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(54) **ARTIFICIAL GRASS TURF FOR PADEL COURTS AND INSTALLATION METHOD**

(57) Disclosed is an artificial grass turf for padel courts, produced by combining at least ribbed texturised monofilaments (1) having a rectangular cross-section with texturised monofilaments (3) having a parallelogram-shaped cross-section, the turf comprising: two elements (6) that define two bicolour areas (7 and 8) separated by a transverse white line (9); a pair of single-colour elements (10); and a single-colour element (11) with a white central longitudinal line (12). The installation of

the padel court involves the following steps: installing the two elements (6) defined by two bicolour areas (7 and 8) separated by a transverse white line (9); installing the pair of single-colour elements (10); and installing the single-colour element (11) with a white central longitudinal line (12), thereby improving both the interaction of the player and of the ball with the playing surface and reducing court installation time.

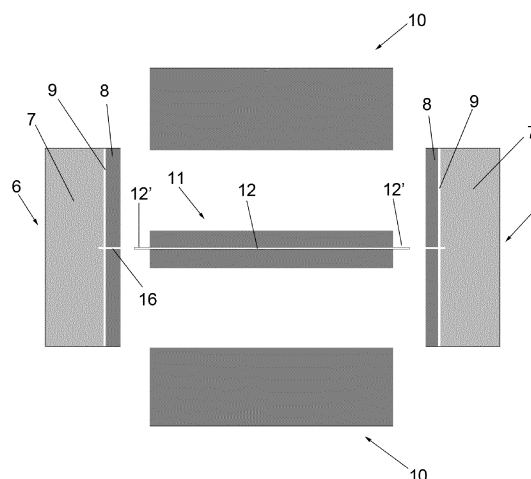


FIG. 4

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Description

OBJECT OF THE INVENTION

[0001] The following invention relates to an artificial grass turf for padel courts and the installation method thereof, such that it improves both the interaction of the player and of the ball with the playing surface, and also reduces court installation time.

BACKGROUND OF THE INVENTION

[0002] As is known, padel has experienced a significant boom in recent years, both at a professional and amateur level, the number of courts having increased considerably, such that in its evolution it is about introducing improvements that have an impact on a reduction of the risk of injury and offer optimum performance for the player.

[0003] Thus, conventionally, artificial grass turfs used for padel courts are obtained from fibres made up of several threads, all having equal cross-section, twisted together, defining straight fibres in their weave according to the desired height.

[0004] Likewise, all the turfs used to configure the court have the same colour, defining single-colour courts with the corresponding separating lines of the playing surface.

[0005] Moreover, the installation of the padel courts is based on the use of rolls (usually three rolls, two 20x4 m and one 20x2 m roll) whereby, in the assembly thereof, arranged longitudinally attached to each other, the entire surface of the court is made up and wherein, subsequently, the white lines separating the playing surfaces must be incorporated.

[0006] In this way, once the artificial grass turf rolls have been arranged, the bands must be cut, using a special tool for this purpose, in which the bands must be incorporated as white separating lines. This operation, in addition to the time invested for it, causes many adhesion joints and therefore a greater possibility of peeling off and a greater possibility of strange bounces of the ball.

[0007] Moreover, when assembling the conventional artificial grass turf rolls, it must be kept in mind that the rolls must be assembled, all of them in the same direction, since, if they are assembled not just in the transverse direction, but in a different longitudinal direction, a "shading" is produced, that is to say, both areas of different tonality are visually appreciated.

DESCRIPTION OF THE INVENTION

[0008] This report describes an artificial grass turf for padel courts and the installation method thereof, so that the artificial grass turf combines at least texturised monofilaments having a rectangular cross-section with rounded smaller sides and a central rib with texturised monofilaments having a parallelogram-shaped cross-section with curved-concave sides and the turf comprises:

- two elements that define two bicolour areas separated by a transverse white line, a first area corresponding to the service surface and a second area to the central portion of the court;
- two single-colour elements corresponding to the central lateral portion of the court, and;
- a single-colour element with a white central longitudinal line corresponding to the central longitudinal portion of the court.

[0009] Thus, when making the carpet, at least two monofilaments having different cross-sections will be combined.

