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(54) **TILE FOR COVERING SURFACES**

(57) Tile for covering floors, walls or vertical or inclined surfaces that is **characterised in that** it comprises a base plate, the under side of which has a network of thread-like projections for increasing rigidity while its top side defines a shallow recess with respect to the perimeter for fixing a removable decorative laminate using adhesive. The tile has circular tabs with double reinforced

closures on two sides or contiguous borders with complementary reinforced interlocking studs on the opposing sides or contiguous borders to establish a collateral join between the plates. The base plates with the decorative laminates are fitted to the surface to be covered by means of small intermediate components furnished with adhesive tape on both sides, so one side can be fixed to the surface to be covered and the other side to the base plate.

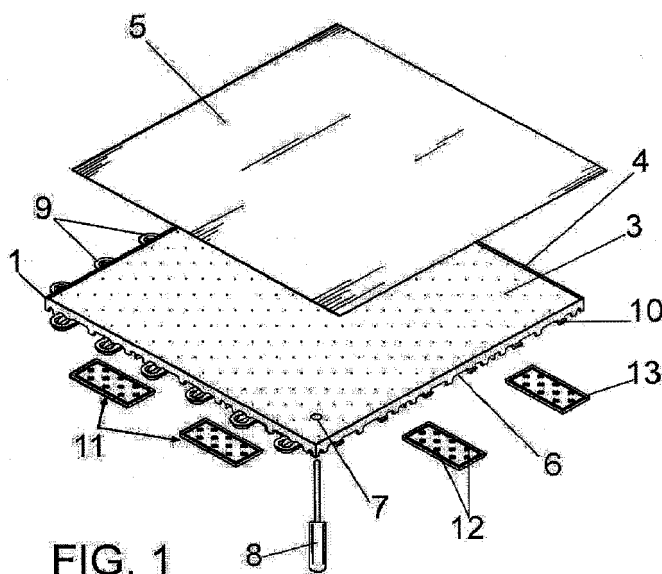


FIG. 1

Description

OBJECT OF THE INVENTION

[0001] The present invention refers to a tile for covering surfaces, either horizontal, vertical, inclined, etc. The tile has application for covering any type of surface, being fixed to the surface by the interposition of two-sided adhesive elements, so that one side of the element sticks to the surface and the other side sticks to the tile, enabling the tile to be used for covering surfaces that are horizontal, vertical, inclined, etc.

[0002] The object of the invention is to provide a modular covering system, simple and fast to fit and with the possibility of changing the tiles and achieving multiple combinations.

[0003] The tile is applicable for use in trade fair sites, events halls, theatres, stages, TV sets, access ramps, public facilities, sports centres, etc.

BACKGROUND OF THE INVENTION

[0004] Various systems are known for making removable floors based on tiles. Some of them are constituted by a support element on which a ceramic element is fixed, allowing the inter-coupling of the tiles acting as the supports thereby enabling simple fitting and removal of the flooring.

[0005] In other cases, the flooring plates have means of inter-coupling to intermediate components, in the form of pins, which constitute the means for guiding and fitting the tiles.

[0006] In other cases, the ceramic elements or tiles are located on a framework which has collateral inter-coupling mechanism to fix it to other similar frameworks.

[0007] In all these cases, the removable floors currently known are permanent, that is the design cannot be changed.

[0008] The removable flooring systems are also often structured in such a way that the inter-coupling mechanisms are complex and therefore expensive to manufacture. They cannot be used to cover vertical or inclined surfaces.

[0009] Specifically, the documents of the Spanish invention patent number 200500240, the European patent publication number 1490565 and the Spanish utility model number 200502703 can be cited. All of these refer to removable floors or flooring with the common feature that they are complex with respect to the mechanisms they use for inter-coupling between tiles or plates that constitute the flooring. They also cannot be used for covering vertical or inclined surfaces.

