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(54) **A PRODUCT TO PROVIDE HEAT INSULATION ON THE OUTER SIDINGS OF BUILDINGS AND A MOUNTING METHOD THEREOF**

PRODUKT ZUR BEREITSTELLUNG EINER WÄRMEDÄMMUNG AN DEN AUSSENSEITEN EINES GEBÄUDES SOWIE VERFAHREN ZU SEINER MONTAGE

ARTICLE D'ISOLATION THERMIQUE POUR PAREMENTS EXTÉRIEURS DE BÂTIMENTS ET SON PROCÉDÉ DE POSE

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(56) References cited:
**DE-A1- 19 737 894 GB-A- 2 221 931
KR-Y1- 200 414 099 US-A- 5 553 455**

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Description**Subject of the Invention**

[0001] The present invention relates to a product to be used on the outer sidings of the buildings, providing heat insulation, possible to be applied without profile and providing a tile-covered facade as its apparent front surface is tile.

Present State of the Art

[0002] In the embodiments according to the state of the art, when the similar siding materials are used in the building facades, curtain walls are created by using ceramic plate, aluminum plate derivatives or other siding materials by means of profiled mounting method on condition that the gap that the profile has created will be covered with a heat insulation material or curtain walls are created by means of providing exterior thermal sheathing by using heat insulation material, plaster, last layer covering plaster and external wall paint and at the same time heat insulation is provided.

[0003] As it wastes time to obtain the materials to be used for insulation in the embodiments according to the state of art one by one and to mount them during the application in the building site, it also causes some quality problems and additional costs along with some functional loss.

[0004] Document numbered DE19737894 is about the faceplate for the visible surfaces of buildings including insulation material. However in the system mentioned in this document profiles with different shapes are used. The L-shaped profiles form frames. In the mentioned document there is not any monolithic structure. With using this system profiles with different shapes can be used.

Description of the Figures**[0005]**

Figure 1: Insulation material and surrounding wall

Figure 2: The view of the 3 holes created on the surrounding wall and on insulation material

Figure 3: The montage of the insulation material and the surrounding wall onto the surface

Figure 4: The mechanical montage of the insulation material and the surrounding wall onto the surface by means of wallplugs

Figure 5: The view of the one-piece structure consisting of insulation material and surrounding wall when they are mounted onto the surface

Figure 6: The montage of the tile onto the insulation

material and surrounding wall

Figure 7: The view of the male part of the clamp connection on the tile

Figure 8: The view of the tile montage on the insulation material and surrounding wall and the view of the female part of the clamp connection

Figure 9: The top view of the male part of the clamp connection located on the tile

Description of the References:**[0006]**

1: Surrounding wall

2: Insulation material

3: One-piece (monolithic) structure consisting of the insulation material and wall

4: The holes positioned on the insulation material and surrounding wall into which the wall plugs go on

5: The hole into which the female part of the clamp connection is mounted on the surface of the insulation material and surrounding wall, wherein the male part of the clamp positioned on the tile go into the said female part

6: Wall plugs

7: Mounting surface onto which the product is mounted

8: Tile

9: Male part of the clamp connection

10: Female part of the clamp connection

11: The connection joints of the one-piece structure consisting of insulation material and surrounding wall

Description of the Invention

[0007] The present invention relates to a product to be used on the outer sidings of the buildings, providing heat insulation, possible to be applied without profile and providing a tile-covered facade as its apparent front surface is tile.

[0008] The present invention ends the requirement that different materials are mounted one by one after having been obtained for providing insulation for the buildings. Therefore building heat insulation is provided by

means of only one single product. Moreover although it is mounted without using profile, an outer siding having a longer physical life than that of a building generally is made possible as the apparent outer siding is made of ceramic or other materials that can be used on outer sidings of the buildings.

[0009] The product according to the present invention comprises three main parts as insulation material (2), surrounding wall (1) and tile (8); wherein the insulation material (2) and the surrounding wall (1) are formed as one single part (3) in other words they have a monolithic structure, and then the tile (8) is mounted onto the front surface of this monolithic structure (3), that is the uncovered surface of the insulation material (2), and therefore

[0010] The insulation material (2) is surrounded with the surrounding wall (1) in a way that one of its surfaces will be uncovered. Three holes (4,5) are created on the monolithic structure (3) formed in this way as shown in Figure 2, and these holes pierce both the surrounding wall and the insulation material. The holes on the right and left edges (4) are the holes through which the wall plugs (6) pass in order to enable the one-piece structure (3) composed of insulation material (2) and surrounding wall (1) to be mounted onto the mounting surface (7) onto which the product is mounted, while the other hole (5) in the middle is the hole which enables the tile (8) to be mounted onto the mounting surface (7) onto which the product is mounted and also onto the front surface of the monolithic structure (3) composed of insulation material and surrounding wall. The insulation material (2) in the product is polyurethane foam, and also possible to be XPS. The used surrounding wall is reinforced concrete, and within the present invention it is possible for it to be made of a different material that will be suitable to be used.

