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(54) ELEMENT FOR DRY JOINING THAT PROVIDES INSULATION, AND METHOD INCORPORATING SAID ELEMENT

(57) The present invention relates to a laminar element in the form of a plate, which is adhered to the back of a tile, for dry joining and which provides insulation; said element is used for placement between a floor or deck and a covering material. The design of the element in a squared shape with pressure-sensitive adhesive "male sections" makes it possible to dry-install surfaces both in new jobs and renovation. The aim is to obtain a finished product with more advantages for the final installation thereof in construction works, and which provides insulation of several types, including acoustic, thermal and insulation against moisture. The invention is applicable for all types of materials used as elements in finishing in the construction sector, both natural and artificial materials, and in rigid tiles or in mosaics.

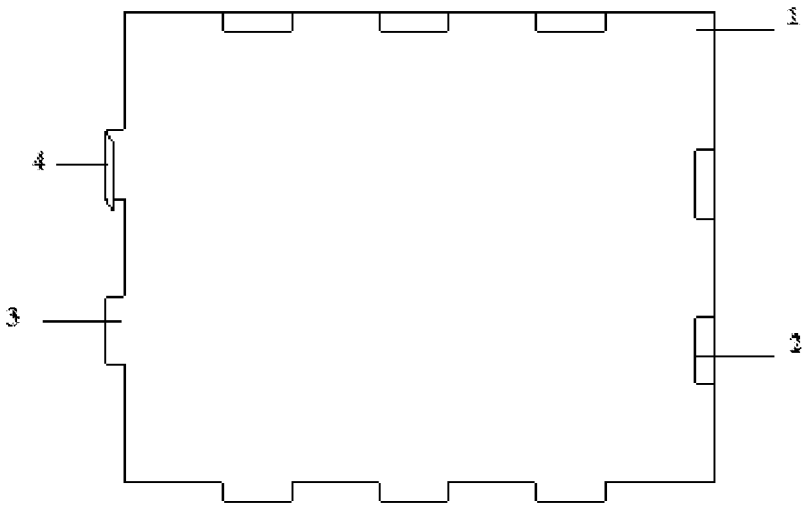

FIG. 1

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Description

[0001] The present invention relates to an element for dry joining that provides insulation, and a method for dry joining incorporating said element, wherein said element is used for placement between a covering formed by natural or artificial cladding materials, such as tiles, natural stone, wood or mosaics on a floor or deck.

Field of the art

[0002] This invention relates to the field of processes and elements that can be used in construction and building.

State of the prior art

[0003] The structures of floors or decks of buildings generally tend to be coated by means of coverings, which can be of several types, such as natural or artificial claddings such as tiles, natural stone, wood, mosaics, parquet flooring, etc.
These coverings are usually wet-fixed to the floors or decks by means of cement mortars, adhesive mortars, vinyl adhesives, reagents and the like, etc.
Insulation elements (acoustic, thermal, and any other type) are also known that are formed by sheets of foamed materials and/or sheets of rubber material or similar type that are placed between the structure and the compression or levelling layer, before receiving the covering material.
However, installation of such insulation typically occurs independently to placement of the coverings. In addition, both operations are still excessively slow and laborious.

Brief description of the invention

[0004] The present invention aims to overcome the drawbacks associated with the placement of the coverings of the type indicated at the beginning and associated with the installation of insulation, characterised by consisting of and using a square or rectangular low/medium density laminar material (1) installed at the bottom of a tile and designed with insertions in a squared shape, namely, both sides with symmetrical female grooves (2) and two sides with symmetrical male sections (3), coinciding in the design between grooves and male sections, in the form of an insertion type puzzle. The male sections will have a built-in self-adhesive on its upper side, protected (4) with a plastic or paper-silicone film.
[0005] This element for dry joining which provides insulation, previously installed on the lower back of a tile of any type, can be applied directly over the structure, compression or levelling layer, raised structure for raised flooring or old surfaces of all types, ceramic, marble, granite, terrazzo, wood, parquet flooring, etc. all without the need to use any wet fixing (mortars or the like) or without having to add an additional adhesive.
Fixing tiles to each other is done in two ways, first by the actual design of the laminar element (1) in a squared shape incorporated onto the lower back of the tile, inserting the male/female section (puzzle type), and the second by using the self-adhesive incorporated into the upper side of the male section (4), fixing the element of a tile with the underside of the continuous tile, creating a successive joining, between each other, of all tiles installed on the covering.
[0006] The advantages of the present invention are disclosed in this descriptive memory, although hereinbelow we mention the most essential by way of non-limiting example, namely:

- Easy and quick installation, with the ensuing reduction in labour costs for the installation of finishing elements during construction works.
- No professional workmanship required.
- Improves the technical properties of the coverings, since the joining element provides not only sound insulation, but also other forms, such as insulation against moisture, avoiding the possible absorption of water by capillary action, for example in marble or wood, reducing the risks of staining or warping.
- Provides aesthetic design to the covering due to the designed symmetry, and there can be various combinations and types of interconnections.

DRAWINGS

[0007] In the attached design sheet, two drawings of the element of the invention are attached for a better understanding, this being an embodiment example, not limiting of the invention:

Figure 1 is a plan view of the rear surface of the tile in which the element of the invention is incorporated.
Figure 2 is a plan view of the visible surface of the tile in which the element of the invention is incorporated.

