefore, if there is a need for a roof, the plurality of panels 1 will be arranged with the fretted sheet components 6 facing the outside of the structure (in the case of use as a roof), while if there is a need for a flat covering, the plurality of panels 1 will be arranged with the fretted sheet components 6 facing towards
25 the inside of the structure (used as a deck).

Moreover, the fretted sheet component 6 could comprise at least one rib 9 at the linking sections 7 and/or the recessed sections 8.

In this respect, at least one rib 10a, 10b, 9 could be provided in each side 8a and/or base 8b portion and/or in the linking section 7.

30 In one, some or each side 8a and/or base 8b portion, one, two, three or a

plurality of ribs 10a, 10b could be provided, if desired each constituted by a respective bent section, if desired V- or U-shaped. If more ribs are provided in a side 8a or base 8b portion, then they are preferably equally spaced along the respective portion 8a, 8b.

5 The ribs or stiffeners 9, 10a, 10b may constitute sections bent towards the inside or the outside of the respective panel.

 In one, some or each linking section 7, for example a third rib 9 could be provided consisting of a bent section, if desired with a V or U shape. This rib 9 can be provided for example at the center line of the respective linking section 7.

10 In this case, the contact between each linking section 7 and a respective external or internal face (external in the case of use as a roof and internal in the case of use as a deck) of the first layer 3 preferably takes place uniformly apart from the zone of the rib/s 9.

 These ribs 9, 10a, 10b have both an aesthetic and a structural purpose, since they give greater rigidity to the fretted sheet component 6 and thus to the respective panel.

 As an example, the recessed section 8 or rather the fretted sheet component 6 has a height, i.e. a distance between a respective base portion 8b from the linking sections 7 is between about 60 and about 90 mm, if desired between about 70 mm and about 80 mm.

 The base portions 8b can have an extension between 100 mm and 130 mm, for example between 115 mm and 125 mm, if desired about 118 mm.

 The linking sections 7 can have an extension between about 50 mm and about 70 mm, if desired about 60 mm.

25 The distance between adjacent base portions 8b can be between 120 mm and 140 mm, if desired 131 mm.

 Preferably, the fretted sheet component 6 comprises three, four or five, six, seven or more recessed sections 8.

 Moreover, the description above provided of the configuration of the fretted sheet component 6 relates to a section or front or rear of the same, but

clearly it remains the same in the direction from the front to the rear of the panel 1 or even in a direction inclined with respect to a front-rear direction of the panel. In this regard, the recessed section 8 of the fretted sheet component 6 define parallel longitudinal zones of the same.

5 In accordance with the present invention, a cladding or covering 12 for roofs is also provided comprising a plurality of panels 1 approached side by side at the side edge faces 1a, 1b of the respective panels 1, in which covering 12 the engaging or interlocking means 2f, 2g of panels 1 of approached and adjacent units are in engagement and constraint with each other and the same applies to the
10 means of connection or contact 6a, 6b of sheet components 6 of approached and adjacent units.

 Preferably, such a covering or cladding comprises at least two approached panels 1 each having at least one final part of the respective fretted sheet component 6, if desired with a shaped section 16, 17 as indicated above, in which
15 case a final part 6a of a panel is in engagement with the terminal part 6b of the other panel, so as to preferably delimit at least one opening or chamber W1, W2 for collecting water or humidity designed to limit or prevent infiltration of water or humidity towards the joint 11 between adjacent panels 1.

 In this case, these final parts 6a, 6b in engagement with each other delimit
20 at least two openings or chambers W1, W2 for collecting water or humidity, which are separated from each other in whole or in part by a respective obstruction or septum defined by the engagement of the final parts 6a, 6b.

 Advantageously, the final part 6a of a first panel 1 surrounds or envelops or engages the final part 6b of a second panel 1 adjacent and subsequent to the
25 first.

 In this way, the first final linking section 7a and the cantilevered segment of the first shaped section 16 enclosing the second final part 6b are obtained, so that the first curved recessed part 16a faces and opens towards the concavity defined of a second recessed curved part 17a defining with it a first collection
30 chamber W1, while a second collection chamber W2 is defined between a section

of the final part 6a and a recessed corner 17c of the final part 6b, for example between the connection segment 8c or the second terminal connecting section 7b.

