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(54) **METHOD FOR THE REALIZATION AND LAYING OF A COATING STRUCTURE**

(57) The present invention concerns a method for the realization and laying of a coating structure (1) comprising the steps of providing for a rigid bedplate (4) with a substantially horizontal extension; applying at least one net (3) on said rigid bedplate (4) comprising one layer (5) of perforated sheet material on which a plurality of tesserae (7) are glued spaced apart from each other; preparing at least one mixture of liquid material; pouring said mixture of liquid material onto said net (3); spreading said mixture to form a layer of mixture (8) of liquid material, adapted to be distributed at least in the space comprised between said plurality of tesserae (7).

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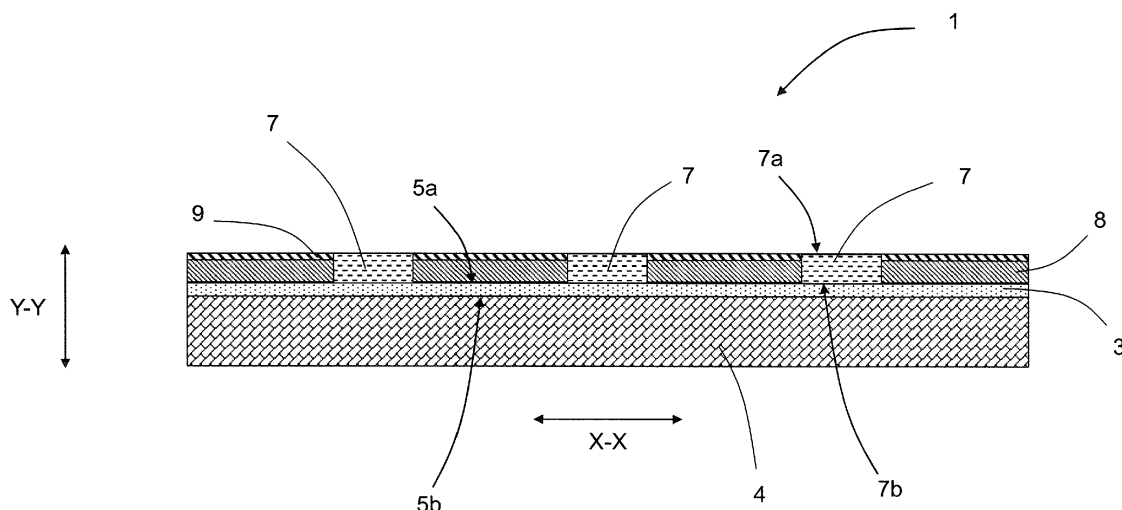


Fig.1

Description

[0001] The present invention relates to a method for the realization and laying of a coating structure and relative obtaining of a structure, in particular, of continuous type with improved aesthetic characteristics.

[0002] There are various methods for the realization of coating structures. Generally, these structures are applied onto a rigid bedplate having characteristics of direct support to the coating, such as e.g. a concrete screed or on a pre-existing floor. The coating structure can be of the homogeneous/continuous or tiled type.

[0003] The coating structure of the homogeneous type is a type of laying that is obtained by preparing a mixture *in situ* to be cast in liquid form on the screed and that, after setting and hardening, gives rise to a continuous and uniform structure. Usually, the laying operation of the coating structure ends with a coating smoothing phase, which gives characteristics of finish, gloss and brilliance to the finished floor.

[0004] Optionally, before casting the mixture on the screed, it is possible to place a net in order to improve the overall mechanical resistance of the floor. These nets are usually made of crossed fiberglass meshes or, depending on the purpose, primed with special coatings.

[0005] In contrast, the tile coating structures differ from the homogeneous structures by the fact that the screed is applied with glue prepared on site on which a plurality of ready-to-use tiles are placed and usually laid a few millimeters apart from each other.

[0006] This interspace, known as a "grout joint", is necessary to absorb the stresses to which the tiles are subjected over time (for example, changes in temperature or structural adjustments of the screed). Finally, the joints are filled with a special thermosetting resin or putty, also prepared on site, and applied by means of a spatula.

