

(19)



(11)

EP 2 765 255 A1

(12)

EUROPEAN PATENT APPLICATION
published in accordance with Art. 153(4) EPC

(43) Date of publication:

13.08.2014 Bulletin 2014/33

(51) Int Cl.:

E04F 13/14 ^(2006.01)

(21) Application number: **11873682.6**

(86) International application number:

PCT/ES2011/070510

(22) Date of filing: **03.10.2011**

(87) International publication number:

WO 2013/050627 (11.04.2013 Gazette 2013/15)

(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**

(72) Inventor: **Leva Candela, Jose Juan**

03802 Alcoy (Alicante) (ES)

(71) Applicant: **Leva Candela, Jose Juan**

03802 Alcoy (Alicante) (ES)

(74) Representative: **Maldonado Jordan, Julia**

Linares, 7 - 3

46018 Valencia (ES)

(54) **SELF-ADHESIVE NATURAL-STONE PANEL AND METHOD FOR THE PRODUCTION THEREOF**

(57) A self-adhesive natural stone panel and method for the production thereof, which comprises a generally rectangular planar body formed from at least one sheet (2) of natural stone 0.1 to 5 millimeter thick which incorporates on the non-visible rear face thereof a self-adhesive foam layer (3) 2 to 10 mm thick impregnated with an adhesive on the faces thereof, one face joining it to the

sheet (2) and the other face, protected with a waxed paper film (4), serving for fastening same to the wall face, in which said self-adhesive foam layer (3) is incorporated into the rear face of the sheet (2) of natural stone by means of applying pressure provided uniformly over the entire surface with the aid of a press for a period of 5 to 10 minutes.

EP 2 765 255 A1

Description

OBJECT OF THE INVENTION

[0001] As expressed in the title of the present specification, the invention relates to a self-adhesive natural stone panel and to the method for the production thereof, providing several advantages for its intended function which will be described in detail below and which involve an improvement with respect to what is already known on the market.

[0002] More particularly, the object of the invention is a panel of the type used in construction as an indoor or outdoor siding element, preferably on vertical surfaces, and configured from at least one thin (about two millimeters) sheet of natural stone, having the particularity of incorporating on the rear face thereof a self-adhesive foam layer intended for facilitating the fastening thereof on the wall face, furthermore providing thermal insulation to the panel, said layer being incorporated and joined to the panel by means of a pressing method that assures its effectiveness.

FIELD OF APPLICATION OF THE INVENTION

[0003] The field of application of the present invention is encompassed in the construction sector, specifically in the technical field of the industry dedicated to the production of siding panels.

PRIOR ART

[0004] In reference to the state of the art, it must be pointed out that even though natural stone panels of the type described herein, as well as similar panels made of other materials and for the same application are known today, the applicant is not aware of the existence of a panel having technical, structural and constitutive features similar to those of the panel proposed herein, i.e., a panel with a self-adhesive foam layer incorporated by means of pressure.

[0005] The objective of the present invention is to improve said type of panels in order to facilitate their installation, preventing the need to perform on-site fastening methods which, given the particular features of said type of panels as a result of their weight and the type of porous and poorly adhesive surface, lengthen the installation of the panels and therefore prolong the working time and, accordingly, increase the cost of the panels.

DISCLOSURE OF THE INVENTION

[0006] The self-adhesive natural stone panel and the method of production proposed by the present invention are a significant novelty within their field of application, since the aforementioned objectives of providing an improved panel to facilitate installation with greater speed and without rendering it ineffective are specifically and

satisfactorily achieved due to its implementation, the characterizing details which make it possible being suitably described in the final claims accompanying the present specification.

[0007] To that end, the invention specifically proposes a new type of stone panel, as described above, of the type configured from a natural stone laminate which can be 0.1 to 5 mm thick, with glass fiber and reinforced with resins, and which is applicable as an indoor or outdoor siding element, preferably on vertical surfaces, having the particularity of incorporating on the rear face thereof, i.e., the non-visible face, a self-adhesive foam layer on both faces 2 to 10 mm thick, which is incorporated into the stone laminate by means of applying pressure for 5 to 10 minutes using any type of press suitable to that end, such that the adhesive acts and adheres firmly.

[0008] A self-adhesive natural stone laminate panel having a total thickness between 3 and 15 mm is thus obtained, considerably improving conventional panels with the advantage that it can be installed by any user without requiring the invention of a skilled operator.

[0009] Advantageously, as described above the mentioned foam layer furthermore provides the panel with thermal insulation properties, improving its application possibilities with respect to other already existing similar conventional panels.