The two collection chambers W1, W2 would be separated by an obstruction defined by the abutment of portions of the final leaning parts 6a, 6b.

5 Thanks to this expedient, if water or humidity were to infiltrate between two fretted components 6 of adjacent panels, it would remain trapped in the first W1 and/or, if provided, in the second W2 collection chamber and could not reach the joint 11.

This applies in particular to the use as a roof.

10 Moreover, in particular when the first main layer or block 3 is made of rock wool, a first perforated metal sheet 4 can be used, mainly when the panel or panels are used as a roof, or a perforated fretted or corrugated sheet component 6, mainly when the panel or panels are used as deck.

15 More specifically, through holes of a few millimeters in diameter, for example between 1 and 5 mm, or in any case through openings with an extension of a few square millimeters, for example less than 25 mm², could be obtained in the sheet 4 or 6.

20 These holes, in the case of the first metal sheet 4, would be obtained along all or even only one part of the sheet itself and the same applies to the fretted or corrugated sheet component 6. With particular reference to the fretted or corrugated sheet component 6, the same could have holes, for example, at one or more of the respective side portions 8a.

25 This applies in particular to the case in which the first layer 3 comprises at least one first sub-layer made of mineral wool and at least one second sub-layer made of polyurethane, in which case the mineral wool is at the perforated parts (for example the side portions 8a) of the sheet 6.

The just described expedient would ensure better sound absorption and thus better sound insulation.

30 In this regard, the use of a perforated sheet 4 or 6 would guarantee or improve the passage of acoustic waves, generated in the place of installation of

the panel or panels, through this sheet 4, 6 up to the first layer or main block 3, in particular if this was in rock wool. As it will be understood, the first layer 3, unlike the sheet 4, 6, ensures excellent acoustic insulation properties, thus obtaining an improved absorption of the acoustic waves compared to the case in which the sheets 4 and 6 are without perforations.

As taught by EP3201409A1, the covering 12 can also include strips made of waterproof material arranged to cover the gaps delimited between the edges of the approached panels 1, which strips are designed to ensure the waterproofing of the covering 12.

Clearly, thanks to a plurality of panels according to the present invention it is possible to obtain high assembly speeds on site, because since the sandwich panel is pre-assembled, it is only necessary to constrain it to the substructure, as there are no intermediate phases, and then eventually apply strips of waterproof material covering the gaps or joints 11 delimited between the edges of the approached panels 1.

Moreover, the sheet 4 could be pre-coupled with a layer of waterproofing material. In this case, such a sheet 4 with a layer of waterproofing material would be used to produce one or more panels 1 and thus, once adjacent panels have been connected, only the joint 11 should be waterproofed as now indicated.

With traditional solutions, on the other hand, the fretted sheet components are first installed and then they are filled with insulating material, and then a sheath is welded or a sheet is installed and then a sheath is welded.

Moreover, thanks to the configuration of a plurality of panels according to the present invention, in particular thanks to the configuration of the fretted sheet components and the constraint with the panels, it is possible to obtain greater payloads than the solutions proposed so far.

Furthermore, thanks to the multifunctional use of the plurality of panels according to the present invention, it is possible to arbitrarily use the latter either as a roof or as a flat covering or “deck”.

In addition, the presence of hooks at each corrugation allows it to use

second skins, false ceilings or other accessories without having to add additional components to the cover.

Furthermore, owing to the presence of a special shaping of the joint or rather of the connection portion of adjacent frets, with a cover according to the
5 present invention it is possible to obtain a watertightness better than traditional solutions even in the case of roofs with a low slope or flat.

Changes and variants of the invention are possible within the scope defined by the claims.

CLAIMS

1. Cladding or covering panel for roofs or for the construction of walls, comprising:

- at least one first main supporting or insulating layer or block (3),

- at least one first metal sheet (4) applied or adhered to at least one external (3a) or internal, in use, face of said first main support layer (3), and

- at least one fretted or corrugated sheet component (6) having a plurality of linking sections (7) alternating with recessed sections (8) each defining a first concavity or concave zone (C1) facing towards said at least one first main layer or block (3), said at least one fretted or corrugated sheet component (6) being applied to said at least one first main layer or block (3),

said at least one recessed section (8) comprising two side portions (8a) each extending from a respective linking section (7) as well as a base portion (8b) for bridge-connecting said side portions (8a),

characterized in that said at least one fretted sheet component (6) has a height, i.e. a distance between the linking sections (7) and the base portions (8b) equal to about 60-90 mm, and/or in that said at least one fretted or corrugated sheet component (6) has a portion (18) for hooking additional elements or accessories.