[0011] The male part (9) of the clamp connection is stuck onto the rear surface of the tile (8) to be mounted onto the one-piece structure (3) during the mounting process (Figure 7). The male part (9) of the clamp connection is mounted onto the rear surface of the tile in a way that it will be located in the center of the surface in alignment with the hole (5) located in the middle on the structure (3) composed of insulation material (2) and surrounding wall (1) and will get into the female part (10) mounted into the hole (5). The part called as the clamp connection is composed of a female part (10), the inner surface of which is serrated (indented) and which is considered as a housing that the male part (9) gets into; and a male part (9) having a surface in accordance with that of the female part. During the packing process, the male part (9) mounted onto the rear surface of the tile is made to pass through the middle hole (5) on the structure consisting of surrounding wall and insulation material and therefore transferred to the location where it will be mounted.

[0012] A cement-based adhesive is applied onto the rear surface of the monolithic structure (3) composed of

the surrounding wall (1) and insulation material (2), which is unpacked for the mounting process, and after binding a gauge on the mounting surface (7), the structure is mounted on the mounting surface (7) by being adhered from its rear surface. Then, the mounting surface (7) is pierced from the holes (4) located on the right and left of the product, and the monolithic structure (3) is mechanically mounted onto the mounting surface (7) by means of wall plugs (6). Therefore the monolithic structure (3) consisting of insulation material and the surrounding wall is mounted onto the mounting surface (7) both by adhering method and mechanically by using wall plugs. By repeating the said process, the unpacked monolithic (one-piece) structures are mounted onto the mounting surface. Before the tile (8) is mounted onto the monolithic one-piece structure (3), as it is shown in Figure 5, a chemical insulation material is applied onto the connection joints (11) of the one-piece structures (3) composed of insulation material and surrounding wall mounted on the mounting surface. The mounting surface (7) is pierced from the hole (5) previously made in the center of the monolithic (one-piece) structure (3), and the female part (10) of the clamp is fitted onto the mounting surface (7), wherein the inner surface of the said female part is serrated (indented) and the male part (9) of the clamp connection located on the rear surface of the tile gets into it (10). A polyurethane-based adhesive is applied without any interruption only through the short edges of the rear surface of the tile (8) and through the short edges of the front surface of the surrounding wall in the monolithic structure (3) consisting of insulation material and surrounding wall. The male clamp connection part (9) on the rear surface of the tile (8) is located on the one-piece structure (3) in a way that it will get into the female part (10) in the center of the monolithic structure composed of the insulation material and surrounding wall, and the tile (8) is pushed until the male part (9) is fitted totally into the female part (10) without leaving any space, and therefore the parts are locked up. Because of the inner surface structure of the female part and the surface structure of the male part, the tile (8) is provided to be locked on the structure (3) composed of surrounding wall and insulation material and on the wall surface, and therefore it is prevented from removing. Therefore the tile (8) is mounted on the surface of the monolithic structure (3) composed of surrounding wall and insulation material and on the mounting surface both mechanically and by being adhered from its short edges. As the tile (8) in the product is mounted from one point and from the center, until the polyurethane-based adhesive becomes effective, the circular movement of the tile (8) is possible and the joint adjustment can be made by means of the said circular movement of the tile (8). After the joint adjustment is made by means of this movement of the tile (8), the mounting process is completed.

[0013] It is possible within the present invention that the tile (8) located on the outer front surface of the product be made of ceramic or any other material appropriate for

outer siding or plastic, wooden, glass, metal, aluminium, aluminium composite, granite, natural stone, marble, laminate, vinyl, pressed brick, flakeboard or composite materials, and also it is possible to use these materials within the present invention.

Claims

1. A product developed for providing a tile-covered curtain wall and heat insulation on the outer sidings of buildings, comprising;
 - a monolithic structure (3) comprising an insulation material (2) and a surrounding wall (1) such that said insulation material (2) is located inside the surrounding wall (1) in such a way that one of its (2) surfaces will be uncovered by the surrounding wall (1) and so the visible surface of the monolithic structure (3) will be the insulation material (2) which then will be covered by a tile (8)
 - said tile (8) positioned on the outer front surface of the monolithic structure (3) such that it is positioned onto the surface of the insulation material (2)

characterized in that it further comprises;

 - a clamp connection element's male part (9) which is located in the center of the rear surface of the tile (8) and is stuck to this rear surface of the tile (8) so as to be in alignment with a hole (5) located in the center of the one-piece monolithic structure (3) consisting of insulation material and surrounding wall and will get into a female part (10) mounted into this hole (5)
2. The product according to claim 1, comprising; at least three holes (4, 5) piercing both the insulation material and the surrounding wall on the surface of the monolithic one-piece structure (3) composed of insulation material (2) and surrounding wall (1), the visible front surface of which is the insulation material.
3. The product according to claims 1 and 2, **characterized in that** the tile (8) located on the outer surface of the product is ceramic.
4. The product according to claims 1 and 2, **characterized in that** the tile (8) located on the outer surface of the product is made of plastic, wooden, glass, metal, aluminum, aluminum composite, granite, natural stone, marble, laminate, vinyl, pressed brick, flake board or composite materials or another material appropriate for the outer siding.