DESCRIPTION OF THE INVENTION

[0010] The tile that is revealed in this patent is designed to solve the problems described above, more specifically it has application for surfaces of floors or walls, whether

horizontal, inclined or vertical, etc. Said tile comprises a base plate, obtained by injection of high impact polypropylene and with a rectangular shape. It has a multitude of thread-like structures making up a grid-like pattern on the side considered as the under side. It has a shallow recess on the top side bounded by a raised rim for positioning a decorative laminate of vinyl or similar material, which may have a variety of finishes. This decorative laminate is fixed to the base plate by an adhesive incorporated into the laminate, with the adhesive protected by wax paper or similar, which is removed at the time of installing or fixing the decorative laminate to the base plate. The base plate has a rough surface on the side to which the laminate is to be applied for achieving better adhesion of the said decorative laminate.

[0011] The base plate has a small skirt around its perimeter with grooves and ridges that determine a means of drainage or water evacuation. Two contiguous edges are provided with protruding circular tabs with double reinforced closures that determine a means of joining onto respective reinforced studs on opposing contiguous edges of the plates by "clipping". This enables a fast, simple and effective method of assembly of the plates.

[0012] The fixing of the base plates on the surface to be covered, whether horizontal, vertical or inclined, is achieved by small intermediate components, which are moveable, and are arranged as necessary. They have a special adhesive tape on both sides enabling their fixing, both to the surface to be covered and the base plate. In this way, the tile can provide a covering for horizontal, vertical and inclined surfaces.

[0013] The base plate also has a hole at one of the corners through which a tool can be introduced through the under side that can push the decorative laminate upwards, enabling its substitution by another laminate with different decorative motifs.

[0014] Therefore, the tile of the invention can both be fitted and removed at any moment quickly, simply and efficiently and also enable carrying out a change of decoration, or, in other words, a change of ornamental motif on the surface to be covered. It is equally applicable to interiors and exteriors by virtue of the fact that the base plate is of injection-moulded polypropylene, making it resistant by virtue of the grid-like pattern on its under side.

[0015] As is evident, the tile of the invention can cover or line any type of surface and/or wall, including ramps, so it has application in trade fair sites, hotels, conference halls, events rooms, multi-purpose halls, theatres, flooring in marquees, stages, passage ways, dancing areas, platforms, TV studios, access ramps, schools, universities, sports centres, ramps for the disabled, skirting, covering for columns, etc. Its fitting is rapid and simple, without the need for tools, and due to the arrangement of adhesive components located between the surface to be covered and the base plates, intermediate components that offer a unique alternative, the same material and installation system can be applied vertically, giving a finishing to fittings with the same material without the need

to use other materials.

[0016] The covering obtained, based on the tile of the invention, is versatile, light, long lasting and also removable, providing an optimal alternative to covering floors, platforms, etc., which traditionally would be covered by fitted carpet, wood, PVC, etc. In addition to being modular, it also allows making covers, that is holes for cables, connections, pillars, etc.

[0017] It is also noteworthy that the tile is made from a fire-resistant material, resistant to water, humidity and static.

[0018] Lastly, it should be noted that by virtue of the simplicity, ease of fitting and removing and the properties of the materials, the tile provides high performance at much lower costs than coverings currently being used. The width of the tile can be variable, making it ideal for surfaces that are not completely flat, as the base plate made from polypropylene has a certain flexibility, which is ideal for those surfaces that are not totally flat. It can also be cut if the surface to be covered is triangular or irregular.

DESCRIPTION OF THE FIGURES

[0019] In order to complement the description below and with the aim of improving understanding of the characteristics of the invention and a practical embodiment, a series of illustrative and non-limiting figures is appended as an integral part of the description. The figures show the following:

Figure 1. Shows a representation of a general exploded view of the tile for covering that is the object of the invention. It shows the base plate, the upper decorative laminate and the lower components that are inserted to fix the said tile to the surface to be covered. The tool is also shown in front of a hole through which it can be inserted in order to raise, and therefore remove, the decorative laminate that is shown above the base plate.

Figure 2. Shows a view of the bottom of the base plate that forms part of the tile of the invention that is represented in figure 1.

Figure 3. Shows a plan view of a part of the surface covered by the tile of the invention.

