

(19)



(11)

EP 3 859 097 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention of the grant of the patent:
26.07.2023 Bulletin 2023/30

(51) International Patent Classification (IPC):
E04F 13/08 ^(2006.01) **E04B 9/00** ^(2006.01)
E04B 9/36 ^(2006.01)

(21) Application number: **21152703.1**

(52) Cooperative Patent Classification (CPC):
E04F 13/0862; E04F 13/0835; E04F 13/0858;
E04F 13/0871; E04F 2203/02

(22) Date of filing: **21.01.2021**

(54) **WALL OR CEILING COVERING SYSTEM**

WAND- ODER DECKENVERKLEIDUNGSSYSTEM

SYSTÈME DE RECOUVREMENT DE MUR OU DE PLAFOND

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR

(30) Priority: **30.01.2020 DK PA202070059**

(43) Date of publication of application:
04.08.2021 Bulletin 2021/31

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Description

Field of the Invention

[0001] The present invention relates to a wall or ceiling covering system as well as a method for installing such a wall or ceiling covering system.

Background of the Invention

[0002] It is well-known in the art to use pre-manufactured plate elements in order to create wall or ceiling surfaces. Such plate elements may for example be made from gypsum where the gypsum material is sandwiched between two layers of paper. Afterwards the gypsum plates are screwed onto a timber or thin metal skeleton in order to create a wall or ceiling. Likewise, plate elements made from compressed wood, typically with veneer on the visible surface are also often used as particularly panelling and cladding for ceilings etc.

[0003] Further wall or ceiling plate elements may be manufactured from a cement-bonded wood wool material. Common for all these types of wall or ceiling plate materials is that they are usually presented with a substantially even surface. For the cement-bonded wood wool materials the surface is typically provided with a number of apertures/spaces which have some acoustic advantages which the normal plaster boards and compressed wood plates do not exhibit.

[0004] In some instances it is desirable to provide a surface with a pattern profiling or relief. In these instances, typically the surface of the plate element is worked for example by a CNC machine in order to provide the desired texture or surface pattern.

[0005] In other instances it is desirable to provide strips or profiles on the surface of the cladding panel element. One such example is disclosed in EP 3138976. FR 2 800 769 A1 discloses a cladding system according to the preamble of claim 1 for mounting profiles across the front surface of covering panels.

[0006] In this system a number of parallel grooves are provided in the surface of the ceiling plate element. A number of profiles having a tongue provided with a cross-section corresponding to the cross-section of the groove are then afterwards fitted into the groove such that the plate-like element in this manner is provided with a number of profiles.

[0007] This system, however, has a number of drawbacks such as for example that the plate elements must be pre-manufactured to have the grooves suitable to receive the profiles and furthermore the distance between the profiles is pre-determined during the manufacturing process of the plate-like element. Furthermore, the profiles must be provided with a tongue corresponding to the groove and particularly when the plate element is made from for example plasterboard or cement bonded wood wool material the groove may be damaged during installation of the tongue of the profile as it is necessary

to "wriggle" the tongue into the groove in order to ensure that the profile is firmly attached to the plate element via the groove and tongue connection.

[0008] At the same time the groove and tongue shall be dimensioned such that a very tight and narrow fit is provided in order for the profile to come into very close contact with the surface of the plate element in order not to create undesirable crevices and openings.

[0009] Other systems as for example disclosed in EP3498933, and DE29709380 disclose systems for attaching profiles to a surface, where the fastening means are attached to the surface, and requires rails/profiles into/onto which the profiles are mounted. This leaves the mounting means visible, and requires fastening directly on the exposed front surface.

Object of the Invention

[0010] Consequently, there is a need to provide a system of this type which does not require the ceiling or wall panel elements to be pre-manufactured specifically for this purpose and where the installation of profiles on the ceiling or wall elements does not provide the risk of damaging the wall or ceiling element as such.

Description of the Invention

[0011] The present invention addresses this by providing a wall or ceiling covering system according to claim 1 comprising a plate element, said plate element having a front surface, a rear surface, and a material thickness between said front and rear surfaces where the plate perimeter is delimited by edges, one or more attachment strips and a plurality of profiles, where:

- each attachment strip has fastening means suitable to attach the attachment strip to an edge of the plate element, and further has an attachment fork, which fork when arranged on the plate element extends from the front surface of the plate element;
- each profile has an attachment surface where a groove is provided in said attachment surface, such that the groove can accommodate and hold the attachment fork of the attachment strip.

[0012] As the attachment strip is attached to an edge of the plate element no working on the plate element itself needs to be carried out beforehand and as such standard plate elements which in other situations may be installed either as ceiling or wall panels may be used. This, of course, provides the advantage that it is not necessary to carry a special stock of plate elements suitable for the present system, but any plate element suitable for wall or ceiling cladding may be used with the present invention.

[0013] Naturally the attachment strip must be dimensioned to the selected plate element, but typically in the building industry there is widespread use of standard

thickness plate elements and as such the attachment strips shall only be carried in a very limited number of different dimensions in order to be able to be applied to a substantial part of the plate elements used for these purposes.

[0014] As the profiles are provided with a groove (versus the prior art where the groove is provided in a plate element) these grooves may very simply be made during the manufacturing of the profiles. Particularly where the profiles are made from wood the profiles will need to be machined anyway in order to provide the desired surface structures and during this machining cutting of a suitable groove may be carried out in an industrial manner without large extra effort.

[0015] Consequently, the present invention provides a very advantageous system which is easy to install, easy to adapt to various wall or ceiling covering systems and at the same time may provide the desired aesthetic effects with standard components and without a risk of damaging the standard components during installation of the system.

[0016] In a further advantageous embodiment of the invention the attachment strip is made from spring steel where the attachment strip in a cross-section has a U- or C-shape comprising two substantially parallel legs connected in one end by a connection piece, such that the plate thickness may be accommodated between the parallel legs where the attachment fork is part of one of the legs and extends away from said legs.