5. A method for mounting the product according to any one of the preceding claims, comprising the following steps;

- applying a cement-based adhesive on the rear surface of the monolithic structure (3) composed of surrounding wall and insulation material, and sticking that structure from its rear surface onto mounting surface (7) onto which the product is mounted
- piercing the mounting surface (7) onto which the product has been mounted or the mounting surface (7) through the holes (4) located on the right and left edges of the monolithic structure composed of surrounding wall and the insulation material and mounting the monolithic structure (3) mechanically onto the mounting surface (7) by means of wall plugs (6) through the said holes
- applying chemical material on the connection joints of the monolithic one-piece structures (3) consisting of insulation material and surrounding wall mounted onto the mounting surface (7) on which the mounting process takes place
- piercing the mounting surface (7) onto which the product has been mounted, through the hole (5) located in the center of the monolithic structure (3) consisting of wall and insulation material mounted onto the surface
- fitting the female part (10) onto the mounting surface (7) by passing the said female part (10) through the hole (5) in the middle of the surrounding wall and insulation material so that the male part (9) of the clamp connection which has been previously adhered on the tile rear part gets into said female part (10)
- applying polyurethane-based adhesive all along the two short edges on the surrounding wall surface or the tile rear surface in the monolithic structure (3) composed of surrounding wall and the insulation material
- locating the clamp connection element at the rear part of the tile (8) to the surface of the insulation material on the structure (3) composed of insulation material and the surrounding wall in a way that the male part (9) will fit into the female part (10) on the surface
- adhering the tile on the one-piece monolithic structure (3) from its short edges and locking the tile (8) on the one-piece monolithic structure (3) and on the wall surface in a way that it cannot be removed from both of the surfaces when it is drawn back with the movement of the male part (9) inside the female part (10) the inner surface of which is serrated until the parts (9, 10) are locked up.

6. The method according to Claim 5, **characterized in that** the tile (8) is mounted on the monolithic structure

(3) composed of surrounding wall and insulation material by means of both adhering method and mechanically by engaging and locking the clamp connection elements, which are the male part (9) and the female part (10) the inner surface of which is serrated.

7. The method according to Claim 5, **characterized in that** the monolithic structure (3) composed of surrounding wall and the insulation material is mounted onto the mounting surface (7) both by means of adhering method and mechanically by using/fixing wall plugs (6) through the holes (4) made on the mounting surface (7) onto which the product is mounted.

8. The method according to Claim 5, **characterized in that** the tile (8) is mounted from only one point on its center in a way that the circular movement and joint adjustment of the tile are possible.

Patentansprüche

1. Ein Produkt entwickelt für die Bereitstellung einer gefliesten Vorhangsfassade und einer Wärmeisolierung auf den Außenseiten von Gebäuden, umfassend

- eine monolithische Struktur (3) umfassend ein Isoliermaterial (2) und eine umgebende Wand (1), so dass dieses Isoliermaterial (2) innerhalb der umgebenden Wand (1) in einer solchen Weise lokalisiert ist, dass eine von seinen (zwei) Oberflächen durch die umgebende Wand (1) unbedeckt bleibt und derart die sichtbare Oberfläche der monolithischen Struktur (3) das Isoliermaterial (2) ist, welche dann durch eine Fliese (8) bedeckt wird,
- besagte Fliese (8) positioniert auf der äußeren Frontoberfläche der monolithischen Struktur (3) ist, so dass es auf der Oberfläche des Isoliermaterials (2) positioniert ist,

dadurch gekennzeichnet, dass es weiterhin umfasst

- einen männlichen Teil (9) eines Klammerverbindungselements, welcher im Zentrum der rückseitigen Oberfläche der Fliese (8) lokalisiert ist und gegen diese rückwärtige Oberfläche der Fliese (8) gedrückt ist, so dass er in Übereinstimmung mit einem Loch (5), das im Zentrum der einstückigen monolithischen Struktur (3) lokalisiert ist, bestehend aus einem Isoliermaterial und der umgebenden Wand und mit dem weiblichen Teil (10) in Kontakt tritt, das in diesem Loch (5) montiert ist.

2. Das Produkt nach Anspruch 1, umfassend: mindestens drei Löcher (4, 5), die das Isoliermaterial und die umgebende Wand auf der Oberfläche der monolithischen einstückigen Struktur (3) durchstechen, die aus Isoliermaterial (2) und der umgebenden Wand (1) besteht, wobei die sichtbare Frontoberfläche desselben das Isoliermaterial ist.

3. Produkt nach Anspruch 1 und 2, **dadurch gekennzeichnet, dass** die Fliese (8) auf der äußeren Oberfläche des Produkts aus Keramik ist.