[0007] The main difference between the continuous coating structure and the tile coating is the absence of interspaces or joints. The homogeneous coating structure is, in fact, characterized by a complete continuity that can also extend to the entire treading surface.

[0008] A drawback of the continuous coating structures of known type consists in the fact that the aesthetic characteristics are difficult to customize. Beyond the various possible colors, it is very complicated to achieve aesthetic differentiations, such as, e.g., drawings, color changes or color contrasts.

[0009] These differentiations are usually made by highly qualified personnel who add additives and/or dyes during work and, with specially dedicated tools (spatulas, trowels, rollers, etc.), mix and roll out the mixtures to create these designs or the aesthetic variations required by customers.

[0010] It should be noticed that, at the end of work, the customized coating structures are in some cases comparable to real works of art. As a result, the cost of such coating structures is very high.

[0011] The main aim of the present invention is to de-

vised a method for the realization and laying of a coating structure that allows simplifying the layout operations of the continuous coating structures, even when made with particular aesthetic variations, ensuring rapid applications even carried out by unskilled personnel and maintaining, at the same time, an effective aesthetic result.

[0012] Another object of the present invention is to obtain a coating structure that has structural and functional characteristics such as to meet the aforementioned requirements and to overcome the drawbacks of the prior art.

[0013] The aforementioned objects are achieved by the present method for the realization and laying of a coating structure having the characteristics of claim 1.

[0014] According to another aspect, the present invention relates to the coating structure having the characteristics of claim 7.

[0015] Other characteristics and advantages of the present invention will be more evident from the description of a preferred, but not exclusive, embodiment, of a method for the realization and laying of a coating structure, illustrated by way of an indicative, yet non-limiting example, in the attached tables of drawings in which:

Figure 1 shows a cross-sectional view of the coating structure using the method according to the invention;

Figure 2 is a top view of a first embodiment of the net of the coating structure according to the invention;

Figure 3 is a top view of a second embodiment of the net of the coating structure according to the invention.

[0016] With reference to Figure 1, reference numeral 1 globally indicates a coating structure according to the present invention.

[0017] The coating structure 1 comprises a net 3 which is intended to be applied onto a rigid bedplate 4.

[0018] In the following description and subsequent claims, by "rigid bedplate" is meant a supporting element intended to support the coating structure made using the method covered by the present invention.

[0019] The rigid bedplate 4 may therefore comprise a stand-alone supporting base that can be associated with a pre-existing screed, wall or flooring, or be part of a pre-existing screed, wall or flooring.

[0020] It follows that, as explained below in the present description, the coating structure 1 can be laid directly on site on a pre-existing screed, wall or floor, or made as a whole separately (in the factory) with the bedplate already present and then applied directly on a pre-existing screed, wall or flooring. Advantageously, the net 3 is made from a layer 5 of sheet material and has a plurality of through cavities 6, so as to entirely achieve a mesh structure. The layer 5 has an upper face 5a and a lower face 5b adapted, in use, to be put in contact with the rigid bedplate 4.

[0021] Preferably, the net 3 is made of fiberglass and/or primed with alkalinity-resistant resins that help the adhesion thereof to various types of binders.

[0022] The coating structure 1 comprises a plurality of tesserae 7 connected to the net 3. In particular, the tesserae 7 are glued to the upper face 5a of the layer 5.

[0023] The materials that can be used to make the tesserae 7 are selected from the group that comprises: glass, grit, ceramic materials, cement materials, stone materials, synthesis polymers materials.

[0024] The tesserae 7 usefully have upper surfaces 7a substantially coplanar with each other and are intended to remain visible after laying the homogeneous coating structure, as explained in detail below in the present description.

[0025] The tesserae 7 also have lower surfaces 7b, substantially coplanar with each other, which can be applied to the upper face 5a of the layer 5, e.g. by gluing. Each tessera 7 has its own size, along the horizontal direction X-X, which is greater than the size of each cavity 6.

[0026] In accordance with a preferred, but not exclusive, embodiment, the net 3 supports a plurality of tesserae 7 distributed on the upper face 5a of the net 3 in such a way as to be spaced apart from each other by a distance at least equal to their size.