[0017] Particularly the provision of the attachment strip in spring steel provides the possibility of designing the attachment fork congruently to the groove such that as the groove in the profile is passed over the attachment fork the attachment fork due to the fact that it is made from spring steel will slightly deform when being introduced into the groove, but afterwards it will expand and thereby secure the profile in a firm fit against the attachment fork and against the surface of the plate element. In this manner an easy-to-install system is provided where it is ensured that the profiles are retained in a firm relationship to the attachment strip and thereby to the plate element, and by dimensioning the attachment fork correctly with respect to the groove it is also ensured that the attachment surface of the profile is flush with the surface of the plate element.

[0018] By forming the attachment strips such that it has a C- or U-shaped cross-section it is possible to slide the attachment strip over an edge of the plate element such that the attachment strip will clip onto the edge of the plate element and thereby be securely retained on the plate element.

[0019] In a further advantageous embodiment of the invention the attachment strips have two orthogonal flanges, where on a first flange the attachment fork extends from said flange, and on the second flange one or more spikes are arranged perpendicular to said second flange, either only on one side or on both sides of said second flange.

[0020] With the embodiment of the attachment strip having one or more studs or spikes extending from one flange it is foreseen that when the attachment strip is mounted on the plate element the spike will be embedded in the plate material and if a second spike is provided in the opposite direction this spike will be embedded in an adjacent plate element thereby retaining the attachment strip in firm engagement with the plate elements making out the wall or ceiling system.

[0021] In a still further advantageous embodiment the groove in the attachment surface of the profile has a mushroom cross section, wherein the smaller opening is connected to the attachment surface, and where the attachment fork in a cross-section has two arms extending from a connection bridge, which bridge in use is in contact with the plate element, and where the arms from the bridge section has first straight parallel sections arranged at a mutual distance corresponding to the smaller opening, and where between the straight sections and the distal ends of the arms are provided bulging sections, where the bulging sections bulge away from each other, and where the bulging sections together have a larger dimension parallel to the surface of the plate than the largest dimension of the mushroom cross section in the profile parallel to the plate, when said profile is arranged on the plate.

[0022] The mushroom cross section of the groove, particularly in combination with attachment strips made from spring steel, ensures that as the attachment fork is passed through the narrow section of the mushroom the attachment fork is somewhat compressed whereas as the profile is positioned in its correct position in contact with the plate element the wider section of the mushroom cross section allows the attachment fork to expand thereby retaining the profile in contact with the surface of the plate element.

[0023] In a further advantageous embodiment a connection member is provided, which connection member has a cross-sectional shape corresponding to the cross-sectional shape of the groove, such that when inserting the connection member in two facing ends of two profiles, the connection member will align said two profiles.

[0024] This connection member ensures that when assembling the profiles in a longitudinal direction the continuity and linearity of the profiles are ensured such that the assembly of profiles end to end is less visible and does not provide an aesthetically displeasing offset between adjacent profiles.

[0025] In a further advantageous embodiment of the invention the attachment fork in use extends on both sides of the edge of the plate onto which it is mounted.

[0026] With this embodiment of the attachment fork a guidance of the profile when installed on the attachment fork is secured across the end-to-end fitting of two adjacent plate elements and as such a relatively rigid connection and guidance of the profiles is ensured.

[0027] In a still further advantageous embodiment the profiles are made from any or a combination of the fol-

lowing materials: wood, plastics, glass-fibre reinforced composite, metal, in particular aluminum, stainless steel, copper, or zinc. Naturally, the profiles may be made from any suitable material, but as the profiles mainly serve as decoration decorative materials are especially preferred.

[0028] In cases where the profiles are made from wood the wood is selected from oak, teak, mahogany, beech, birch, ash and optionally provided with a surface finish selected amongst varnish, impregnation, whitewash, paint or lacquer.

[0029] As already discussed above the present system is suitable to use with substantially any type of plate element which is suitable to be used as a wall or ceiling cladding element, but particularly plate elements made from any of the following materials or a combination of these materials:

- a cellulose based material;
- a cement-bonded wood wool material;
- wood;
- gypsum or plaster;
- concrete or other cement-based hardenable material;
- fiber reinforced composites

are preferred.

[0030] In a further advantageous embodiment of the invention the attachment strip has a plurality of attachment forks arranged with a predetermined mutual distance, such that in use it is possible to arrange a plurality of profiles in parallel on the surface of the plate member where each profile is attached to a separate fork on the same attachment strip.

[0031] By arranging a plurality of attachment forks on the same attachment strip it is ensured that the mutual distance between adjacent attachment forks and thereby adjacent profiles when installed may be kept with a precise mutual distance in that the attachment fork decides the mutual distance between adjacent profiles when mounted on the plates.

[0032] In a still further advantageous embodiment at least the front surface is provided with a cover material different from the material from which the plate element is manufactured, where said cover material may be a cloth, textile, membrane, foil, plate, glass plate, surface coating, netting or the like. In this manner it is possible to provide the surface with a completely different impression from the material from which the plate elements are manufactured. The technical characteristics may therefore be altered to the desired use, without having to alter the plate material. For example when the plate material is cement-bonded wood wool material, a cloth or textile covering may provide additional noise dampening properties or aesthetically change the impression of the plate element.

[0033] The invention is also directed to a method for installing a wall or ceiling system using the wall or ceiling covering system as described above. Naturally, the same

advantages will be achieved with the method, but additionally the method illustrates how versatile and easy it is to install the wall or ceiling system according to the present invention.