2. Panel according to claim 1, wherein said hooking portion (18) is formed undercut in at least one linking section (7).

3. Panel according to claim 1 or 2, wherein said hooking portion (18) comprises a substantially flat segment (18a) and two segments (18b) connecting of said substantially flat segment (18a) with the remaining segments of the respective linking section (7).

4. Panel according to claim 1 or 2 or 3, wherein said hooking portion (18) is formed undercut in at least one linking section (7) among two recessed sections (8).

5. Panel according to any one of the preceding claims, wherein at least one final part (6a, 6b) of the fretted sheet component (6) for connecting, linking or

resting on an adjacent fretted sheet component (6) comprises a shaped section (16, 17) suitable to allow an engagement, interlock or connection of adjacent panels so as to delimit at least one opening or chamber (W1, W2) for the collection or entrapment of water or humidity intended to limit or prevent infiltration of water or humidity towards the joint (11) between engaged and adjacent panels.

6. Panel according to claim 5, wherein said shaped section (16, 17) comprises at least one curved or bent portion (16a, 17a, 17b) so as to define at least one concavity or recessed area facing the respective panel or away from it.

7. Panel according to claim 5 or 6, wherein said at least one final part (6a) is laterally protruding with respect to the other components of said panel.

8. Panel according to claim 7, wherein said at least one final part (6a) has a free final end (16b) adjacent and subsequent to a first recessed curved part (16a).

9. Panel according to claim 6 or 7 or 9, wherein at least one final part (6b) does not protrude with respect to the other components of said panel.

10. Panel according to claim 9, wherein said at least one final part (6b) comprises, in sequence, a connecting segment (8c) of a final recessed section (8), a second final linking section (7b) and therefore an end portion (8d), a second shaped section (17) being formed or delimited in said a connecting segment (8c) or in said second linking section (7b) of said final part (6b).

11. Panel according to any one of the preceding claims, wherein said at least one fretted sheet component (6) comprises at least one rib (9) at at least one of said linking sections (7).

12. Panel according to any one of the preceding claims, wherein said at least one fretted sheet component (6) comprises at least one rib (10a, 10b) at said recessed sections (8).

13. Panel according to any one of the preceding claims, wherein said at least one fretted sheet component (6) has a height, i.e. a distance between the linking sections (7) and the base portions (8b) equal to about 70-80 mm.

14. Panel according to claim 13, wherein the base portions (8b) have an extension between 100 mm and 130 mm.

15. Panel according to claim 13 or 14, wherein the linking sections (7) have an extension between about 50 mm and about 70 mm.
16. Panel according to claim 13 or 14 or 15, wherein the distance between adjacent base portions (8b) is between 120 mm and 140 mm.
- 5 17. Panel according to any one of the preceding claims, wherein said at least one first metal sheet (4) or said at least one fretted or corrugated sheet component (6) is perforated for all or part of its extension.
18. Panel according to any one of the preceding claims, wherein said at least one first layer (3) comprises at least one first sub-layer made of mineral wool and
10 at least one second sub-layer of polyurethane.
19. Covering or cladding for roofs or walls comprising a plurality of panels according to any one of the preceding claims, wherein said panels are approached with one another at respective edges, engaging or interlocking means (2f, 2g) of adjacent panels (2) being in engagement and constraint between each other and
15 connecting or contacting means (6a, 6b) of sheet components (6) of adjacent panels being in engagement and constraint between each other.
20. Covering or cladding for roofs or walls according to claim 19, comprising at least two approached panels each having at least one final part (6a, 6b) of the respective fretted sheet component (6) with a shaped section (16, 17), such final
20 parts (6a, 6b) being in engagement with each other so as to delimit at least one opening or chamber (W1, W2) for collecting water or humidity intended to limit or prevent infiltrations of water or humidity towards the joint between adjacent panels.
21. Covering according to claim 19 or 20, wherein said final parts in
25 engagement with each other delimit at least two openings or chambers (W1, W2) for collecting water or humidity.