4. Produkt nach Anspruch 1 oder 2, dadurch charakterisiert, dass die Fliese (8) lokalisiert auf der äußeren Oberfläche des Produkts aus Plastik, Holz, Glas, Metall, Aluminium, Aluminium-Komposit, Granit, natürlichem Stein, Marmor, Laminat, Vinyl, gepresstem Brick, "Flake Board" oder Komposit-Materialien oder anderen Materialien hergestellt ist, die für die Außenseite geeignet sind.

5. Ein Verfahren zur Befestigung des Produkts nach einem der vorangegangenen Ansprüche, umfassend die folgenden Schritte:

- Auftragen eines zementbasierten Klebmaterials auf der rückwärtigen Oberfläche der monolithischen Struktur (3), die aus der umgebenden Wand und Isoliermaterial zusammengesetzt ist, und Drücken dieser Struktur von ihrer rückwärtigen Oberfläche auf die Befestigungsoberfläche (7), auf welcher das Produkt befestigt wird,
- Durchstechen der Befestigungsoberfläche (7), auf welcher das Produkt befestigt worden ist, oder der Befestigungsoberfläche (7) durch die Löcher (4), die auf den rechten und linken Rändern der monolithischen Struktur lokalisiert sind, die zusammengesetzt ist aus der umgebenden Wand und dem Isoliermaterial, und Befestigen der monolithischen Struktur (3) mechanisch auf der Befestigungsoberfläche (7) mittels entsprechender Wandbeschläge (6) durch diese Löcher.
- Anwenden von chemischem Material auf die Verbindungsgelenke der monolithischen, einstückigen Struktur (3), bestehend aus Isoliermaterial und der umgebenden Wand, befestigt auf der Befestigungsoberfläche (7), auf welcher der Montageprozess stattfindet,
- Bestechen der Befestigungsoberfläche (7), auf welcher das Produkt befestigt worden ist, durch das Loch (5), das im Zentrum der monolithischen Struktur (3) lokalisiert ist, bestehend aus der Wand und dem Isoliermaterial, das auf der Oberfläche angebracht ist,
- Einpassen des weiblichen Teils (10) auf die Befestigungsoberfläche (7) durch Durchführen des weiblichen Teils (10) durch das Loch (5) in

der Mitte der umgebenden Wand und des Isoliermaterials, so dass der männliche Teil (9) der Klammerverbindung, welche zuvor auf der Fliese angebracht worden ist, in das weibliche Teil (10) hineingelangt,

- Auftragen von polyurethan-basiertem Klebstoff entlang der beiden kurzen Ränder auf der Oberfläche der umgebenden Wand oder der rückwärtigen Oberfläche der Fliese in der monolithischen Struktur (3), die aus der umgebenden Wand und dem Isoliermaterial besteht,
- Montieren des Klammerverbindungselements am rückwärtigen Teil der Fliese (8) auf die Oberfläche des Isoliermaterials auf der Struktur (3), die aus Isoliermaterial und der umgebenden Wand besteht, in einer solchen Weise, dass der männliche Teil (9) gut in den weiblichen Teil (10) auf der Oberfläche hineinpasst,
- Anbringen der Fliese auf der einstückigen monolithischen Struktur (3) von seinen kurzen Rändern und Befestigen der Fliese (8) auf der einstückigen monolithischen Struktur (3) und auf der Wandoberfläche in einer Weise, dass es nicht von beiden Oberflächen entfernt werden kann, wenn es durch die Bewegung des männlichen Teils (9) innerhalb des weiblichen Teils (10) zurückgezogen wird, wobei die innere Oberfläche desselben gerastet ist, bis die Teile (9, 10) eingeschlossen sind.

6. Verfahren nach Anspruch 5, **dadurch gekennzeichnet, dass** die Fliese (8) auf der monolithischen Struktur (3) befestigt ist, die aus der umgebenden Wand und dem Isoliermaterial besteht, durch sowohl das Befestigungsverfahren als auch mechanisch durch Eingriff und Festsetzen der Klammerverbindungselemente, welche der männliche Teil (9) und der weibliche Teil (10) sind, die in deren innere Oberfläche eingerastet ist.
7. Verfahren nach Anspruch 5, **dadurch gekennzeichnet, dass** die monolithische Struktur (3), die aus der umgebenden Wand und dem Isoliermaterial zusammengesetzt ist, auf der Befestigungsoberfläche (7) befestigt wird durch sowohl das Klebverfahren als auch mechanisch durch die Verwendung bzw. die Fixierung von Wandbeschlägen (6) durch die Löcher (4), die auf der Befestigungsoberfläche (7) vorliegen, auf welcher das Produkt befestigt wird.
8. Verfahren nach Anspruch 5, **dadurch gekennzeichnet, dass** die Fliese (8) von nur einem Punkt auf seinem Zentrum in einer solchen Weise befestigt wird, dass eine kreisförmige Bewegung und eine Gelenkanpassung der Fliese möglich sind.