[0010] The second area of the two elements that define two bicolour areas separated by a transverse white line, has a length of approximately 1/3 of the length of the first area corresponding to the service surface.

[0011] Moreover, the second area of the two elements that define two bicolour areas separated by a transverse white line has the same colour as the two single-colour elements corresponding to the central lateral portion of the court, as well as the single-colour element with the central longitudinal white line.

[0012] In a preferred embodiment of the invention, the two bicolour areas will have a blue colour of different tones, one being darker than the other, although, logically, they could have other colours.

[0013] In a practical variant embodiment of the invention, the two elements that define two single-colour areas separated by a transverse white line, a first area corresponding to the service surface and a second area to the central portion of the court, can have the same colour similar to that of single-colour elements.

[0014] Thus, in this variant, the court will have a single colour with the marking white lines for marking the court and, it could even be the case that the court was white and the marking lines were of any other colour, the different elements being executed in a similar manner as indicated.

[0015] According to the artificial grass turf for padel courts described in the process followed when installing same, the following steps or phases follow one another:

- installing the two elements defined by two bicolour areas separated by a transverse white line, corresponding to the areas of both service surfaces and a second area of the central portion of the court;
- installing the two single-colour elements corresponding to the central lateral portion of the court, and;
- installing the single-colour element with a white central longitudinal line corresponding to the central longitudinal portion of the court.

[0016] The central longitudinal single-colour element, at its two ends, overlaps on the two elements that define the two bicolour areas separated by a transverse white line, a first area corresponding to the service surface and

a second area to the central portion, exceeding the second area and extending approximately 20 cm through the first area.

[0017] The coloured portions of the ends of the central longitudinal single-colour element that overlaps on both sides are cut out and eliminated, leaving the separating white line, which will be inserted in the corresponding cuts previously made in the two elements that define two bicolour areas, such that in this way the placement of independent white bands is avoided that can lead to different turf thicknesses that, even if they are minimal, can lead to bad bounces of the ball.

[0018] Moreover, it should be noted that the installation process of the different elements could be different from the one highlighted.

[0019] To complement the following description and for the purpose of helping to better understand the features of the invention, a set of drawings is attached to the present specification, in the figures of which, by illustration and not limitation, the most characteristic details of the invention are represented.

BRIEF DESCRIPTION OF THE FIGURES

[0020]

Figure 1 shows a cross-sectional view of a texturised monofilament used in artificial grass turfs, having a general rectangular configuration with rounded smaller sides and equipped with a rounded central rib.

Figure 2 shows a cross-sectional view of a texturised monofilament used in artificial grass turfs, having a general parallelogram-shaped configuration with its curved-concave sides defining four grooves and four asymmetrical ribs.

Figure 3 shows a view of the court configured according to the invention in which two colours corresponding to the service surface and the central surface are defined, separated by the respective transverse white service lines.

Figure 4 shows a view in which the different elements that in the assembly thereof make up the padel court of the invention are represented.

Figures 5a, 5b and 5c show a view of a practical execution from which the different elements are obtained that, once obtained, configure the padel court in the assembly thereof, being able to observe how the two bicolour elements are obtained from a first roll and how the pair of single-colour elements are also obtained from a second roll and the central single-colour element is manufactured, oversized, independently.

Figure 6 shows a view of the padel court as it is configured from the different elements that in the assembly thereof make it up.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0021] In view of the aforementioned figures and in accordance with the numbering adopted, it can be seen how the artificial grass turf for padel courts is based on the combination of at least texturised monofilaments having a rectangular general section 1 with their smaller sides rounded and equipped with a rounded central rib 2, with texturised monofilaments having a parallelogram-shaped section 3 with its four curved-concave sides 4 and four asymmetrical ribs 5 that act as lateral reinforcements.

[0022] Both monofilaments are made of polyethylene (PE) and specific additives that are characterised by their high resistance and ultraviolet (UV) treatment, resistant to heat and extreme weather variations, improving their durability and freeing them from part of the stress that occurs when pressed by the interaction of the player, giving the court greater ball speed and reducing wear.