[0027] As an example, with a net having an area of 30 cm² and tesserae with an overall dimension of 2 cm², the distribution of the tesserae is such that each tessera 7 is spaced apart from an adjacent tessera by at least a distance of 2 cm.

[0028] Preferably, in the example of Figure 2, the tesserae 7 are spaced apart from each other by a distance of about 10 cm, while in the example of Figure 3, the distribution of the tesserae is random with a distance variable between 2 cm and 20 cm.

[0029] Preferably, the net 3 has an area between 5 cm² and 2 m². In a possible alternative embodiment, not illustrated in the various illustrations, the net 3 consists of a roll that can be unwound during laying on the treading surface. The tiles glued to the net 3 can usefully have different shapes from each other. Advantageously, the space between the tesserae 7 is intended to be filled with a layer of mixture 8 applied on top of the net 3 as explained in detail in the following of this description.

[0030] In particular, the method for the realization and laying of the coating structure 1 according to the invention comprises a first phase in which there is a rigid bedplate 4 with a substantially horizontal extension, such as e.g. a screed, a pre-existing floor or a supporting base.

[0031] Subsequently, the net 3 is applied onto the bedplate 4 in such a way as to cover at least part of its surface.

[0032] Preferably, the net 3 is stored in reels to be unwound on the bedplate with the tesserae 7 already attached to the net 3. The application of the net 3 will therefore be simple and fast.

[0033] Advantageously, the net 3 is glued to the bedplate 4.

[0034] Once the bedplate has been at least partly coated with the net 3, a phase of preparation of a mixture of liquid material according to known realization techniques is envisaged.

5 **[0035]** The layer of mixture 8 can be preferably made of cement material or resin.

[0036] In case of application of resin, the latter can be made with a mixture selected from the group comprising: acrylic resin, epoxy resin, methacrylic resin, polyurethane resin.

10 **[0037]** In accordance with a preferred embodiment, following the preparation of the layer of mixture 8, the latter is poured on the net 3 and distributed at least in the space comprised between the tesserae 7. The distribution of the mixture 8 can be achieved by means of special dedicated tools (such as spatulas, trowels, rollers, etc..) so that the mixture fills the entire space comprised between the tesserae 7.

15 **[0038]** Advantageously, the layer of mixture 8 also coats the upper surface 7a of the tesserae 7 themselves.

20 **[0039]** Subsequently, the properly dried layer of mixture 8 is treated with a primer in order to give the desired color to the coating structure 1.

25 **[0040]** Optionally, it is possible to spread a primer on the layer of mixture 8 before or after spreading the primer.

[0041] At this point of the realization of the coating structure 1, there is optionally a phase of sanding of the primer and a phase of spreading of a protective layer of resin 9 on top of the layer of primer previously sanded.

30 **[0042]** It should be noticed that during the pouring of the mixture 8, or during the phases of application of the primer or of the resin 9, it is possible that the tesserae 7 are partly covered.

35 **[0043]** In this situation, the method according to the invention comprises a phase of sanding or smoothing in order to bring out the previously coated tesserae 7 and to give the coating structure 1 particular characteristics of finish and gloss.

40 **[0044]** As a final step, it is possible to spread a layer of transparent glaze with protective, waterproofing and gloss functions.

[0045] As it can be seen from the present description, it has been ascertained that the described invention achieves the intended objects.

45 **[0046]** In particular, it is underlined that by means of the method for the realization and laying according to the invention and the coating structure thus obtained, it is possible to create continuous coatings with special aesthetic characteristics, while maintaining a good application speed.

[0047] Moreover, thanks to the possibility of having a pre-assembled net with tesserae, the realization and laying of the coating structure is even more simplified and with a wide range of aesthetic customizations.