Description of the Drawing

[0034] The invention will now be described in more detail with reference to the accompanying drawing wherein

- Figure 1 illustrates an assembled wall or ceiling covering system
- Figure 2 illustrates an end section of a profile
- Figure 3A illustrates a symmetric view of one embodiment of the attachment strip comprising a plurality of attachment forks
- Figure 3B illustrates a side view of an attachment strip according to the present invention
- Figure 4 illustrates a profile mounted on a front surface of a plate element
- Figure 5 illustrates an alternative embodiment of the attachment strip
- Figure 6 illustrates an embodiment where two lengths of profile are assembled end to end on the front surface of a plate element

Detailed Description of the Invention

[0035] In figure 1 is illustrated an assembled wall or ceiling covering system according to the present invention where the system comprises a plate element 1 where the plate element has a front surface 10, a rear surface 11 and a material thickness between said front and rear surfaces 10, 11.

[0036] The perimeter of the plate element 1 is delimited by edges 12, 13. A plurality of profiles 20, 21, 22, 23 are arranged substantially parallel on the front surface 10 of the plate element 1. The profiles 20, 21, 22, 23 will be substantially identical with respect to dimensions, i.e. have the same cross section. The profiles 20, 21, 22, 23 are attached to the front surface 10 of the plate element 1 by means of an attachment strip 30.

[0037] Turning to figure 2 an end section of a profile 20 is illustrated where it is evident that the profile has an attachment surface 25 in which attachment surface a groove 35 is provided. In this embodiment the groove 35 has a mushroom shape such that the opening 36 towards the attachment surface 25 has a smaller cross sectional dimension than the wider section of the mushroom shaped groove 35.

[0038] The attachment strip 30 is illustrated in more detail with reference to figure 3A and 3B where figure 3A illustrates a symmetric view of one embodiment of the attachment strip comprising a plurality of attachment forks whereas figure 3B illustrates a side view of an attachment strip according to the present invention.

[0039] Turning to figure 3A the attachment strip 30 has fastening means suitable to attach the attachment strips

to a plate element 1. In this embodiment the attachment means are provided by bending the attachment strip such that attachment fork 31 and a flange 32 provide a space 33 corresponding to the plate thickness. Consequently, by inserting a plate such that the edge 12 of the plate comes against a connection piece 34 the bottom of an attachment fork 31 and the flange 32 will be positioned on either side of a plate element 1 thereby firmly holding the attachment strip relative to the plate element 1.

[0040] In figure 3B a side-view of an attachment strip as discussed in figure 3A is illustrated. As is clear from this illustration the distance 33 is provided between the attachment fork 31 and the flange 32. Consequently, by sliding the attachment strip onto the end of the plate 1 the attachment fork 31 will be projecting from the front surface of the plate whereas the flange 32 will be positioned on the rear side of the plate element 1.

[0041] Turning to figure 4 a profile 20 is mounted on a front surface 10 of a plate element 1 by means of an attachment strip 30. The attachment fork 31 is as illustrated with reference to figure 3A shaped such it has a shape congruent to the mushroom cross section 35 of the groove provided in the profile 20. Consequently, by forcing the profile 20 down over the attachment fork 31 the attachment fork will slightly deform during passage of the entrance 36 of the groove 35 and the profile 20, but will expand into the larger cavity 35 of the mushroom shaped cross section thereby firmly attaching the profile 20 to the surface 10 of the plate element 1. By shaping the attachment fork 31 and the groove 35 in the profile 20 correctly the attachment surface 25 of the profile 20 will be in close contact with the surface 10 of the plate element 1. In this manner an invisible attachment is provided between the profile 20 and the plate element 1.

[0042] In figure 5 is illustrated an alternative embodiment of the attachment strip 30' according to the present invention. In this embodiment the attachment fork 31 still projects from a flange 38 suitable to be arranged flush with the front surface 10 of a plate element 1. In this embodiment a second flange 39 substantially orthogonal to the first flange 38 is provided and intended to be inserted between edges 12, 12' between adjacent plate elements 1, 1'. The flange 39 is provided with spikes 40, 41 which spikes when the plates 1, 1' are forced together edge against edge 12, 12' whereby the spikes 41, 41 will be embedded in the material of the plates 1, 1' thereby effectively fixating the attachment strip 30' to the front surface 10 of the plate elements.

[0043] In figure 6 is illustrated an embodiment where two lengths of profile 20, 20' are assembled end to end on the front surface 10 of a plate element. In order to ensure proper alignment of the two lengths of profile 20, 20' a connection member 44 is provided. The connection member 44 has a cross section corresponding to the cross section of the groove 35 such that by inserting the connection member 44 in the groove 35 of the two lengths of profile 20, 20' will be fully aligned thereby avoiding any aesthetically displeasing offset of the profiles.

Claims

1. A wall or ceiling covering or cladding system comprising a plate element (1), said plate element (1) having an exposed front surface (10), a rear surface (11), and a material thickness between said front and rear surfaces (10, 11), wherein the plate perimeter is delimited by side edges (12, 13), the system further comprising one or more attachment strips (30, 30') and a plurality of profiles (20, 21, 22, 23) arranged on the front surface of the plate element, **characterised in that**

- the attachment strips are provided on two opposing side edges (12, 13) of the plate element,
- each attachment strip (30, 30') has fastening means (32, 33) suitable to attach the attachment strip (30, 30') to one of the two opposing side edges (12, 13) of the plate element (1), and further has an attachment fork (31), which fork (31) when arranged on the plate element (1) projects from the front surface (10) of the plate element (1);
- each profile (20, 21, 22, 23) has an attachment surface (25) where a groove (35, 36) is provided in said attachment surface (25), such that the groove (35, 36) can accommodate and hold the attachment fork (31) of the attachment strip (30, 30').

2. A system according to claim 1 wherein the attachment strip (30) is made from spring steel, and where the attachment strip (30) in a cross-section has a U- or C-shape comprising two substantially parallel legs (32) connected in one end by a connection piece (34), such that the plate thickness may be accommodated between the parallel legs (32), and where the attachment fork (31) is part of one of the legs (32) and extends away from said legs (32).

