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(54) **CORNER SEAL**

(57) The invention relates to a corner seal for water-tight sealing of a corner of a building construction, such as for instance between a recess and a surrounding floor or between a floor and two walls at right angles to each other, which corner seal comprises:
- a first membrane section, which is deformed by heat, in a bottom, at least two upright and mutually adjacent walls, and a horizontal flange which extends along the upper edge of the at least two upright walls;
- a second membrane section which extends parallel to and along the two adjacent, upright walls and is attached thereto.

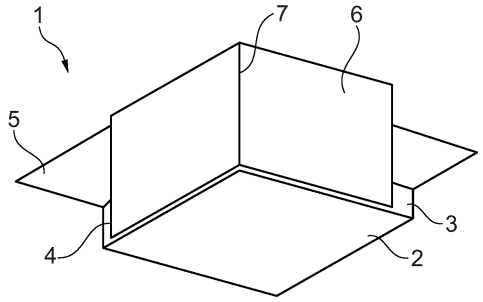

Fig. 1A

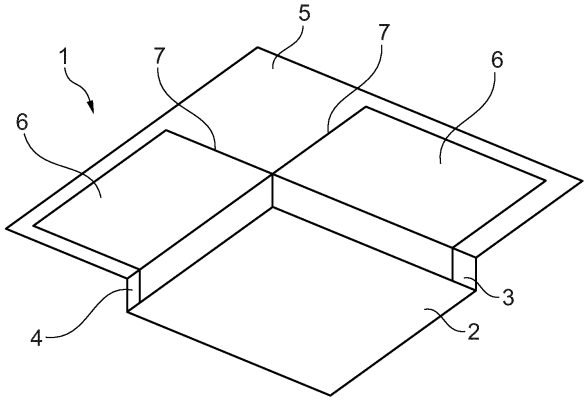

Fig. 1B

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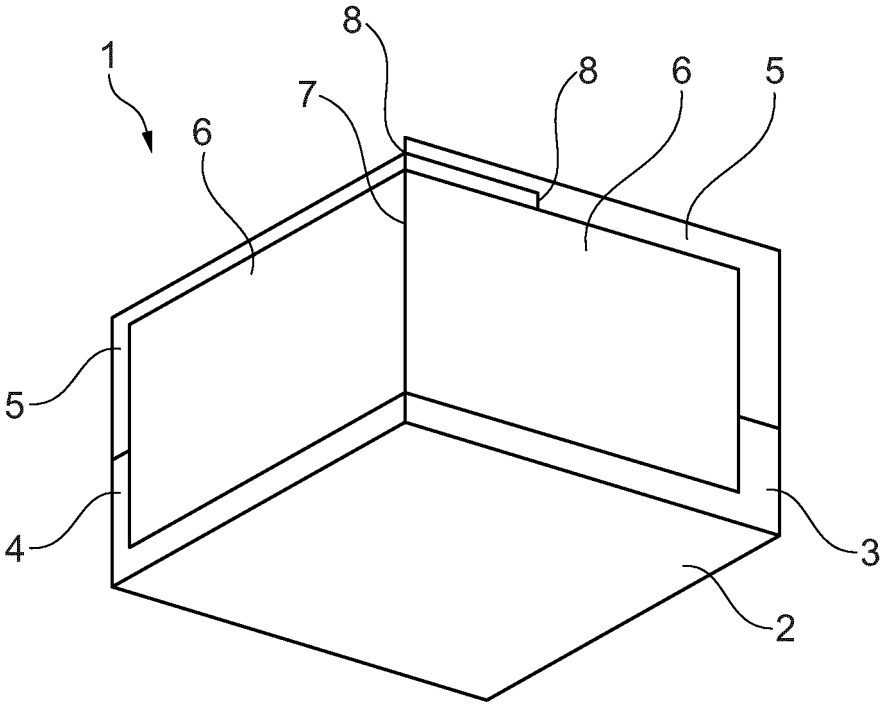

Fig. 1C

Description

[0001] The invention relates to a corner seal for watertight sealing of a corner of a building construction, such as for instance between a recess and a surrounding floor or between a floor and two walls at right angles to each other, which corner seal comprises:

- a first membrane section, which is deformed by heat, in a bottom, at least two upright and mutually adjacent walls, and a horizontal flange which extends along the upper edge of the at least two upright walls.

[0002] When arranging tile floors and tile walls it is known to arrange a membrane section at least in the corners of a building construction, such as for instance between a recess and a surrounding floor or between a floor and two walls at right angles to each other. This membrane section provides for a watertight transition in the corner, where cracks are usually quick to develop due to warping.

[0003] It is also known to arrange such a membrane section between a drain or drainage channel and the adjacent walls and/or floors so that a watertight connection between the drain and the drainage channel is obtained.

[0004] A tile layer can subsequently be arranged over these membrane sections. If a join between the tiles were to break after some time, enabling moisture to end up under the tile layer, the membrane section will prevent the moisture from penetrating further into the floor.

[0005] Because arranging membrane properly watertightly in a corner between for instance a floor and two walls at right angles to each other is particularly difficult, special corner seals of membrane sections deformed by heat are known. A membrane section is thus for instance known with a bottom part and, along two edges of the bottom part, mutually adjacent upright wall parts whereby the corner between a floor and two walls can be sealed. Also known is a corner seal having a bottom, at least two upright and mutually adjacent walls and a horizontal flange which extends along the upper edge of the at least two upright walls. Such a corner seal is particularly suitable for properly sealing the recess in a floor in which a drain or shower drain is arranged.