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Claims

1. Method for the realization and laying of a coating structure (1) **characterized by** the fact that it comprises the steps of:
 - a) providing for a rigid bedplate (4) with a substantially horizontal extension;
 - b) applying at least one net (3) on said rigid bedplate (4) comprising one layer (5) of perforated sheet material on which a plurality of tesserae (7) are glued spaced apart from each other;
 - c) preparing at least one mixture of liquid material;
 - d) pouring said mixture of liquid material onto said net (3);
 - e) spreading said mixture to form a layer of mixture (8) of liquid material, adapted to be distributed at least in the space comprised between said plurality of tesserae (7).
2. Method according to claim 2, **characterized by** the fact that said step c) provides for the preparation of a mixture of liquid material (8) of the type of a cement and / or a resin.
3. Method according to one or more of the preceding claims, **characterized by** the fact that it comprises the step of:
 - f) applying at least one layer of primer subsequently to said step e) of spreading said mixture of liquid material (8).
4. Method according to claim 3, **characterized by** the fact that it comprises the step of:
 - g) applying at least one layer of resin (9) subsequently to said step f) of applying said primer.
5. Method according to claim 4, **characterized by** the fact that it comprises the step of:
 - h) smoothing said resin (9) subsequently to said step f) of applying said primer.
6. Method according to one or more of the preceding claims, **characterized by** the fact that it comprises the step of sanding at least one of said layers of mixture (8), resin (9) and primer.
7. Coating structure (1) **characterized by** the fact that it comprises at least one net (3), suitable to be applied onto a rigid bedplate (4) to coat it at least partly and comprising one layer (5) of perforated sheet material on which a plurality of tesserae (7) are glued spaced apart from each other by a distance at least equal to their dimension.
8. Coating structure (1) according to claim 7, **characterized by** the fact that it comprises at least one layer of mixture (8) applied on top of said net (3) to coat at least the space comprised between said plurality of tesserae (7).
9. Coating structure (1) according to one or more of claims 7 and 8, **characterized by** the fact that said tesserae (7) are made of a material selected from the group comprising: glass, grit, ceramic materials, cement materials, stone materials, synthesis polymers materials.
10. Coating structure (1) according to one or more of claims from 7 to 9, **characterized by** the fact that it comprises said rigid bedplate (4).