3. A system according to claim 1 wherein the attachment strip (30, 30') has two orthogonal flanges (38, 39), where on a first flange (38) the attachment fork (31) extends from said flange (38), and on the second flange (39) one or more spikes (40, 41) are arranged perpendicular to said second flange (39), either only on one side or on both sides of said second flange (39).

4. A system according to any preceding claim wherein the groove (35, 36) in the attachment surface (25) of the profile (20, 21, 22, 23) has a mushroom cross section, wherein the smaller opening (36) is connected to the attachment surface (10), and where the attachment fork (31) in a cross-section has two arms extending from a connection bridge (32), which bridge (32) in use is in contact with the plate element (20, 21, 22, 23), and where the arms (31) from the

bridge section (32) has first straight parallel sections arranged at a mutual distance corresponding to the smaller opening (36), and where between the straight sections and the distal ends of the arms are provided bulging sections (35), where the bulging sections bulge away from each other, and where the bulging sections together have a larger dimension parallel to the surface of the plate (20,21,22,23) than the largest dimension of the mushroom (35) cross section in the profile parallel to the plate (20,21,22,23), when said profile (20,21,22,23) is arranged on the plate (1).

5. A system according to claim 1, wherein a connection member (44) is provided, which connection member (44) has a cross-sectional shape corresponding to the cross-sectional shape of the groove (35), such that when inserting the connection member (44) in two facing ends of two profiles (20,21,22,23), the connection member (44) will align said two profiles (20,21,22,23).
6. A system according to claim 1 wherein the attachment fork (31) in use extends on both sides of the edge (12,13) of the plate (1) onto which it is mounted.
7. A system according to claim 1 wherein the profiles (20,21,22,23) are made from any or a combination of the following materials: wood, plastics, glass-fibre reinforced composite, metal in particular aluminum, stainless steel, copper, or zinc.
8. A system according to claim 7 wherein when the profiles (20,21,22,23) are made from wood the wood is selected from oak, teak, mahogany, beech, birch, ash, walnut, pine, poplar and optionally provided with a surface finish selected amongst varnish, impregnation, whitewash, paint or lacquer.
9. system according to claim 1 wherein the plate element (1) is made from any of the following materials or a combination of these materials:
 - a cellulose based material;
 - a cement-bonded wood wool material;
 - wood;
 - gypsum or plaster;
 - concrete or other cement-based hardenable material;
 - fiber reinforced composites;
 - magnasit bonded wood wool;
 - fiber plaster;
 - mineral wool.
10. A system according to claim 1 wherein the attachment strip (30) has a plurality of attachment forks (31) arranged at a predetermined mutual distance, such that in use it is possible to arrange a plurality

of profiles (20,21,22,23) in parallel on the surface (10) of the plate member (1) where each profile is attached to a separate fork (31) on the same attachment strip (30).

11. A system according to any preceding claim wherein at least the front surface is provided with a cover material different from the material from which the plate element (1) is manufactured, where said cover material may be a cloth, textile, membrane, foil, surface coating, netting or the like.
12. Method for installing a system according to any of claims 1 to 11, to a structure, comprising:
 - selecting one or more suitable plate elements (1), where each plate element has a material thickness, and edges (12,13) along the perimeter of the plate element (1), where said edges are substantially at right angles to a front surface (10) of the plate element (1);
 - along two opposing and parallel edges (12,13) arranging attachment strips (30), where each attachment strip (30) has fastening means (32,34) suitable to attach the attachment strip (30) to an edge (12,13) of the plate element (1), and further has one or more attachment fork(s) (31) which fork(s) (31) when arranged on the plate element (1) project from the front surface (10) of the plate element (1);
 - installing or fastening the plate element (1) to the structure by suitable means, such that the front surface (10) with the forks (31) extending from the surface (10) is visible;
 - placing one or more profiles (20,21,22,23) on the front surface (10) of the plate elements (1), where each profile (20,21,22,23) has an attachment surface (25) and where a groove (35,36) is provided in said attachment surface (25), and where the groove (35,36) is shaped such that the groove (35,36) can accommodate and hold the attachment fork (31) of the attachment strip (30), whereby the profile (20,21,22,23) is held in contact with the surface (10) of the plate element (1).

Patentansprüche

1. Wand- oder Deckenverkleidungs- oder -verschalungssystem, welches ein Plattenelement (1) aufweist, wobei das Plattenelement (1) eine freiliegende Vorderseite (10), eine Hinterseite (11) und eine Materialdicke zwischen den Vorder- und Hinterseiten (10, 11) hat, wobei der Plattenumfang durch Seitenkanten (12, 13) begrenzt ist, wobei das System weiter einen oder mehrere Befestigungsstreifen (30, 30') und eine Vielzahl von Profilen (20, 21, 22, 23)

aufweist, die an der Vorderseite des Plattenelementes angeordnet sind, **dadurch gekennzeichnet, dass**

