



(11) **EP 2 675 962 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:

28.12.2016 Bulletin 2016/52

(21) Application number: **11799895.5**

(22) Date of filing: **29.11.2011**

(51) Int Cl.:

E04B 1/90 (2006.01)	E04B 2/90 (2006.01)
E04B 2/92 (2006.01)	E04B 1/76 (2006.01)
E04C 2/24 (2006.01)	E04C 2/38 (2006.01)
E04B 1/94 (2006.01)	E04F 13/08 (2006.01)

(86) International application number:

PCT/TR2011/000229

(87) International publication number:

WO 2012/112128 (23.08.2012 Gazette 2012/34)

(54) **HEAT INSULATION FOR THE OUTER SIDINGS OF A BUILDING**

WÄREMEDAMMUNG FÜR DIE AUSSENSEITEN EINES GEBÄUDES

ISOLATION THERMIQUE POUR LES FACES EXTERIEURES D'UN BATIMENT

(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: **15.02.2011 TR 201101420**

(43) Date of publication of application:

25.12.2013 Bulletin 2013/52

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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.

State of the Art

[0002] In the embodiments according to the state of the art, such as disclosed in DE 197 37 894 A1, GB 2 251 008 A and DE 35 12 188 A1, 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 sheating 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.

Description of the Figures

[0004]

Figure 1: The view of the layers belonging to the product according to the present invention

Figure 2: The montage view of the product according to the present invention

Description of the References:

[0005]

- 1: Tile
- 2: Insulation material
- 3: Surrounding wall
- 4: Mounting net
- 5: Completed product of the present invention
- 6: Wall plug

Description of the Invention

[0006] The present invention is defined by the technical features of appended claim 1 and relates to a product to be used on the outer sidings of buildings, providing heat insulation, possible to be applied without profile and providing a tile-covered facade as its apparent front surface

is tile.

[0007] Thanks to the product according to the present invention, it has been ended that different materials are mounted one by one after having been obtained for providing insulation for the buildings and 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 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. The product according to the present invention basically comprises a combination of an insulation material (2) and tile (1). When a ceramic tile is used in the product of the present invention, it will be possible for the ceramic to be used in different sizes and colors, which will pave the way for flexible facade designs. However, the present invention should not be limited with using only ceramic tile. The tile (1) that is located on the outer front facade of the product may be made of not only ceramic, but also of different outer siding materials such as plastics, wooden, glass, metal, aluminum, aluminum composite, granite, natural stone, marble, laminate, vinyl, pressed brick, particle board, composite materials or any other material which can be used in the outer siding of buildings and moreover these materials can also be used within the present invention.

[0008] Although the product (5) of the present invention has less thickness than the used products in the present state of art, it can provide heat insulation which is normally provided by using several materials. As it is mentioned above, the product of the present invention comprises a combination of an insulation material (2) and tile (1). All the layers of the product (5) are shown in Figure 1. The tile

(1) is located on the outer front surface of the product (5), and as it is stated above, within the present invention, it is possible for the tiles made of not only ceramic, but also of different outer siding materials to be used on the outer front surface of the product. The product (5) comprises a polyurethane-based insulation material (2) having B1-Class fire resistance at the back of the tile, surrounding wall (3) which surrounds the insulation material and a mounting net (4) on the back surface. The surrounding wall (3) can be made of cement, clay, ceramic, brick, plastics, particle board or metallic materials. The mounting net (4) can be made of alkali resistant glass or plastics.

[0009] While the front surface of the surrounding wall (3) is open, all its other surfaces and edges are closed. The insulation material (2) is located within the surrounding wall (3) and so the open surface becomes now the insulation material. After the insulation material (2) has been located into it, the open outer front surface of the surrounding wall (3) will be closed by sticking the tile (1)

onto the insulation material (2). The tile (1) is fixed onto the surface of the insulation material (2) by means of a polyurethane-based adhesive in a way that it will totally contact with the insulation material surface. Therefore, the front surface of the product (5) is covered with tile, while all the other edges and surfaces are surrounded with the surrounding wall. The product (5) comprises a mounting net (4) that is located at the back of the product in a way that it overflows upwards (Figure 1, 2).