[0010] The self-adhesive natural stone panel and the method for the production thereof thus described represent an innovation having structural and constitutive features that were unknown up until now for its intended purpose, and these reasons combined with its practical usefulness give the invention sufficient grounds for obtaining the exclusive right that is sought.

DESCRIPTION OF THE DRAWINGS

[0011] To complement the description that is being made with respect to the object of the invention and for the purpose of aiding to better understand the features distinguishing the invention, a set of drawings is attached to the present specification as an integral part thereof, wherein the following has been depicted with an illustrative and non-limiting character:

Figures 1 and 2 show respective front and rear perspective views, respectively, of an embodiment of the self-adhesive natural stone panel object of the invention, the configuration of the panel being seen in said figures.

PREFERRED EMBODIMENT OF THE INVENTION

[0012] In view of the mentioned drawings and according to the numbering used, a preferred embodiment of the invention which comprises the parts and elements that are described in detail below can be seen therein.

[0013] Therefore, as seen in said drawings, the panel (1) at hand comprises a planar body, generally having a

rectangular layout but without this being a limitation, which is formed from at least one sheet (2) of natural stone, comprising a natural stone laminate 0.1 to 5 mm thick, with glass fiber and reinforced with resins, the rear non-visible face of which incorporating a self-adhesive foam layer (3), self-adhesive being understood as being impregnated with an adhesive on the faces thereof, one face joining it to the sheet (2) and the other face, which is protected with a waxed paper film (4), serving for fastening same to the wall face, as seen in Figure 2.

[0014] Said self-adhesive foam layer (3), which can have a variable thickness of 2 to 10 mm depending on the needs of each case, is incorporated into the rear face of the sheet (2) of natural stone by means of applying pressure provided uniformly over the entire surface for a period of 5 to 10 minutes with the aid of any type of press.

[0015] Having sufficiently described the nature of the present invention and a manner of putting it into practice, it is not considered necessary to further explain the invention so that a person skilled in the art can understand its scope and the advantages derived from it, hereby stating that within its essential features, the invention can be carried out to practice in other embodiments differing in detail from the embodiment indicated by way of example and they will also be granted the protection that is sought provided that the fundamental principle is not altered, changed or modified.

Claims

1. A self-adhesive natural stone panel of the type applicable as an indoor or outdoor siding element comprising a planar body, generally having a rectangular layout but without this being a limitation, formed from at least one sheet (2) of natural stone, comprising a natural stone laminate 0.1 to 5 mm thick, with glass fiber and reinforced with resins, **characterized in that** it incorporates on the non-visible rear face thereof a self-adhesive foam layer (3) 2 to 10 mm thick, of the type which is impregnated with an adhesive on the faces thereof, one face joining it to the sheet (2) and the other face which is protected with a waxed paper film (4) serving for fastening same to the wall face.
2. A method for the production of a self-adhesive natural stone panel such as that described in claim 1, **characterized in that** said self-adhesive foam layer (3) is incorporated into the rear face of the sheet (2) of natural stone by means of applying pressure provided uniformly over the entire surface with the aid of a press for a time period of 5 to 10 minutes.