[0023] Thus, the turf can be made, both based on the minimum of the two monofilaments described, or it can be made with more additional monofilaments having different cross sections.

[0024] Thus, the turf that makes up the entire padel court is determined by two elements 6 that define two bicolour areas 7 and 8 separated by a transverse white line 9, a first area 7 corresponding to the service surface and a second area 8 corresponding to the central portion of the court, a pair of single-colour elements 10 corresponding to the central lateral portion of the court, and a single-colour element 11 with a white central longitudinal line 12 corresponding to the central longitudinal portion of the court.

[0025] The second area 8 of the two elements 6 that define two bicolour areas separated by the transverse white line 9, has a length of approximately 1/3 of the length of the first area 7 corresponding to the service surface.

[0026] Moreover, the second area 8 of the two elements 6 that define two bicolour areas 7 and 8 separated by the transverse white line 9 has the same colour as the pair of single-colour elements 10 corresponding to the central lateral portion of the court, as well as the single-colour element 11 with the white central longitudinal line 12 that marks the central line of the court.

[0027] In accordance with the description relative to the different components of artificial grass turf for the configuration of a padel court, in its installation method the two elements 6 defined by the two bicolour areas 7 and 8 separated by a transverse white line 9 (service line) will be assembled, corresponding to the areas 7 of both service surfaces and to a second area 8 that will form part of the central surface of the court.

[0028] Next, the pair of single-colour elements 10 corresponding to the central lateral portion of the court will be installed, and, finally, the single-colour element 11 will be installed with a white central longitudinal line 12, (longitudinal divider of the central portion of the court) corre-

sponding to the central longitudinal portion of the court.

[0029] In the assembly of the central longitudinal single-colour element 11, at its two ends, it overlaps on the two elements 6 that define the two bicolour areas 7 and 8 separated by a transverse white line 9, a first area 7 corresponding to the service surface and a second area 8 corresponding to the central portion of the court, exceeding the second area 8 and extending approximately 20 cm through the first area 7, so that the purpose of said execution is that the end coloured areas 13 of the central longitudinal single-colour element 11 that overlap at both ends, are cut out and eliminated, leaving the separating white longitudinal central line 12, which will be inserted in the corresponding cuts previously made in the two elements 6 that define two bicolour areas 7 and 8.

[0030] Figure 5a shows how the two elements 6 are obtained by means of the central cut of a first roll 14, while the pair of single-colour elements 10 are also obtained by means of the central cut of a second roll 15, allowing the manufacture thereof to be optimised, while the central single-colour element 11 is manufactured in such a way that it overlaps the elements 6 at both ends, allowing the overlapping coloured areas 13 to be cut out and eliminated, leaving a white longitudinal central line section 12' at both ends.

[0031] Thus, the pair of white longitudinal central line sections 12' of the single-colour element 11 will be inserted into the cuts 15 previously made in the two elements 6.

[0032] Likewise, the different elements that make up the court surface can be placed transversely with respect to each other or in different longitudinal directions, avoiding the creation of the "shaded" effect.

[0033] Finally, once the installation of the entire turf is assembled, the sand will be incorporated on the entire surface of the court, leaving it perfectly distributed penetrating between the texturised filaments and being trapped therebetween, providing an excellent sports function as it is not unevenly distributed on the surface.

[0034] With all this, a homogeneity and evenness of the angled and vertical bounce is obtained before and after the glass bounce from the first moment and in all the points of the court, an excellent resistance to rotational and linear traction and an excellent aesthetic appearance, as it exhibits a total uniformity and superficial visual continuity, that is to say, without the creation of the unpleasant "shading" effect.

[0035] In addition, the marking of the game lines in situ is eliminated, directly eliminating the adhesion joints and therefore the possibility of peeling off as the lines are directly inserted into the turfs that make up the flooring, reducing installation time and materials, that is, bonding tapes and installation adhesive.