- die Befestigungsstreifen an zwei gegenüberliegenden Seitenkanten (12, 13) des Plattenelementes vorgesehen sind, 5
 - jeder Befestigungsstreifen (30, 30') Befestigungsmittel (32, 33) hat, die ausgebildet sind, um den Befestigungsstreifen (30, 30') an einer der zwei gegenüberliegenden Seitenkanten (12, 13) des Plattenelementes (1) anzubringen, und weiter eine Befestigungsgabel (31) hat, wobei die Gabel (31), wenn sie an dem Plattenelement (1) angebracht ist, von der Vorderseite (10) des Plattenelementes (1) vorsteht; 10
 - jedes Profil (20, 21, 22, 23) eine Befestigungsfläche (25) hat, wobei eine Nut (35, 36) in der Befestigungsfläche (25) vorgesehen ist, so dass die Nut (35, 36) die Befestigungsgabel (31) des Befestigungsstreifens (30, 30') aufnehmen kann. 15
2. System nach Anspruch 1, wobei der Befestigungsstreifen (30) aus Federstahl gemacht ist und wobei der Befestigungsstreifen (30) im Querschnitt eine U- oder C-Form hat, welche zwei im Wesentlichen parallele Schenkel (32) aufweist, die an einem Ende durch ein Verbindungsstück (34) verbunden sind, so dass die plattendicke zwischen den parallelen Schenkeln (32) aufgenommen werden kann, und wobei die Befestigungsgabel (31) Teil von einem der Schenkel (32) ist, und sich von den Schenkeln (32) weg erstreckt. 20
3. System nach Anspruch 1, wobei der Befestigungsstreifen (30, 30') zwei senkrechte Flansche (38, 39) hat, wobei an einem ersten Flansch (38) die Befestigungsgabel (31) sich von dem Flansch (38) erstreckt, und wobei an dem zweiten Flansch (39) eine oder mehrere Spitzen (40, 41) senkrecht zu dem zweiten Flansch (39) angeordnet sind, entweder nur auf einer Seite oder auf beiden Seiten des zweiten Flansches (39). 25
4. System nach einem vorhergehenden Anspruch, wobei die Nut (35, 36) in der Befestigungsfläche (25) des Profils (20, 21, 22, 23) einen Pilzquerschnitt hat, wobei die kleinere Öffnung (36) mit der Befestigungsfläche (10) verbunden ist, und wobei die Befestigungsgabel (31) im Querschnitt zwei Arme hat, die sich von einer Verbindungsbrücke (32) erstrecken, wobei die Brücke (32) bei der Anwendung in Kontakt mit dem Plattenelement (20, 21, 22, 23) ist, und wobei die Arme (31) von dem Brückenabschnitt (32) erste gerade parallele Abschnitte haben, die in einer gegenseitigen Distanz entsprechend der kleineren Öffnung (36) angeordnet sind, und wobei zwischen den geraden Abschnitten und den distalen bzw. äußeren Enden der Arme ausgebeulte Abschnitte (35) vorgesehen sind, wobei die ausgebeulten Abschnitte sich voneinander weg ausbeulen und wobei die ausgebeulten Abschnitte zusammen eine größere Abmessung parallel zur Oberfläche der Platte (20, 21, 22, 23) haben als die größte Abmessung des Pilzquerschnittes (35) in dem Profil parallel zur Platte (20, 21, 22, 23), wenn das Profil (20, 21, 22, 23) an der Platte (1) angeordnet ist. 30
5. System nach Anspruch 1, wobei ein Verbindungsglied (44) vorgesehen ist, wobei das Verbindungsglied (44) eine Querschnittsform entsprechend der Querschnittsform der Nut (35) hat, so dass, wenn das Verbindungsglied (44) in zwei zueinander weisende Enden von zwei Profilen (20, 21, 22, 23) eingeführt wird, das Verbindungsglied (44) mit den zwei Profilen (20, 21, 22, 23) in Ausrichtung kommen wird. 35
6. System nach Anspruch 1, wobei die Befestigungsgabel (31) bei der Anwendung sich auf beiden Seiten der Kante (12, 13) der Platte (1) erstreckt, an der sie befestigt ist. 40
7. System nach Anspruch 1, wobei die Profile (20, 21, 22, 23) aus irgendeinem oder einer Kombination der folgenden Materialien gemacht sind: Holz, Plastik, Glasfaser-verstärkter-Verbundwerkstoff, Metall, insbesondere Aluminium, rostfreier Stahl, Kupfer oder Zink. 45
8. System nach Anspruch 7, wobei wenn die Profile (20, 21, 22, 23) aus Holz gemacht sind, das Holz ausgewählt ist aus Eiche, Teak, Mahagoni, Buche, Birke, Esche, Walnuss, Kiefer, Pappel und optional versehen ist mit einer Oberflächenendbearbeitung, die ausgewählt ist aus Lack, Imprägnierung, Tünche, Farbe oder Firnis. 50
9. System nach Anspruch 1, wobei das Plattenelement (1) aus irgendeinem der folgenden Materialien oder einer Kombination dieser Materialien gemacht ist: 55
- zellulose-basiertes Material;
 - zementgebundenes Holzwolle-Material;
 - Holz;
 - Gips oder Mörtel;
 - Beton oder anderes zementbasiertes aushärtbares Material;
 - faserverstärkte Verbundwerkstoffe;
 - magnasit-gebundene Holzwolle;
 - Fasermörtel;
 - Mineralwolle.
10. System nach Anspruch 1, wobei der Befestigungsstreifen (30) eine Vielzahl von Befestigungsgabeln (31) hat, die in einem vorbestimmten gegenseitigen

Abstand angeordnet sind, so dass es bei der Anwendung möglich ist, eine Vielzahl von Profilen (20, 21, 22, 23) parallel an der Fläche (10) des Plattenelementes (1) anzuordnen, wobei jedes Profil an einer separaten Gabel (31) an dem gleichen Befestigungsstreifen (30) angebracht ist.

11. System nach einem vorhergehenden Anspruch, wobei zumindest die Vorderseite mit einem Verkleidungsmaterial versehen ist, das anders als das Material ist, aus welchem das Plattenelement (1) hergestellt ist, wobei das Verkleidungsmaterial ein Tuch, Textil, Membran, eine Folie, eine Oberflächenbeschichtung, ein Netz oder Ähnliches sein kann.