PREFERRED EMBODIMENT OF THE INVENTION

[0020] As can be seen in the figures referred to above, the tile of the invention comprises a base plate (1) that is a component obtained by injection of high impact polypropylene and with a rectangular shape. On its under side it presents a grid based on thread-like structures (2) in both diagonal and transverse directions, giving sufficient rigidity to the base plate (1). On its top side there is a rough surface (3) delimited by a raised rim around

the perimeter (4) that enables the fixing of a decorative laminate (5) using adhesive. The laminate can be of vinyl or any other suitable material and can be replaced at any time in order to change the decoration of the covering that is applied. The decorative laminate (5) can have many finishes and is fixed by virtue of an adhesive layer on one of its sides to the rough surface (3) of the base plate (1) by simply removing the wax paper that protects the adhesive of the decorative laminate (5).

[0021] The base plate (1) has a small skirt around its perimeter on which there are many grooves (6) facilitating drainage, if the base plate (1) and therefore the tile of the invention is exposed to the weather.

[0022] Also, there is an orifice (7) in one of the corners of the base plate (1), through which the end of a suitable tool (8) can be introduced from below, pushing upwards onto the decorative laminate and removing it, so that it can be replaced by a laminate with a different decorative motif.

[0023] One of the important features of the base plate (1) is that on two of the edges or contiguous sides there are some circular tabs (9) of double reinforced closure in combination with reinforced protruding studs (10) established on the other two contiguous sides of the said base plate (1) that constitute a system of joining by "clipping", in such a way that in the join of the base plates by mutual lateral coupling, the studs (10) engage with the circular tabs (9).

[0024] The tile is fixed to the surface to be covered by means of a series of intermediate components (11) that include special adhesive tape on both sides enabling the fixing of the components (11) both to the surface to be covered and to the base plate (1).

[0025] In addition, these components (11) present some hollows (12) conceived to remain totally level resulting in symmetrical holes for the base plate (1), enabling multiple combinations.

[0026] Finally, these intermediate elements or fixing components (11), in addition to the hollows (12), present a margin (13) to couple these components (11) to the under side of the base plate (1), leaving them totally within the external boundary of the under side.

Claims

1. Tile for covering surfaces, enabling covering of floors, walls or vertical surfaces as well as inclined surfaces, **characterised in that** it comprises a base plate, the under side of which has a network of thread-like projections for increasing rigidity, while the top side defines a shallow recess with respect to its perimeter for fixing a removable decorative laminate with adhesive, with the property that two sides or contiguous borders of the base plate are furnished with circular tabs with double reinforced closures, interlocking to complementary reinforced studs on the two opposing sides or contiguous borders estab-

lishing a collateral join between plates, with the fixing of the base plates with the decorative laminates onto the surface to be covered being achieved by means of small intermediate components furnished with adhesive tape on both sides so that they may be fixed by one side to the surface to be covered and by the other side to the base plate. 5