Revendications

1. Un produit conçu pour fournir une paroi rideau couvert de dalles et une isolation thermique sur les revêtements extérieurs d'immeubles, comprenant :

- une structure monolithique (3) comprenant un matériau d'isolation (2) et une paroi enveloppante (1) telle que ledit matériau d'isolation (2) soit situé à l'intérieur de la paroi enveloppante (1) de telle manière que l'une de ses surfaces (2) ne soit pas couverte par la paroi enveloppante (1) et que de ce fait la surface visible de la structure monolithique (3) soit le matériau isolant (2) lequel sera ainsi couvert par une dalle (8),
- ladite dalle (8) étant positionnée sur la surface frontale extérieure de la structure monolithique (3) de telle sorte qu'elle soit positionnée sur la surface du matériau d'isolation (2),

caractérisé en ce qu'il comprend en outre :

- une partie mâle d'élément de connexion par bride (9) qui est située au centre de la surface arrière de la dalle (8) et est collée à cette surface arrière de la dalle (8) de façon à être en alignement avec un trou (5) situé au centre de la structure monolithique d'un seul tenant (3) constituée du matériau d'isolation et de la paroi enveloppante et à ce qu'elle n'entre pas dans la partie femelle (10) montée dans ce trou (5).

2. Le produit selon la revendication 1, comprenant : au moins trois trous (4, 5) traversant à la fois le matériau d'isolation et la paroi enveloppante sur la surface de sa structure monolithique d'un seul tenant (3) composée du matériau d'isolation (2) et de la paroi enveloppante (1), dont la surface frontale visible est le matériau d'isolation.
3. Le produit selon les revendications 1 et 2, **caractérisé en ce que** la dalle (8) située sur la surface extérieure du produit est de la céramique.
4. Le produit selon les revendications 1 et 2, **caractérisé en ce que** la dalle (8) située sur la surface extérieure du produit est constituée de matériau plastique, de bois, de verre, de métal, d'aluminium, de composite d'aluminium, de granit, de pierre naturelle, de marbre, d'un stratifié, de vinyle, de brique pressée, de contreplaqué ou de matériaux composites ou d'un autre matériau approprié pour le revêtement extérieur.
5. Un procédé pour monter le produit selon l'une quelconque des revendications précédentes, comprenant les étapes suivantes :

• appliquer un adhésif à base de ciment sur la surface arrière de la structure monolithique (3) composée de la paroi enveloppante et du matériau d'isolation et coller cette structure depuis sa face arrière sur une surface de montage (7) sur laquelle le produit est monté ;
 • percer la surface de montage (7) sur laquelle le produit a été monté ou la surface de montage (7) à travers les trous (4) situés sur les bords droit et gauche de la structure monolithique composée de la paroi enveloppante et du matériau d'isolation et monter la structure monolithique (3) mécaniquement sur la surface de montage (7) au moyen de bouchons de paroi (6) à travers lesdits trous ;
 • appliquer un matériau chimique sur les joints de liaison des structures monolithiques d'un seul tenant (3) constituées du matériau d'isolation et de la paroi enveloppante montée sur la surface de montage (7) sur laquelle le procédé de montage est mis en oeuvre ;
 • percer la surface de montage (7) sur laquelle le produit a été monté, à travers le trou (5) situé au centre de la structure monolithique (3) constituée de la paroi et du matériau d'isolation monté sur la surface ;
 • fixer la partie femelle (10) sur la surface de montage (7) en passant ladite partie femelle (10) à travers le trou (5) au milieu de la paroi enveloppante et du matériau d'isolation de sorte que la partie mâle (9) de la connexion par bride qui a été précédemment collée sur la partie arrière de la dalle entre dans ladite partie femelle (10) ;
 • appliquer un adhésif à base de polyuréthane sur toute la longueur des deux bords courts sur la surface de la paroi enveloppante ou sur la surface arrière de la dalle dans la structure monolithique (3) composée de la paroi enveloppante et du matériau d'isolation ;
 • placer l'élément de connexion par bride au niveau de la partie arrière de la dalle (8) sur la surface du matériau d'isolation sur la structure (3) composée du matériau d'isolation et de la paroi enveloppante de telle manière que la partie mâle (9) s'introduise dans la partie femelle (10) sur la surface ;
 • faire adhérer la dalle sur la structure monolithique d'un seul tenant (3) à partir de ses bords courts et fixer la dalle (8) sur la structure monolithique d'un seul tenant (3) et sur la surface de la paroi de manière à ce qu'elle ne puisse pas être retirée des deux surfaces lorsqu'elle est tirée en arrière avec le mouvement de la partie mâle (9) à l'intérieur de la partie femelle (10) dont la surface interne est dentelée, jusqu'à ce que les parties (9, 10) soient bloquées.

ce que la dalle (8) est montée sur la structure monolithique (3) composée de la paroi enveloppante et du matériau isolant au moyen à la fois de la méthode de collage et mécaniquement en mettant en prise et bloquant les éléments de connexion par bride, lesquels sont la partie mâle (9) et la partie femelle (10) dont la surface interne est dentelée.