Claims

1. An artificial grass turf for padel courts, **character-**

ised in that the artificial grass turf combines at least texturised monofilaments having a rectangular cross-section (1) with rounded smaller sides and with a central rib (2) with texturised monofilaments having a parallelogram-shaped cross-section (3) with curved-concave sides (4), and **in that** the turf comprises:

- two elements (6) that define two bicolour areas (7 and 8) separated by a transverse white line (9), a first area (7) corresponding to the service surface and a second area (8) corresponding to the central portion of the court;
- a pair of single-colour elements (10) corresponding to the central lateral portion of the court, and;
- a single-colour element (11) with a white central longitudinal line (12) corresponding to the central longitudinal portion of the court.

2. The artificial grass turf for padel courts, according to claim 1, **characterised in that** the second area (8) of the two elements (6) that define two bicolour areas (7 and 8) separated by a transverse white line (9) presents a length of approximately 1/3 of the length of the first area (7) corresponding to the service surface.

3. The artificial grass turf for padel courts, according to claim 1, **characterised in that** the second area (8) of the two elements (6) that define two bicolour areas (7 and 8) separated by a transverse white line (9) presents the same colour as the pair of single-colour elements (10) corresponding to the central lateral portion of the court, as well as the single-colour element (11) with the white central longitudinal line (12).

4. The artificial grass turf for padel courts, according to claim 1, **characterised in that** the two elements (6) define two single-colour areas (7 and 8) separated by a transverse white line (9), a first area (7) corresponding to the service surface and a second area (8) corresponding to the central portion of the court, the colour of which is similar to that of the single-colour elements (10) and (11).

5. An installation method, according to the preceding claims, of the artificial grass turf for padel courts, **characterised in that** the following phases occur in the process followed when installing the artificial grass turf:

- installing the two elements (6) defined by two bicolour areas (7 and 8) separated by a transverse white line (9), corresponding to the areas (7) of both service surfaces and to a second area (8) of the central portion of the court;

- installing the pair of single-colour elements (10) corresponding to the central lateral portion of the court, and;
- installing the single-colour element (11) with a white central longitudinal line (12) corresponding to the central longitudinal portion of the court.

6. The installation method, according to claim 4, **characterised in that** the central longitudinal single-colour element (11), at its two ends, overlaps on the two elements (6) that define the two bicolour areas (7 and 8) separated by a transverse white line (9), a first area (7) corresponding to the service surface and a second area (8) corresponding to the central portion of the court, exceeding the second area (8) and extending approximately 20 cm through the first area (7).
7. The installation method, according to claim 4, **characterised in that** the coloured areas of the central longitudinal single-colour element (11) that overlap at both ends are cut out and eliminated, leaving the separating white longitudinal central line (12), which will be inserted in corresponding cuts previously made in the two elements (6) that define two bicolour areas (7 and 8).

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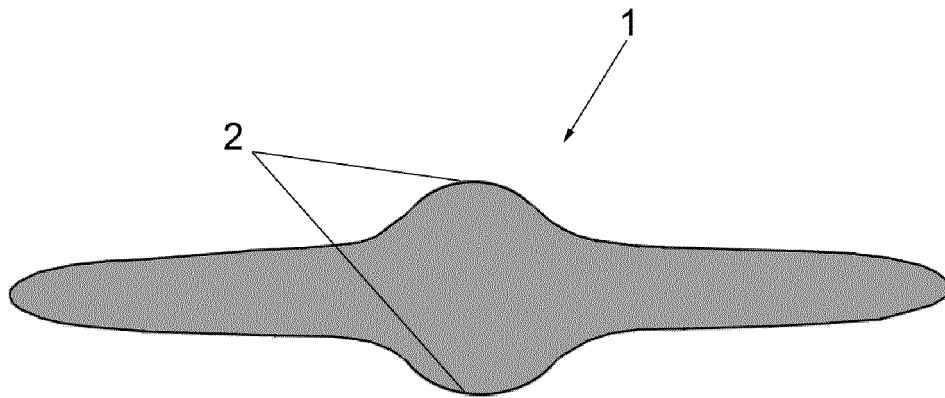