[0010] The products (5) that are developed within the present invention are mounted onto the wall of a building in a way that their front surfaces will be tile and they will be in a 100% contact with each other. The product (5) according to the present invention is mounted onto the wall by both being adhered by means of cement, polyurethane, epoxy or plaster-based adhesives that are applied totally onto their back and also by mechanically attaching the mounting net to the wall by means of wall plugs (6). In Figure 2, the product (5) is shown as it is mounted on the wall. Used wall plugs (6) can be made of plastics or metal.

Claims

1. A product (5) developed to provide heat insulation and tile covering on the outer sidings of a building, comprising:

- a tile (1) on the outer front surface of the product (5)
- a polyurethane-based insulation material (2) at the back part of the tile (1), **characterized in that** said insulation material (2) is located within a surrounding wall (3), whereby the surrounding wall (3) surrounding the insulation material (2), comprises one open front surface through which the insulation material (2) is located within the surrounding wall and becomes the apparent surface until the tile (1) is positioned on said insulation material (2) and whereby all the other surfaces of said surrounding wall (3) are closed surfaces, the product (5) further comprising:
- a mounting net (4) located at the backmost surface of the product (5) in a way that it overflows the product (5) upwards and whereby the product (5) is mountable onto a wall of the building, both by adhering it to the wall after applying cement-based, polyurethane, epoxy or plaster-based adhesive to its back and by attaching it also mechanically to the wall through its mounting net (4) by means of wall plugs (6).

2. The said product (5) according to Claim 1, **characterized in that** the tile (1) is fixed onto the insulation material by using a polyurethane-based adhesive in a way that it will be in a total contact with the insulation material (2).

3. The said product (5) according to any one of the preceding claims, **characterized in that** the surrounding wall (3) can be made of cement, clay, ceramic, brick, plastics, particle board or metallic materials.

4. The said product (5) according to any one of the preceding claims, **characterized in that** the mounting net (4) can be made of alkali resistant glass or plastics.

5. The said product (5) according to any one of the preceding claims, **characterized in that** the tile (1) that has been located on its front surface is ceramic.

6. The said product (5) according to any one of the preceding claims, **characterized in that** the tile (1) that has been located on its front surface is made of plastics, wooden, glass, metal, aluminum, aluminum composite, granite, natural stone, marble, laminate, vinyl, pressed brick, particle board, composite materials or any other material which can be used on the outer siding of buildings.

25 Patentansprüche

1. Ein Erzeugnis (5), das gebildet ist, um Wärmeisolierung und Plattenabdeckung an den Außenseiten eines Gebäudes bereitzustellen, aufweisend:

eine Platte (1) an der äußeren Vorderseite des Erzeugnisses (5),
ein Polyurethan-basiertes Isoliermaterial (2) an dem hinteren Teil der Platte (1),
dadurch gekennzeichnet, dass das Isoliermaterial (2) innerhalb einer umgebenden Wand (3) angeordnet ist, wobei die umgebende Wand (3), die das Isoliermaterial (2) umgibt, aufweist eine offene Vorderseite, durch die das Isoliermaterial (2) innerhalb der umgebenden Wand (3) angeordnet ist und die scheinbare Oberfläche wird, bis die Platte (1) an dem Isoliermaterial (2) angebracht ist, und wobei alle anderen Flächen der umgebenden Wand (3) geschlossene Flächen sind, wobei das Erzeugnis (5) ferner aufweist:

ein Montagenetz (4), das an der hintersten Fläche des Erzeugnisses (5) in einer Art angeordnet ist, dass es das Erzeugnis (5) nach oben überläuft, und wobei das Erzeugnis (5) an eine Wand des Gebäudes montierbar ist sowohl durch Ankleben davon an der Wand, nach Aufbringen eines zementbasierten, Polyurethan-, Epoxy- oder putzbasierten Klebstoffs auf die Rückseite, als auch durch mechanisches Anbringen davon an der Wand durch das Monta-

genetz (4) mittels Dübel (6).