12. Verfahren zum Installieren eines Systems nach einem der Ansprüche 1 bis 11 an einer Struktur, welches folgendes aufweist:

- Auswählen von einem oder mehreren geeigneten Plattenelementen (1), wobei jedes Plattenelement eine Materialdicke und Kanten (12, 13) entlang des Umfangs des Plattenelementes (1) hat, wobei die Kanten im Wesentlichen in rechten Winkeln zu einer Vorderseite (10) des Plattenelementes (1) sind;
- Anordnen von Befestigungsstreifen (30) entlang zwei gegenüberliegenden und parallelen Kanten (12, 13), wobei jeder Befestigungsstreifen (30) Befestigungsmittel (32, 34) hat, die geeignet sind, um den Befestigungsstreifen (30) an einer Kante (12, 13) des Plattenelementes (1) anzubringen, und wobei er weiter eine oder mehrere Befestigungsgabeln (31) hat, wobei die Gabel(n) (31), wenn sie an dem Plattenelement (1) angeordnet ist bzw. sind, von der Vorderseite (10) des Plattenelementes (1) vorsteht bzw. vorstehen;
- Installieren oder Befestigen des Plattenelementes (1) an der Struktur durch geeignete Mittel, so dass die Vorderseite (10) mit den Gabeln (31), die sich von der Fläche (10) erstrecken, sichtbar ist;
- Anordnen von einem oder mehreren Profilen (20, 21, 22, 23) an der Vorderseite (10) der Plattenelemente (1), wobei jedes Profil (20, 21, 22, 23) eine Befestigungsfläche (25) hat, und wobei eine Nut (35, 36) in der Befestigungsfläche (25) vorgesehen ist, und wobei die Nut (35, 36) so geformt ist, dass die Nut (35, 36) die Befestigungsgabel (31) des Befestigungsstreifens (30) aufnehmen und halten kann, wodurch das Profil (20, 21, 22, 23) in Kontakt mit der Fläche (10) des Plattenelementes (1) gehalten wird.

Revendications

1. Système de recouvrement ou d'habillage de mur ou de plafond comprenant un élément de plaque (1),

ledit élément de plaque (1) ayant une surface avant exposée (10), une surface arrière (11) et une épaisseur de matériau entre lesdites surfaces avant et arrière (10, 11), le périmètre de plaque étant délimité par des bords (12, 13), le système comprenant en outre une ou plusieurs bandes de fixation (30, 30') et une pluralité de profilés (20, 21, 22, 23) agencés sur la surface avant de l'élément de plaque,

caractérisé en ce que

- les bandes de fixation sont prévues sur deux bords latéraux opposés (12, 13) de l'élément de plaque,
- chaque bande de fixation (30, 30') comprend des moyens de fixation (32, 33) appropriés pour fixer la bande de fixation (30, 30') à l'un des deux bords latéraux opposés (12, 13) de l'élément de plaque (1), et comprend en outre une fourche de fixation (31), laquelle fourche (31), lorsqu'elle est agencée sur l'élément de plaque (1), fait saillie à partir de la surface avant (10) de l'élément de plaque (1) ;
- chaque profilé (20, 21, 22, 23) comprend une surface de fixation (25), une rainure (35, 36) étant prévue dans ladite surface de fixation (25), de sorte que la rainure (35, 36) puisse recevoir et maintenir la fourche de fixation (31) de la bande de fixation (30, 30').

2. Système selon la revendication 1, la bande de fixation (30) étant réalisée en acier à ressort, et la bande de fixation (30) ayant en section transversale une forme en U ou en C comprenant deux branches sensiblement parallèles (32) reliées à une extrémité par une pièce de liaison (34), de sorte que l'épaisseur de la plaque puisse être logée entre les branches parallèles (32), et la fourche de fixation (31) faisant partie de l'une des branches (32) et s'étendant à l'écart desdites branches (32).

3. Système selon la revendication 1, la bande de fixation (30, 30') ayant deux brides orthogonales (38, 39), sur une première bride (38), la fourche de fixation (31) s'étendant depuis ladite bride (38), et sur la seconde bride (39), une ou plusieurs pointes (40, 41) étant agencées perpendiculairement à ladite seconde bride (39), soit uniquement sur un seul côté, soit sur les deux côtés de ladite seconde bride (39).