7. Le procédé selon la revendication 5, **caractérisé en ce que** la structure monolithique (3) composée de la paroi enveloppante et du matériau d'isolation est montée sur la surface de montage (7) à la fois au moyen du procédé de collage et mécaniquement en utilisant/fixant des bouchons de paroi (6) à travers les trous (4) réalisés sur la surface de montage (7) sur laquelle le produit est monté.
8. Le procédé selon la revendication 5, **caractérisé en ce que** la dalle (8) est montée à partir d'un seul point sur son centre de telle manière que le mouvement circulaire et l'ajustement du joint de la dalle soit possible.

6. Le procédé selon la revendication 5, **caractérisé en**

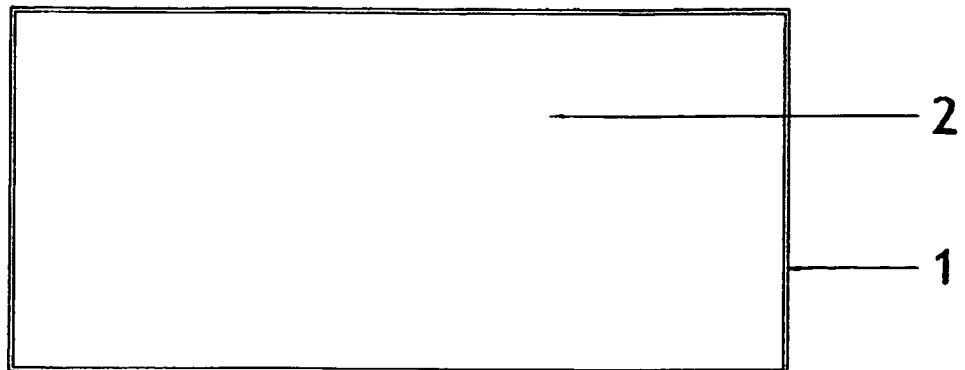


Figure 1

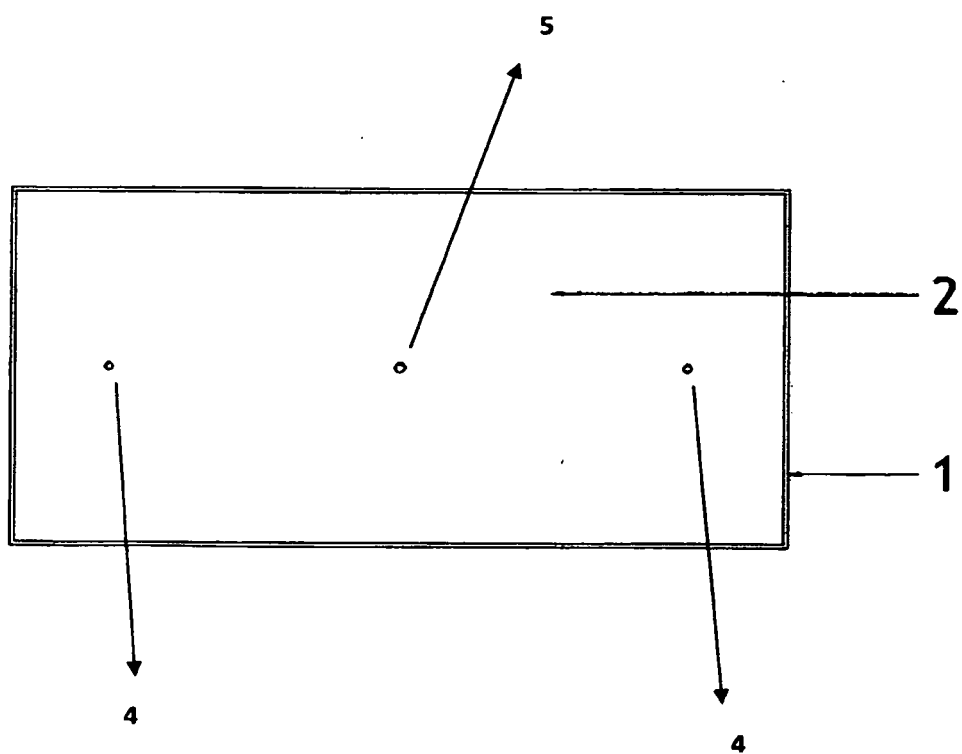


Figure 2

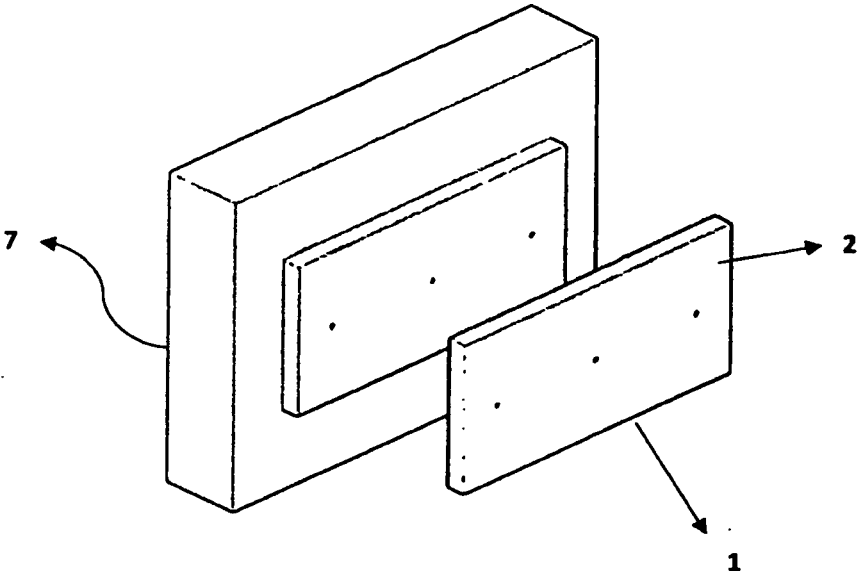