2. Das Erzeugnis (5) gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die Platte (1) durch Verwendung eines Polyurethan basierten Klebstoffs in einer Art an das Isoliermaterial (2) fixiert ist, sodass sie in einem Gesamtkontakt mit dem Isoliermaterial (2) ist. 5
3. Das Erzeugnis (5) gemäß irgendeinem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** die umgebende Wand (3) aus Zement, Lehm/Ton, Keramik, Stein/Ziegel, Kunststoffen, Pressspan oder metallischen Materialien hergestellt sein kann. 10
4. Das Erzeugnis (5) gemäß irgendeinem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das Montagenetz (4) aus einem alkalibeständigen Glas oder Kunststoff hergestellt sein kann. 15
5. Das Erzeugnis (5) gemäß irgendeinem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** die Platte (1), die an der Vorderseite angeordnet wurde, Keramik ist. 20
6. Das Erzeugnis (5) gemäß irgendeinem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** die Platte (1), die an der Vorderseite angeordnet wurde, aus Kunststoffen, Holz, Glas, Metall, Aluminium, Aluminium-Verbund, Granit, Naturstein, Marmor, Laminat, Vinyl, gepresstem Stein/Ziegel, Pressspan, Verbundmaterialien oder irgendeinem anderen Material, das an der Außenseite von Gebäuden verwendet werden kann, hergestellt ist. 25 30 35

Revendications

1. Un produit (5) conçu pour fournir une isolation thermique et une couverture par dalles sur les faces extérieures d'un immeuble, comprenant : 40
 - une dalle (1) sur la surface frontale extérieure du produit (5),
 - un matériau d'isolation à base de polyuréthane sur la partie arrière de la dalle (1), **caractérisé en ce que** ledit matériau d'isolation (2) est disposé avec une paroi entourante (3), cette paroi entourante (3) qui entoure le matériau d'isolation (2) comprenant une surface frontale ouverte à travers laquelle le matériau d'isolation (2) est disposé à l'intérieur de la paroi entourante et devient la surface apparente jusqu'à ce que la dalle (1) soit positionnée sur ledit matériau d'isolation (2) et toutes les autres surfaces de ladite paroi entourante (3) étant des surfaces fermées, ce produit (5) comprenant en outre : 50
 - une grille de montage (4) situé sur la surface 55

la plus en arrière du produit (5) de manière à ce qu'il déborde du produit (5) vers le haut, le produit (5) pouvant être monté sur une paroi de l'immeuble, à la fois en le faisant adhérer à la paroi après application d'un adhésif à base de ciment, en polyuréthane, en époxy ou en plâtre sur son dos et en le fixant également mécaniquement à la paroi par l'intermédiaire de sa grille de montage (4) au moyen de bouchons de paroi (6).

2. Le produit (5) selon la revendication 1, **caractérisé en ce que** la dalle (1) est fixé sur le matériau d'isolation en utilisant un adhésif à base de polyuréthane de manière à ce qu'elle soit en contact total avec la matériau d'isolation (2).
3. Le produit (5) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la paroi entourante (3) peut être constituée de ciment, d'argile, de céramique, de brique, de plastique, d'une plaque agglomérée ou de matériaux métalliques.
4. Le produit (5) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la grille de montage (4) peut être constituée de verre résistants aux alcalis ou en plastique.
5. Le produit (5) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la dalle (1) qui a été placée sur sa surface frontale est en céramique.
6. Le produit (5) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la dalle (1) qui a été placée sur sa surface frontale est constituée de 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, d'une plaque agglomérée, de matériaux composites ou de tout autre matériau qui peut être utilisé sur les faces extérieurs d'immeubles.