FIG.1

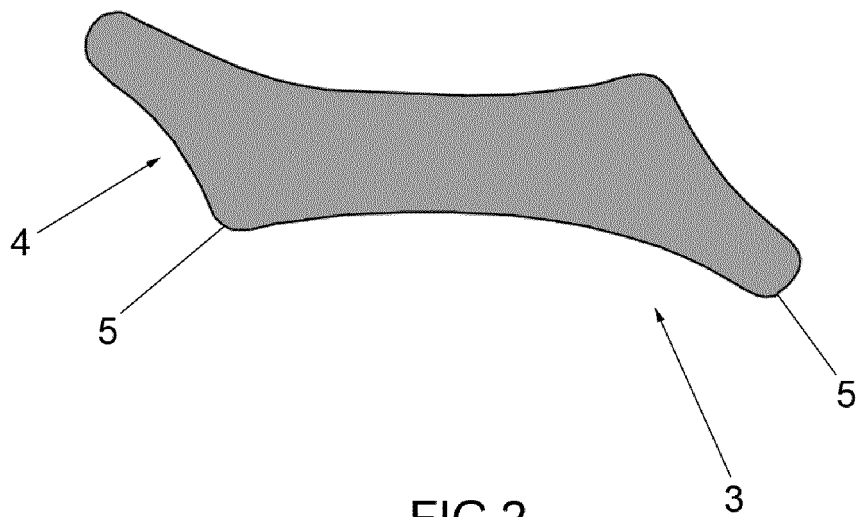


FIG.2

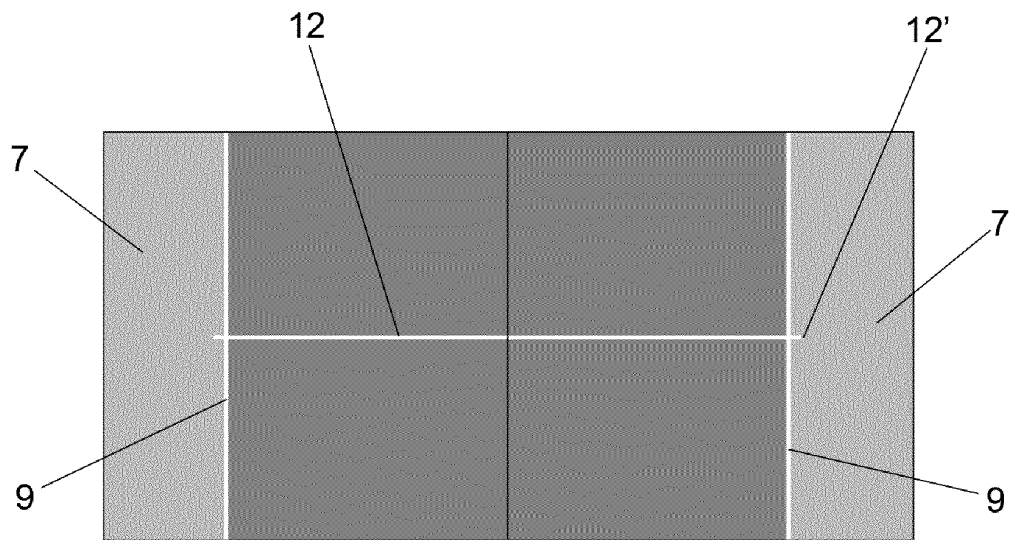


FIG. 3

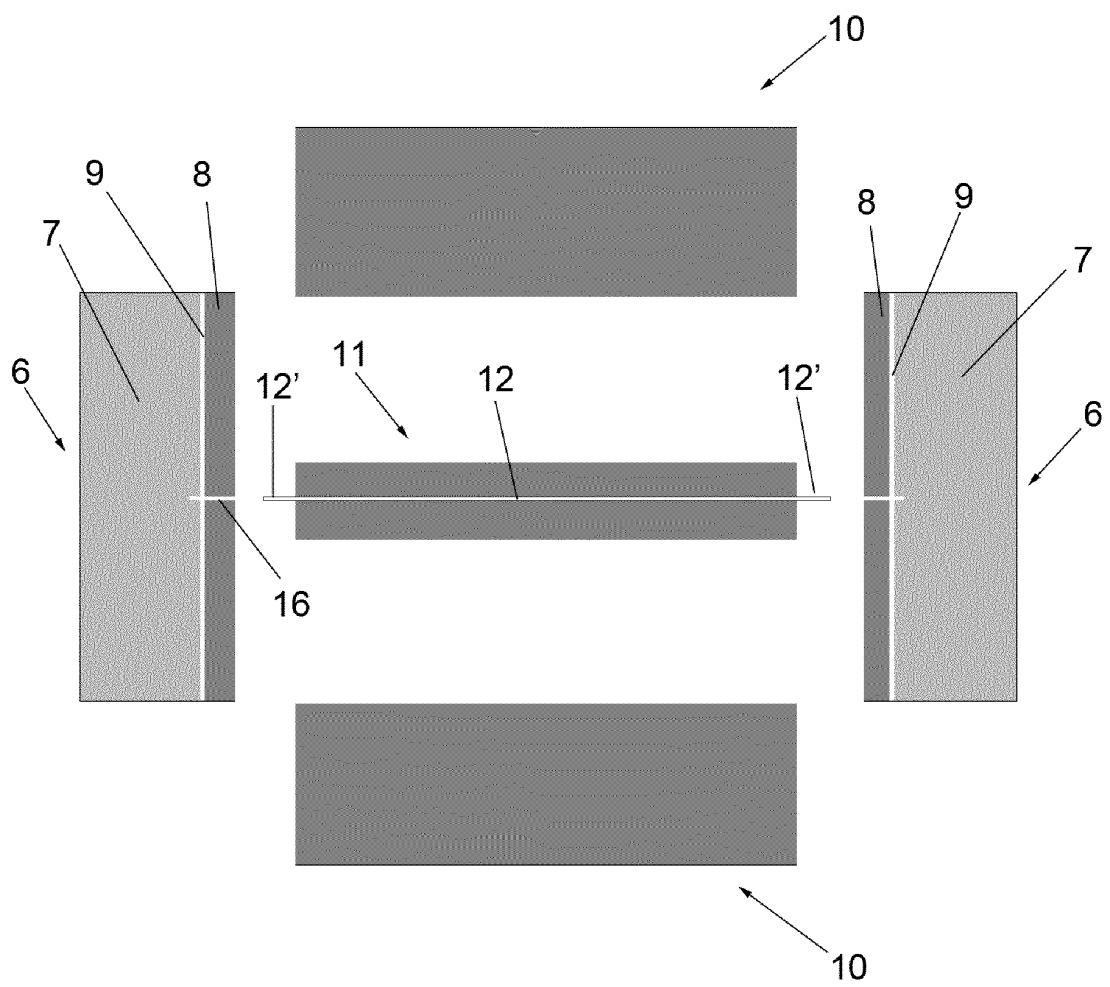


FIG. 4

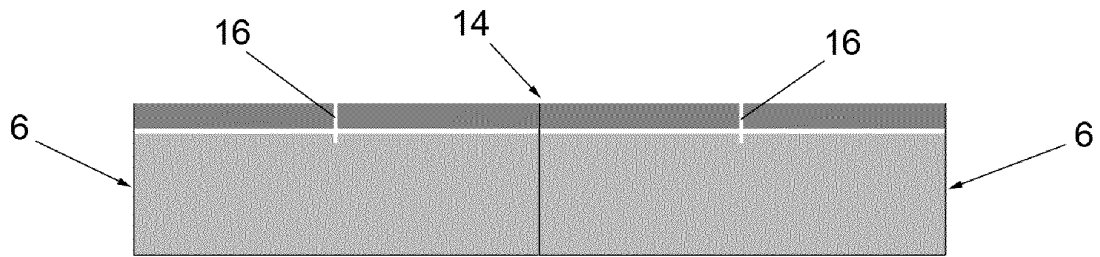


FIG. 5a

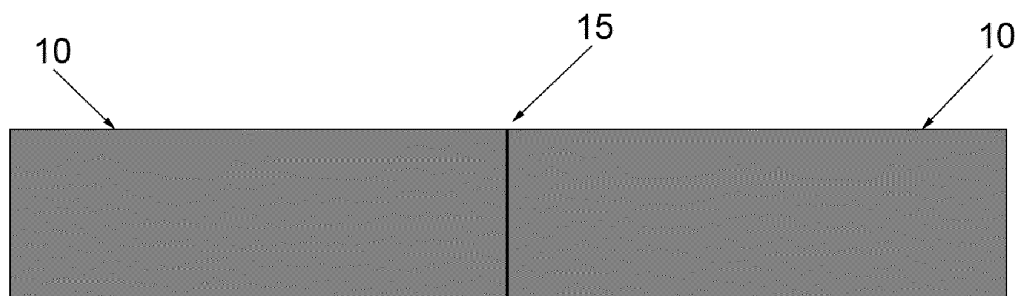


FIG. 5b

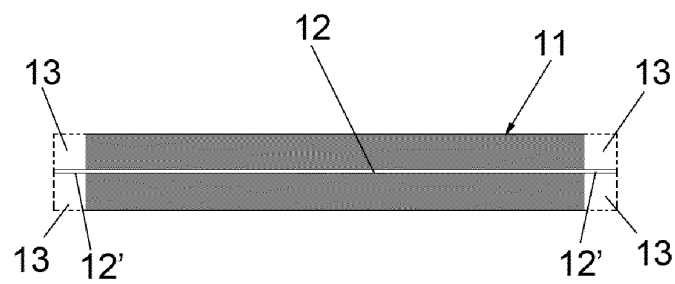


FIG. 5c

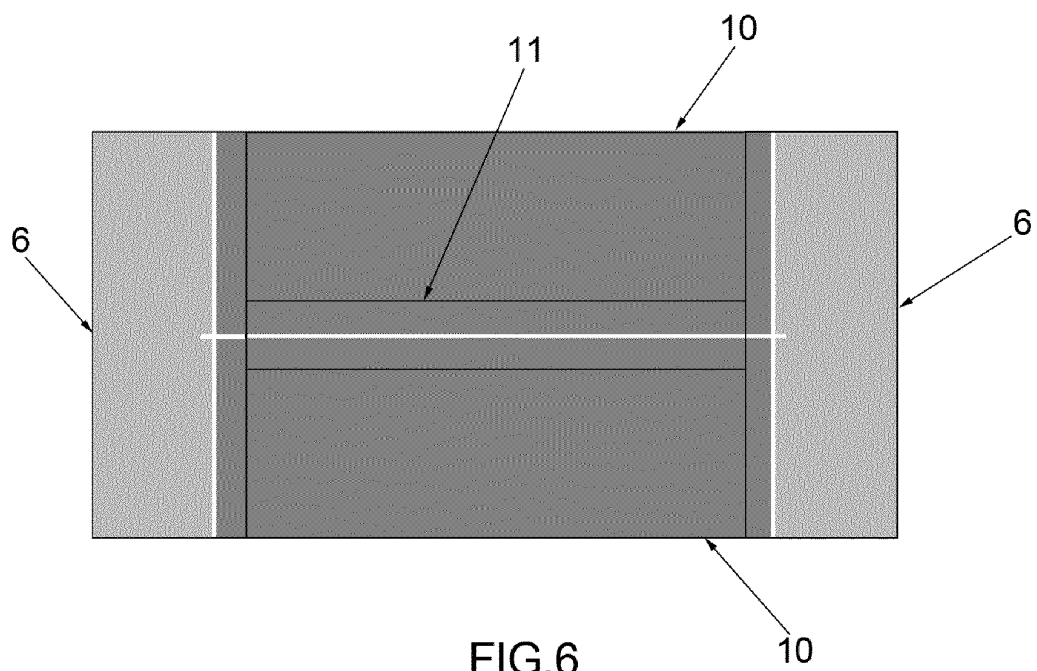


FIG. 6

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2020/070541

A. CLASSIFICATION OF SUBJECT MATTER

E01C13/08 (2006.01)*A63C19/04* (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)

E01C, A63C

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.
A	US 2004234719 A1 (JONES JAMES P) 25/11/2004, the whole document.	1-7
A	JP S6378903 A (SAAMI CO LTD) 09/04/1988, the whole document.	1-7
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A	US 3771787 A (WOOD S) 13/11/1973, the whole document.	1-7

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

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13/05/2021

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Information on patent family members

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
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