4. Système selon l'une quelconque des revendications précédentes, la rainure (35, 36) dans la surface de

- fixation (25) du profilé (20, 21, 22, 23) ayant une section transversale en forme de champignon, l'ouverture plus petite (36) étant reliée à la surface de fixation (10), et la fourche de fixation (31), dans une section transversale, ayant deux bras s'étendant à partir d'un pont de liaison(32), lequel pont (32), en utilisation, est en contact avec l'élément de plaque (20, 21, 22, 23), et les bras (31), à partir de la section de pont (32), ayant des premières sections parallèles droites agencées à une distance mutuelle correspondant à l'ouverture plus petite (36), et entre les sections droites et les extrémités distales des bras étant prévues des sections renflées (35), les sections renflées s'éloignant mutuellement, et les sections renflées ayant ensemble une plus grande dimension parallèle à la surface de la plaque (20, 21, 22, 23) que la plus grande dimension de la section transversale en forme de champignon (35) dans le profilé parallèle à la plaque (20, 21, 22, 23), lorsque ledit profilé (20, 21, 22, 23) est agencé sur la plaque (1).
5. Système selon la revendication 1, un élément de liaison (44) étant prévu, lequel élément de liaison (44) ayant une forme de section transversale correspondant à la forme de section transversale de la rainure (35), de sorte que lors de l'insertion de l'élément de liaison (44) dans deux extrémités en vis-à-vis de deux profilés (20, 21, 22, 23), l'élément de liaison (44) va aligner lesdits deux profilés (20, 21, 22, 23).
6. Système selon la revendication 1, la fourche de fixation (31), en utilisation, s'étendant sur les deux côtés du bord (12, 13) de la plaque (1) sur laquelle elle est montée.
7. Système selon la revendication 1, les profilés (20, 21, 22, 23) étant fabriqués à partir de l'un quelconque ou d'une combinaison des matériaux suivants : bois, plastique, composite renforcé de fibres de verre, métal, en particulier aluminium, acier inoxydable, cuivre ou zinc.
8. Système selon la revendication 7, lorsque les profilés (20, 21, 22, 23) sont fabriqués à partir de bois, le bois étant choisi parmi le chêne, le teck, l'acajou, le hêtre, le bouleau, le frêne, le noyer, le pin, le peuplier et étant facultativement pourvu d'une finition de surface choisie parmi un vernis, une imprégnation, un blanchiment, une peinture ou une laque.
9. Système selon la revendication 1, l'élément de plaque (1) étant fabriqué à partir de l'un quelconque des matériaux suivants ou d'une combinaison de ces matériaux :
- un matériau à base de cellulose ;
 - un matériau en laine de bois collé au ciment ;
 - du bois ;
 - du gypse ou du plâtre ;
 - du béton ou un autre matériau durcissable à base de ciment ;
 - des composites renforcés de fibres ;
 - de la laine de bois liée par magnésie ;
 - du plâtre à fibre de bois ;
 - de la laine minérale.
10. Système selon la revendication 1, la bande de fixation (30) ayant une pluralité de fourches de fixation (31) agencées à une distance mutuelle prédéterminée, de sorte qu'en utilisation, il soit possible d'agencer une pluralité de profilés (20, 21, 22, 23) en parallèle sur la surface (10) de l'élément de plaque (1) où chaque profilé est fixé à une fourche séparée (31) sur la même bande de fixation (30).
11. Système selon l'une quelconque des revendications précédentes, au moins la surface avant étant pourvue d'un matériau de recouvrement différent du matériau à partir duquel l'élément de plaque (1) est fabriqué, où ledit matériau de recouvrement peut être un tissu, un textile, une membrane, une feuille, un revêtement de surface, un filet ou analogue.
12. Procédé d'installation d'un système selon l'une quelconque des revendications 1 à 11 sur une structure, comprenant :
- sélectionner un ou plusieurs éléments de plaque appropriés (1), chaque élément de plaque ayant une épaisseur de matériau, et des bords (12, 13) le long du périmètre de l'élément de plaque (1), lesdits bords étant sensiblement perpendiculaires à une surface avant (10) de l'élément de plaque (1) ;
 - agencer des bandes de fixation (30) le long de deux bords opposés et parallèles (12, 13), chaque bande de fixation (30) comprenant des moyens de fixation (32, 34) appropriés pour fixer la bande de fixation (30) à un bord (12, 13) de l'élément de plaque (1), et comprenant en outre une ou plusieurs fourches de fixation (31), laquelle ou lesquelles fourches (31), lorsqu'elles sont agencées sur l'élément de plaque (1), faisant saillie à partir de la surface avant (10) de l'élément de plaque (1) ;
 - installer ou fixer l'élément de plaque (1) à la structure par des moyens appropriés, de telle sorte que la surface avant (10) avec les fourches (31) s'étendant depuis la surface (10) soit visible ;
 - placer un ou plusieurs profilés (20, 21, 22, 23) sur la surface avant (10) des éléments de plaque (1), chaque profilé (20, 21, 22, 23) comprenant une surface de fixation (25), et une rainure (35, 36) étant prévue dans ladite surface de fixation

(25), et la rainure (35, 36) étant mise en forme de telle sorte que la rainure (35, 36) puisse recevoir et maintenir la fourche de fixation (31) de la bande de fixation (30), moyennant quoi le profilé (20, 21, 22, 23) est maintenu en contact avec la surface (10) de l'élément de plaque (1).

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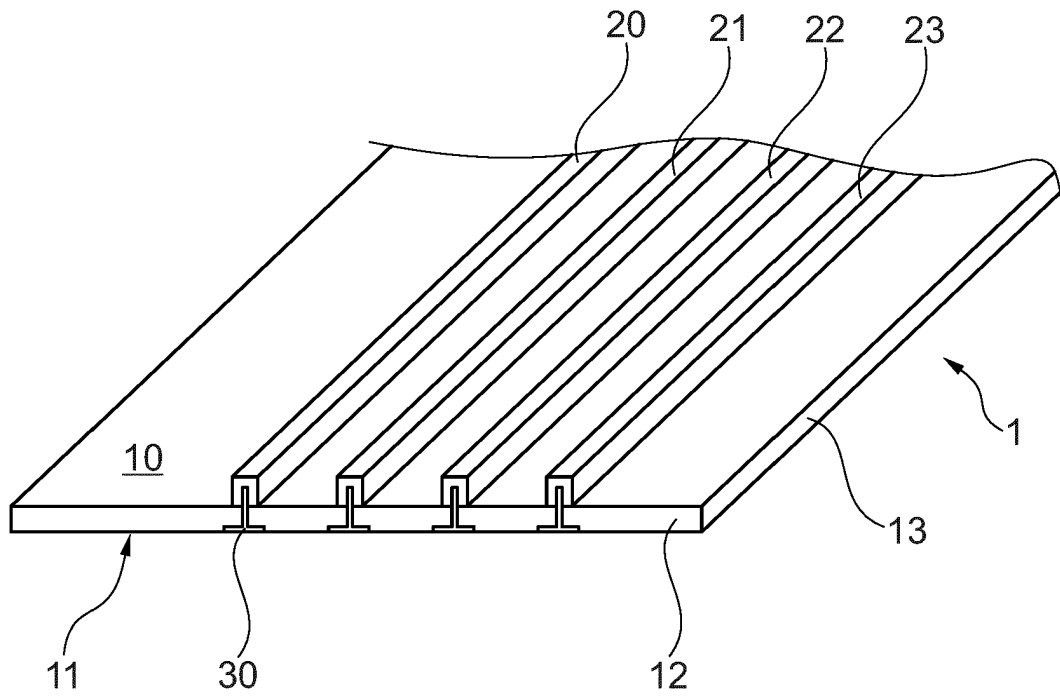