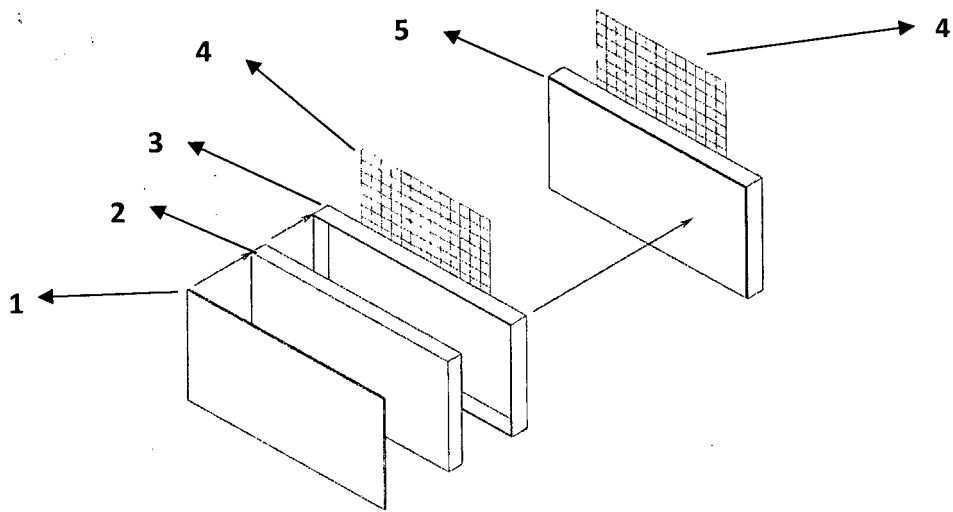


Figure 1

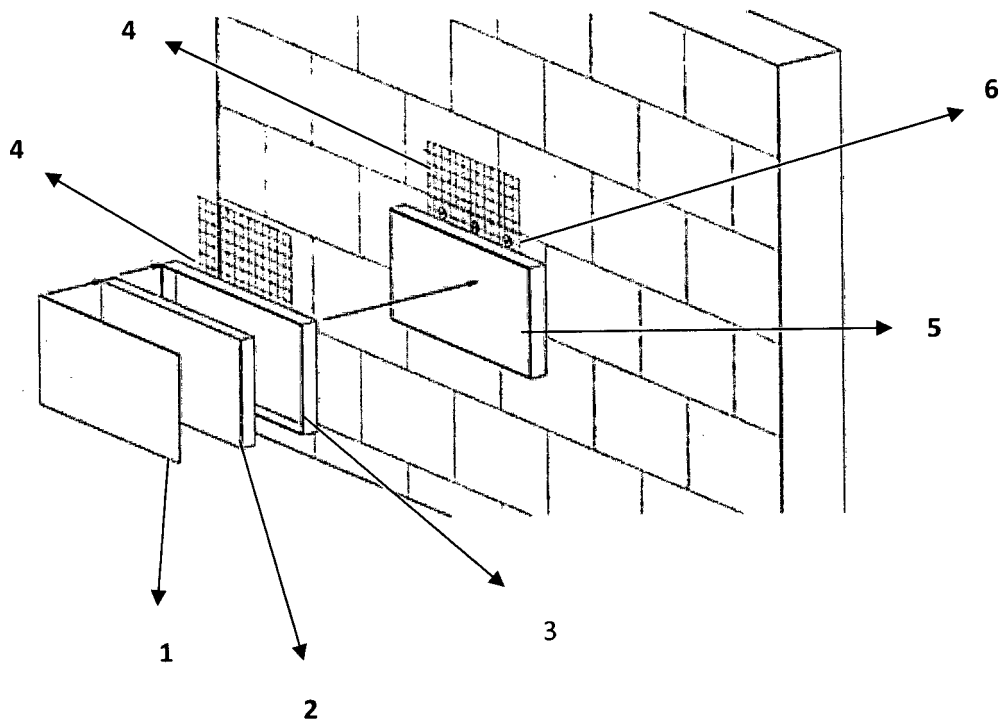


Figure 2

REFERENCES CITED IN THE DESCRIPTION

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