Figure 3

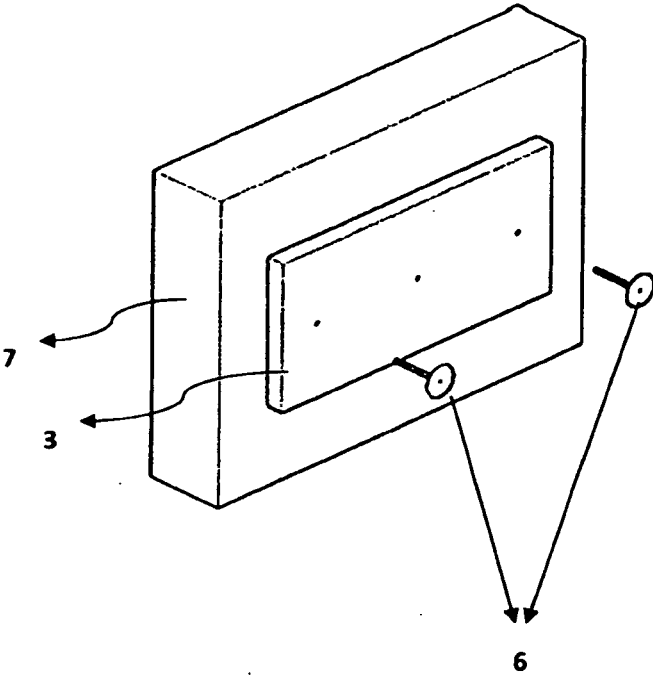


Figure 4

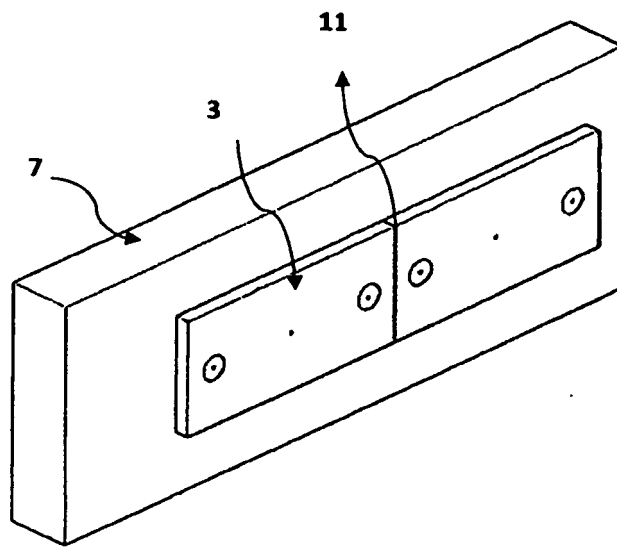


Figure 5

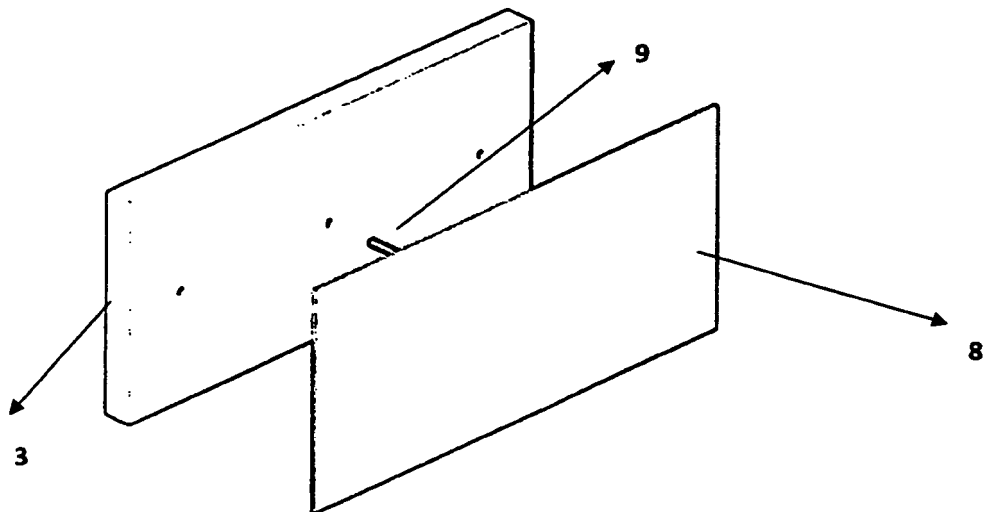


Figure 6

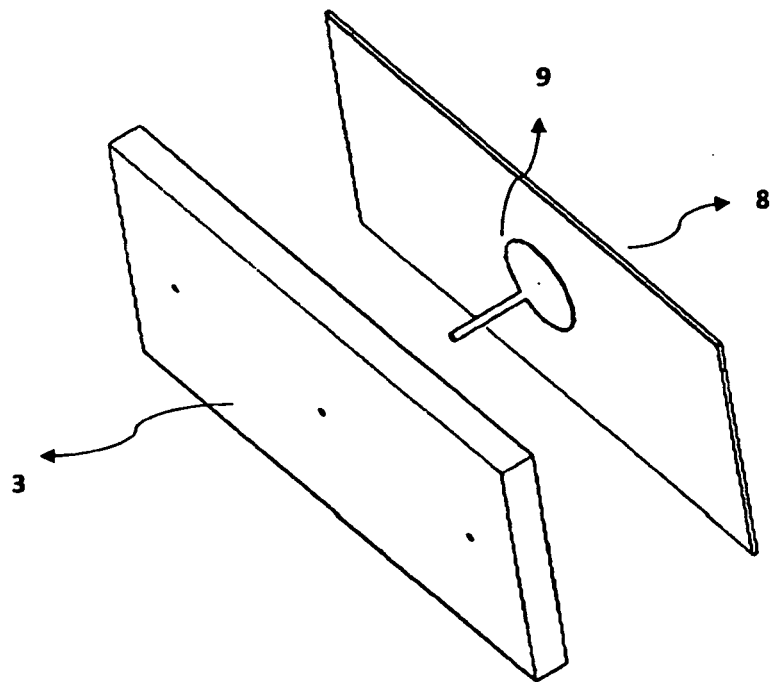


Figure 7

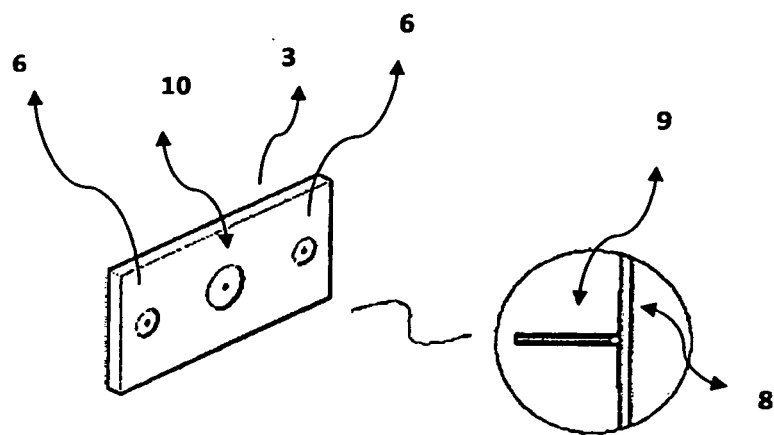


Figure 8

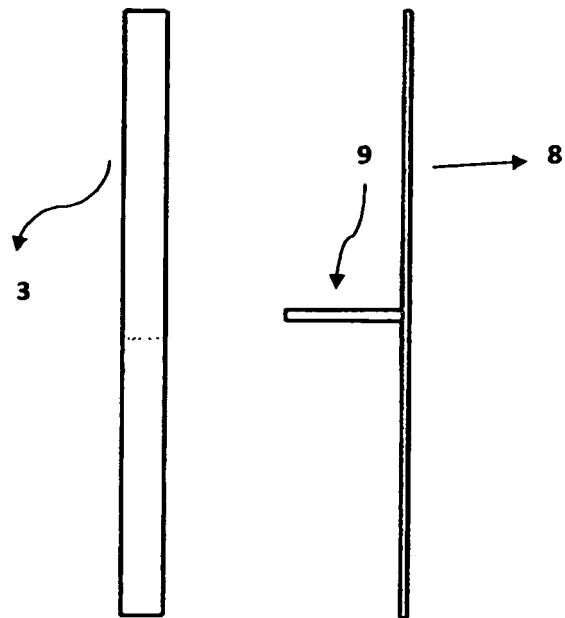


Figure 9

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- DE 19737894 [0004]