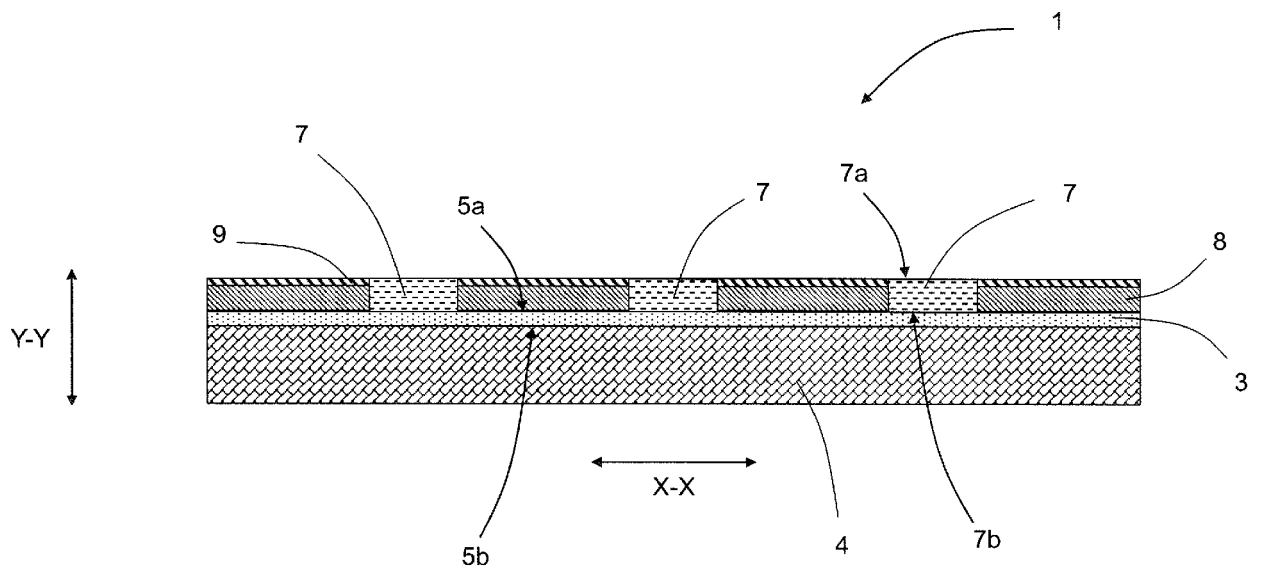


Fig.1

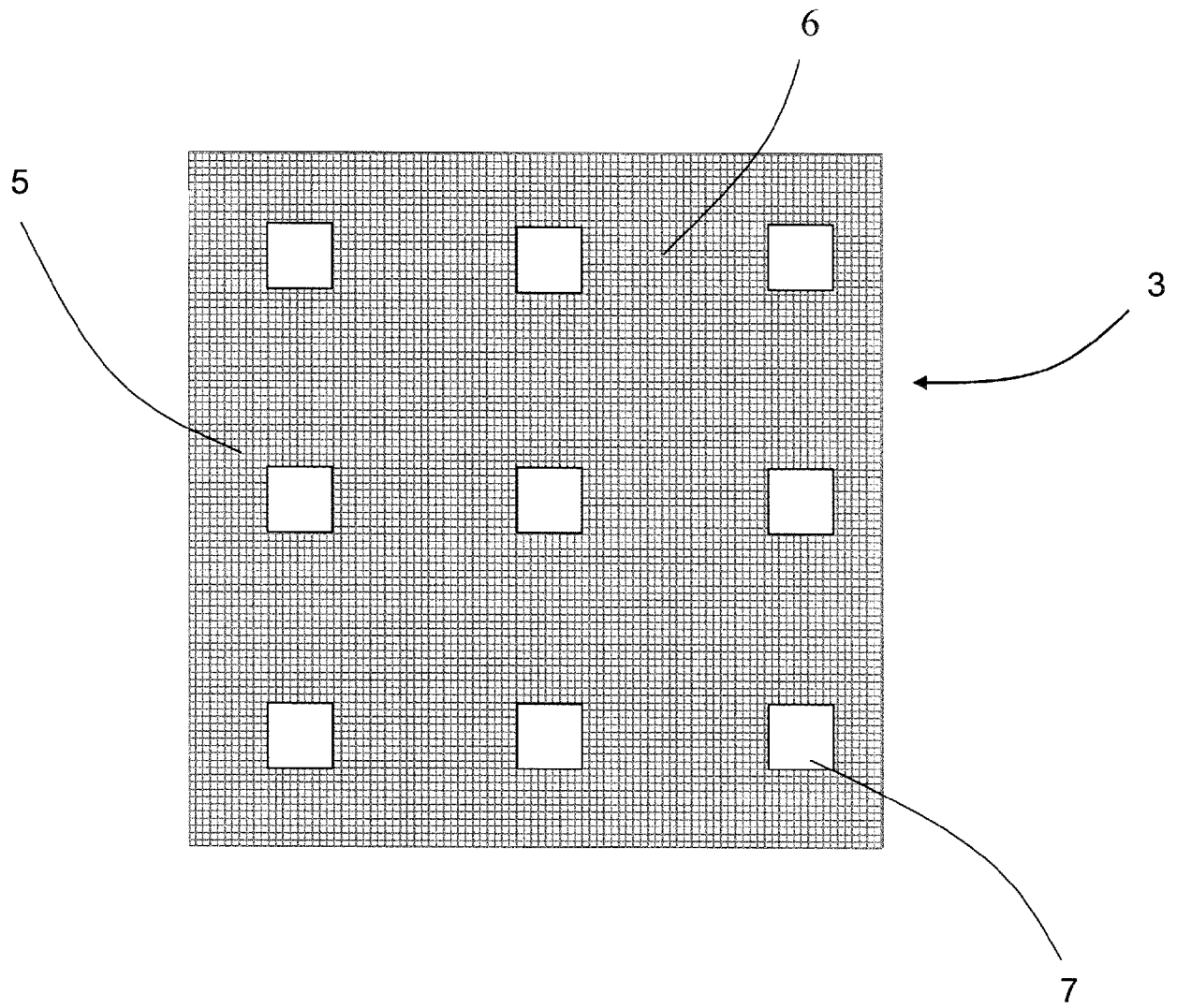


Fig.2

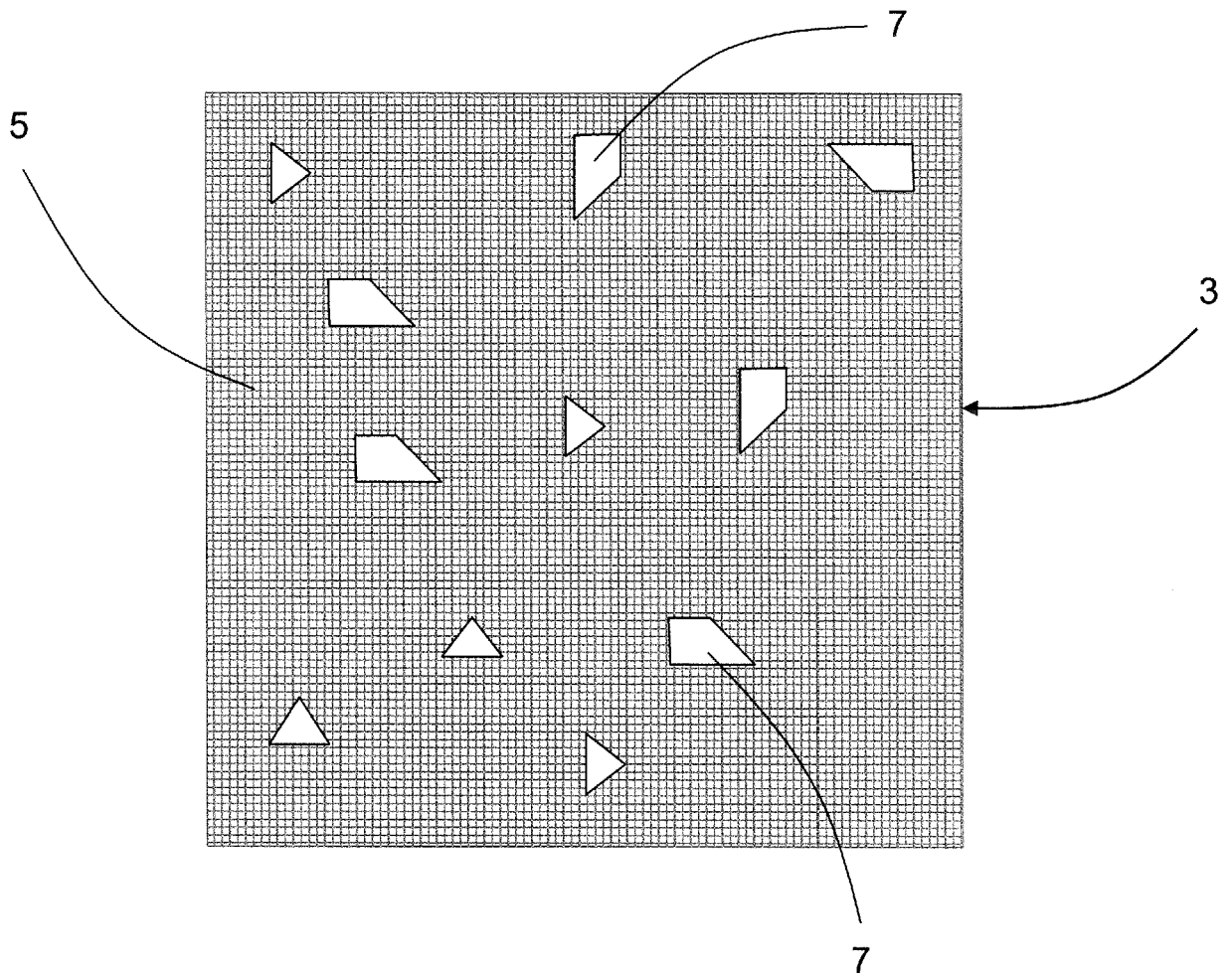


Fig.3



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Application Number
EP 19 16 5648

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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 5 June 2019	Examiner Estorgues, Marlène
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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