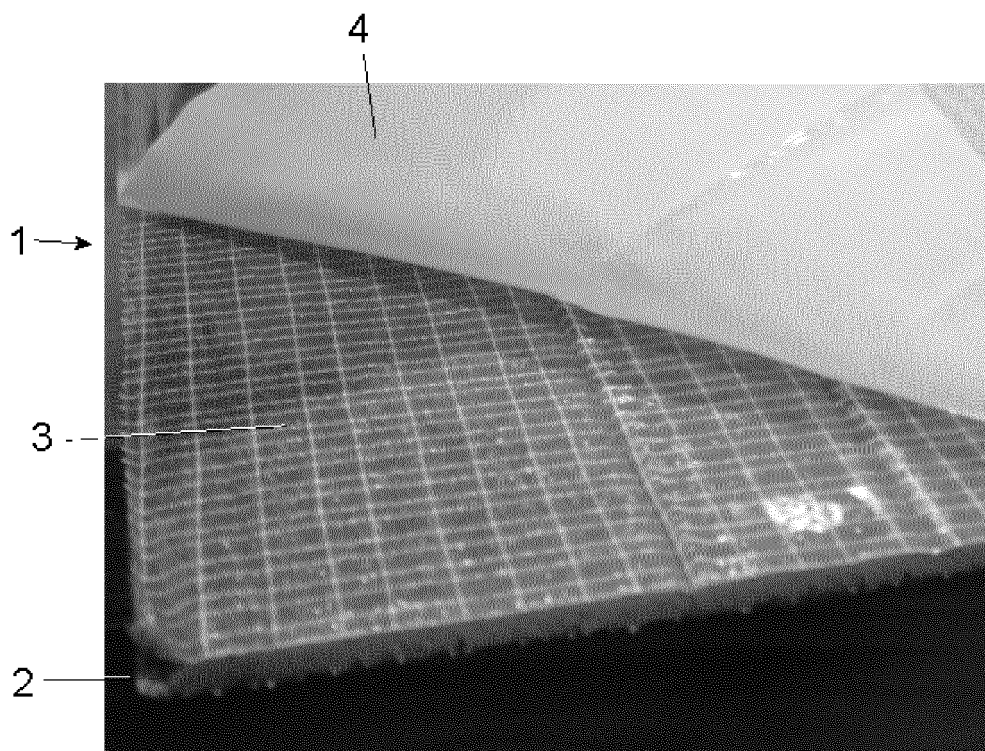
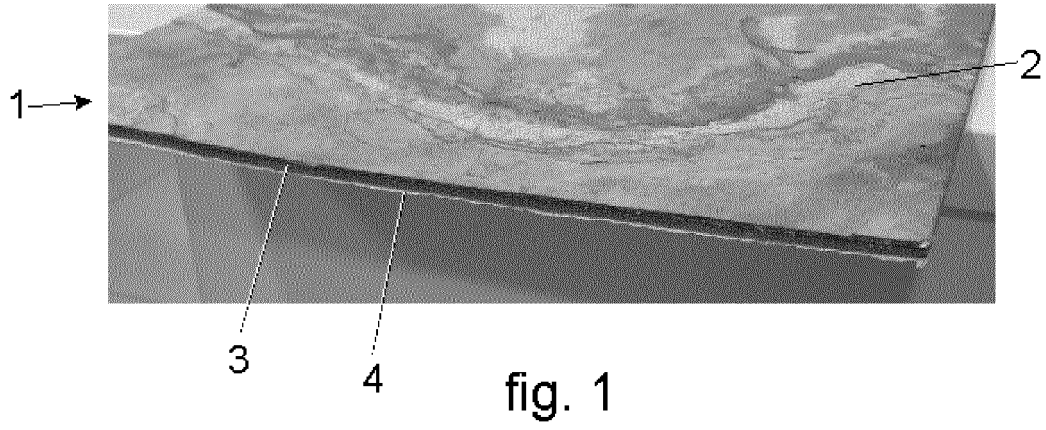


fig. 2

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2011/070510

A. CLASSIFICATION OF SUBJECT MATTER

E04F13/14 (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.
Y	WO 02064903 A2 (KELLNER) 22/08/2002, claims; figures.	1
Y	WO 9634164 A1 (MARTINEZ SANTIAGO) 31/10/1996, page 6, line 9 - page 15, line 32; figures.	1
A	WO 2009106663 A1 (UVIX) 03/09/2009, page 3, line 20 - page 5, line 8; figures.	1
A	EP 1153738 A1 (SCHRAPS) 14/11/2011, claims; figures.	1
A	GB 2218438 A (CHELSEA ARTISANS) 15/11/1989, page 3, page 7, line 32 figures.	1,2

☐ 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

18/06/2012

Date of mailing of the international search report

(20/06/2012)

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

M. Hernández Agusti

Telephone No. 91 3495553

Form PCT/ISA/210 (second sheet) (July 2009)

EP 2 765 255 A1

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2011/070510

Information on patent family members

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
WO02064903 A	22.08.2002	AU2002249069 A DE10138894 A DE10146738 A DE10201722 A EP1409809 AB EP20020717944 AT310134 T	28.08.2002 02.10.2002 18.06.2003 31.07.2003 21.04.2004 08.02.2002 15.12.2005
WO9634164 A	31.10.1996	ES1030961 U ES1030961 ES1033342 U ES1033342 ES1033957 U ES1033957	01.11.1995 01.04.1996 01.08.1996 01.01.1997 16.11.1996 01.04.1997
WO2009106663 A	03.09.2009	ES2325294 AB ES2341308 AB	31.08.2009 17.06.2010
EP1153738 A	14.11.2001	DE20107593 U EP20010109825 DE10119552 A	13.09.2001 21.04.2001 15.11.2001
GB2218438 AB	15.11.1989	NONE	

Form PCT/ISA/210 (patent family annex) (July 2009)