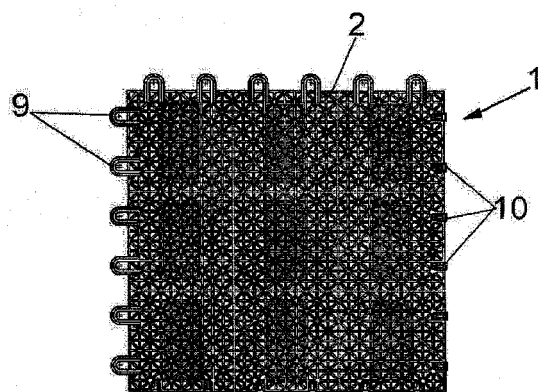
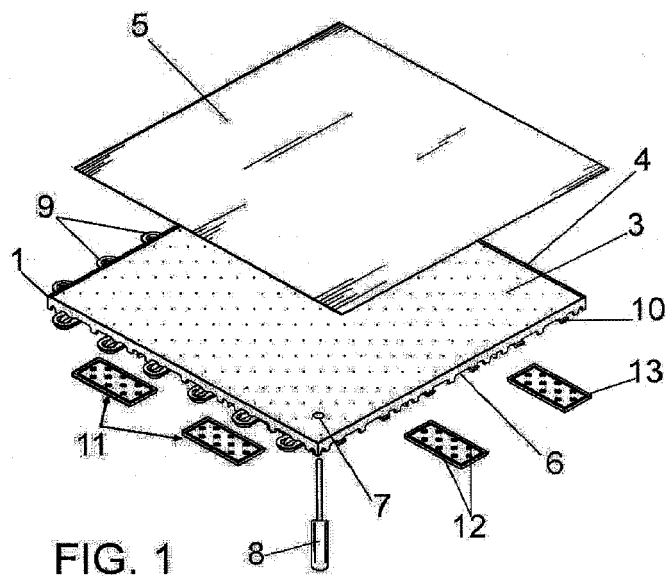
2. Tile for covering surfaces according to claim 1, **characterised in that** the base plate presents a rough surface for the application of the decorative laminate in order to improve the adhesion of said decorative laminate to the said base plate. 10
3. Tile for covering surfaces according to the previous claims, **characterised in that** the base plate presents grooves or hollows around its perimeter border as a means of drainage or evacuation of water. 15
20
4. Tile for covering surfaces according to the previous claims, **characterised in that** at a point next to one of the corners, the base plate is furnished with a hole for the introduction of a suitable tool for pushing upwards and enabling the removal of the decorative laminate and its replacement by a different laminate. 25
5. Tile for covering surfaces according to claim 1, **characterised in that** the base plate is made of high impact polypropylene and has a rectangular shape. 30
6. Tile for covering surfaces according to claim 1, **characterised in that** the intermediate fixing components between the base plate and the surface to be covered present hollows and a perimeter supporting border for attaching to the said base plate. 35

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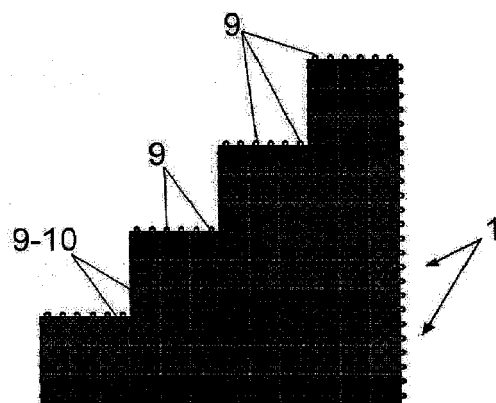


FIG. 3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2008/000649

A. CLASSIFICATION OF SUBJECT MATTER

see extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

E04f15, E04f13

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

INVENES,EPODOC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007193133 A1 (KRUPNICK) 23.08.2007, the whole document.	1,3,5
A	FR 2461073 A1 (THIONVILLOISE IMMOBILIERE) 30.01.1981, the whole document.	1-3
A	DE 4018377 A1 (ZIERER RUDOLF) 05.12.1991, abstract; figures.	1,3
A	JP 2005113671 A (HAYASHI KAZUE) 28.04.2005, abstract; figures.	1,3
A	DE 20107338 U1 (SCHULZE ZURALST KARL) 28.06.2001, abstract; figures.	
A	EP 0040256 A1 (KILIAN HEINZ) 25.11.1981, abstract; figures.	

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance.		
"E" earlier document but published on or after the international filing date		
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"O" document referring to an oral disclosure use, exhibition, or other means	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other documents, such combination being obvious to a person skilled in the art
"P" document published prior to the international filing date but later than the priority date claimed		
	"&"	document member of the same patent family

Date of the actual completion of the international search

03 February 2009 (03.02.2009)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/ ES 2008/000649

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2008/000649

CLASSIFICATION OF SUBJECT MATTER

E04F 15/024 (2006.01)

E04F 13/18 (2006.01)

E04F 13/08 (2006.01)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- ES 200500240 [0009]
- EP 1490565 A [0009]
- ES 200502703 [0009]