DESCRIPTION OF THE INVENTION

[0008] The element for dry joining which provides insulation (1) consists of a sheet (1) in the form of a plate installed on the back of a tile, designed in a squared shape, with symmetrical male (2)/female (3) insertions which includes at least the following characteristics:

a) Laminar element (1) from 1 to 20 millimetres thick.
b) Density of the element from 30 to 400 kg/m^3.
c) Design with insertions in a squared shape on the four sides, symmetrical male (3) and female (2) sections.
d) The male sections (3) will have a self-adhesive on the upper side weighing 50 to 200 grams/m^2, protected with plastic (4) or silicone-paper film, which is removed when installed.

Claims

1. Element and method for dry joining that provides suitable insulation, in particular, to be arranged between a covering and a floor or deck, **characterised in that** it consists of a laminar element (1) having a thickness of 1 to 20 millimetres.

2. Element according to the first claim **characterised in that** said element is adhered to the back of a tile (Fig. 2) that can be arranged coincident or non-coincident with respect to the shape thereof.

3. Element according to any of the preceding claims **characterised in that** the laminar material (1) is square or rectangular shaped, designed in a squared shape, namely, sides with symmetrical "female type" (2) grooves and symmetrical sides with "male sections" (3).

4. Element according to any of the preceding claims **characterised in that** the male section(s), will have a self-adhesive (4) on the upper side, weighing from 50 to 250 grams/m^2, protected with plastic or silicone-paper film, which is removed when the tile is installed, this male section(s) remain adhered to the continuous/successive tiles on the bottom thereof, by means of said adhesive.

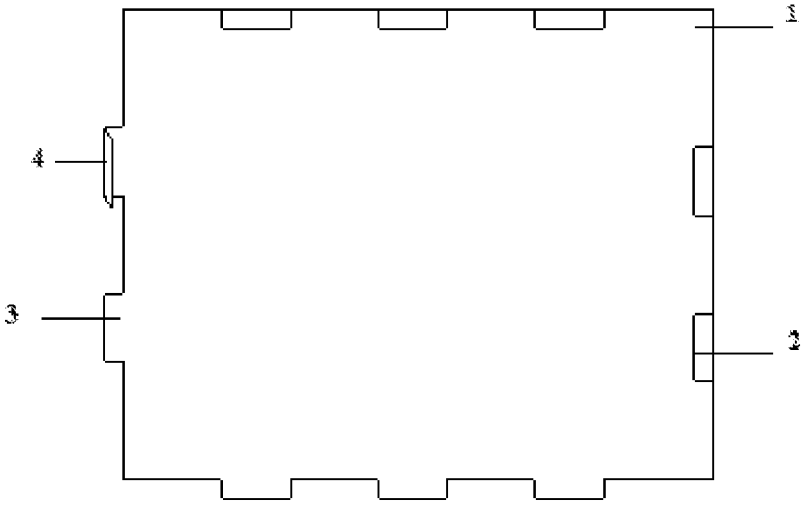

FIG. 1

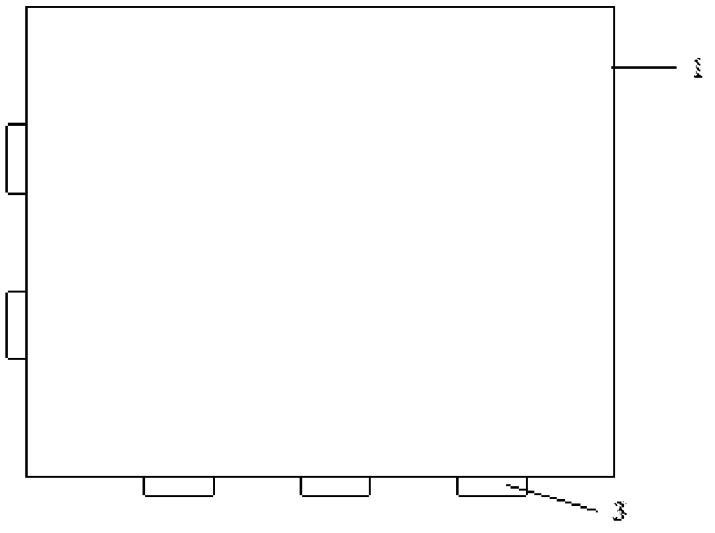

FIG. 2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2012/070570

A. CLASSIFICATION OF SUBJECT MATTER

E04F15/00 (2006.01)
E04F13/08 (2006.01)
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)
E04F

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)

EPODOC, INVENES

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Y		3-4
Y	ES 2322524 A1 (INSCA INT SL) 22/06/2009, figures 1 - 2. figure 6, the whole document.	3-4
A	WO 9634164 A1 (MARTINEZ SANTIAGO JOSE ANTONIO) 31/10/1996, the whole document. figures 1 - 2.	1-4
A	WO 2007003401 A2 (KAINDL FLOORING GMBH ET AL.) 11/01/2007, the whole document. figure 1,	1-4
A	ES 2310100 A1 (INSCA INT SL) 16/12/2008, the whole the document. figures 1 - 2.	1-4

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

* Special categories of cited documents:
"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)
"O" document referring to an oral disclosure use, exhibition, or other means.
"P" document published prior to the international filing date but later than the priority date claimed
"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
"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
"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
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
06/11/2012	**(12/11/2012)**
Name and mailing address of the ISA/ OFICINA ESPAÑOLA DE PATENTES Y MARCAS Paseo de la Castellana, 75 - 28071 Madrid (España) Facsimile No.: 91 349 53 04	Authorized officer C. Espejo Rodriguez Telephone No. 91 3498471

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2012/070570

C (continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of documents, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Form PCT/ISA/210 (continuation of second sheet) (July 2009)

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