Fig. 1

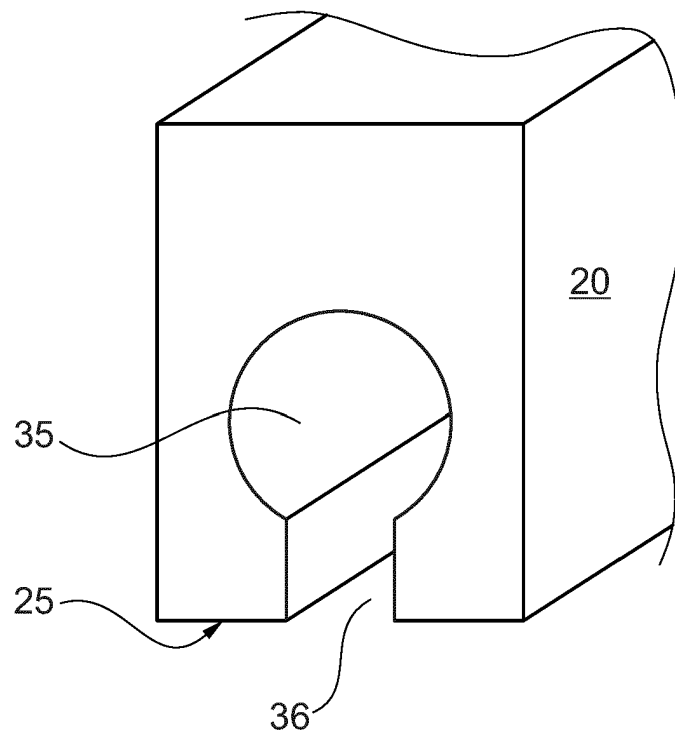


Fig. 2

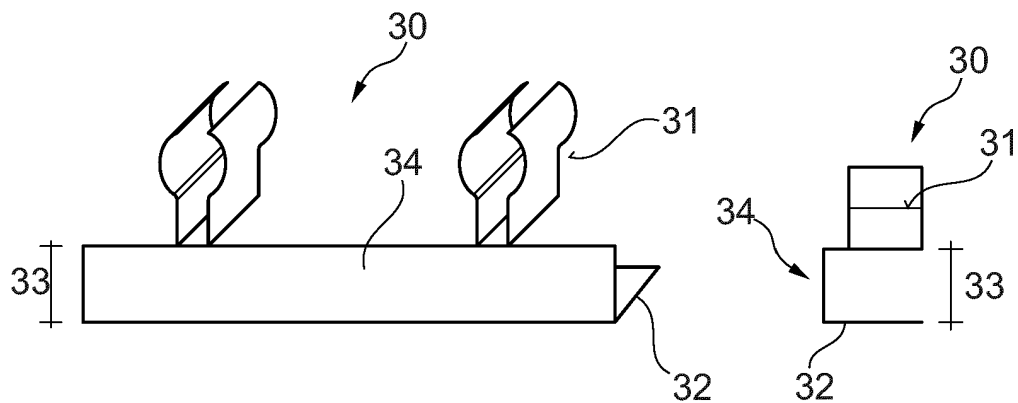


Fig. 3a

Fig. 3b

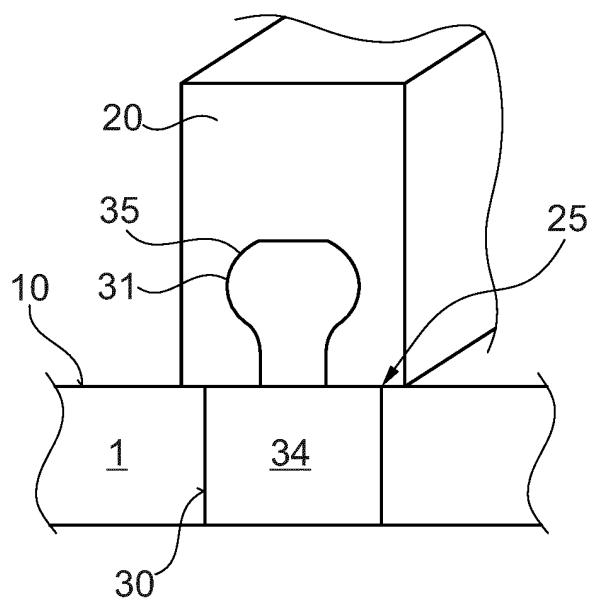


Fig. 4

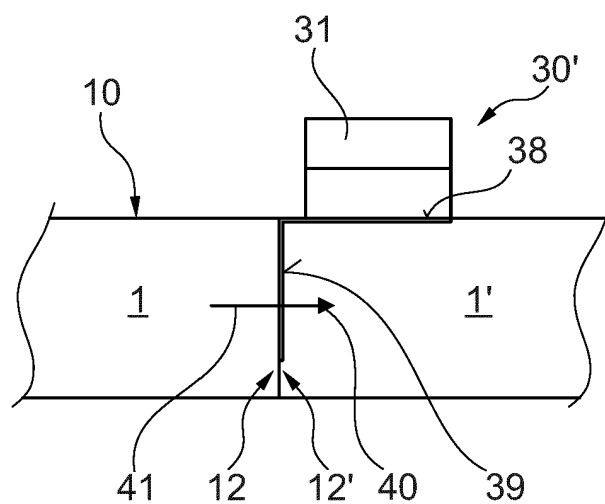


Fig. 5

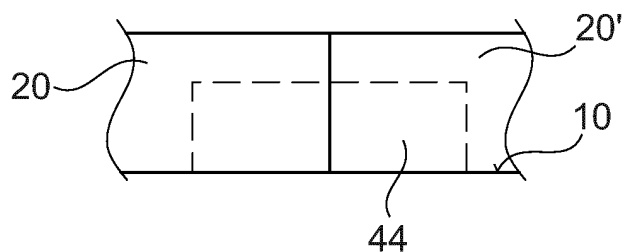


Fig. 6

REFERENCES CITED IN THE DESCRIPTION

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