[0006] Further known are drains or shower drains which can be arranged both in the middle of a floor and in a floor against a wall. A sealing set of membrane is usually included therewith for properly sealing the drain or shower drain relative to the floor and walls. Because the drain or shower drain can be arranged both freely in the floor and against one or more upright walls, different corner seals are supplied in such a sealing set, only one of which is applied in a specific situation. This can cause confusion for the installer, which may cause the installer to apply the wrong corner seal in a determined situation and possibly even cut up the corner seal in order to make it fit. This may have the result that the corner of the building construction is not optimally sealed.

[0007] It is now an object to reduce or even obviate the above stated drawbacks. This object is achieved according to the invention with a corner seal according to the preamble, which is characterized by a second membrane section which extends parallel to and along the two adjacent, upright walls and is attached thereto.

[0008] Owing to this second membrane section, the corner seal according to the invention can be transformed by a single cut into either a corner seal with the bottom part and mutually adjacent upright wall parts along two edges of the bottom part, or into a corner seal with a bottom, at least two upright and mutually adjacent walls and a horizontal flange which extends along the upper edge of the at least two upright walls.

[0009] According to the invention, only one type of corner seal needed thus be included with a drain or shower drain, and the corner seal can be used both for sealing when the drain or shower drain is arranged in a recess in the middle of a floor and in a situation where the drain or shower drain is arranged against two upright walls of a building construction.

[0010] In a preferred embodiment of the corner seal according to the invention the second membrane section is arranged on the mutually facing sides of the at least two upright walls. When the bottom and upright walls are seen as part of a tray-like part, it can also be assumed that the second membrane section is arranged on the inner side of this tray-like part. It should however be noted that, according to the invention, the bottom need not be wholly surrounded with upright walls.

[0011] In a further preferred embodiment of the corner seal according to the invention the second membrane section is level in the direction perpendicularly to the bottom of the first membrane section. In this embodiment a strip of membrane can simply be provided for the second membrane section, which strip is not formed and can for instance simply be supplied from a roll during manufacture of a corner seal according to the invention.

[0012] In another preferred embodiment of the corner seal according to the invention the second membrane section is arranged on the mutually remote sides of the at least two upright walls. When the bottom and upright walls are seen as part of a tray-like part, it can also be assumed that the second membrane section is arranged against the upright walls on the outer side of this tray-like part. It should be noted once again that, according to the invention, the bottom need not be wholly surrounded with upright walls.

[0013] In a further embodiment of the corner seal according to the invention the second membrane section has in the direction perpendicularly to the bottom of the first membrane section a first, upward directed zone and a second, downward directed zone connecting thereto. In this embodiment the second membrane section is folded and runs away from the first membrane section on the underside of the bottom. The corner seal can hereby be arranged in a recess in a floor without any operations, wherein the downward directed zone can be folded into

the recess. A drain or shower drain can then be placed thereover and the corner seal provides for a reliable seal.

[0014] For application in a corner between a floor and upright walls only one cut need be made in the horizontal flange, after which the horizontal flange and the second zone can be folded upward and can be arranged on the bottom and against the walls.

[0015] The first, upward extending zone of the second membrane section is preferably attached to the upright walls of the first membrane section.

[0016] In a highly preferred embodiment of the corner seal according to the invention the first and second membrane section are a watertight membrane which is coated on both sides with a layer of non-woven material. Such a membrane section is known in the field as sealing membrane and is known inter alia under the brand name Kerdi membrane.

[0017] It is further preferred for the contact surfaces, where the second membrane section is attached to the first membrane section, to be free from the layer of non-woven material and to be provided with an adhesive layer for mutually adhering the second membrane section to the first membrane section.

[0018] By providing the sealing membrane with non-woven-free zones at suitable positions, the first membrane section and second membrane section can be mutually adhered in simple and reliable manner, for instance by providing an adhesive layer on these non-woven-free zones.

[0019] In a preferred embodiment the first membrane section and the second membrane section are formed integrally. This can for instance be done by injection-moulding the first and second membrane section from a very flexible material.

[0020] These and other features of the invention are further elucidated with reference to the accompanying drawings.

Figure 1A shows a first embodiment of the corner seal according to the invention.

Figures 1B and 1C show the embodiment according to figure 1A in two different applications.

Figure 2A shows a second embodiment of the corner seal according to the invention.

Figures 2B and 2C show the embodiment according to figure 2A in two different applications.

Figure 1A shows a perspective view of a first embodiment of a corner seal 1 according to the invention. The corner seal 1 has a first membrane section, which has been deformed by heat, in a bottom 2, at least two upright and mutually adjacent walls 3, 4 and a horizontal flange 5 which extends along the upper edge of the at least two upright walls 3, 4. Arranged against the mutually facing sides of the upright walls 3, 4 is a second membrane section 6 which extends parallel to and along the two adjacent, upright walls 3, 4.

Figure 1B shows a first application of the corner seal 1. In this form the corner seal 1 can be placed in a recess in a floor. After arranging the corner seal a drain or shower drain can for instance be placed in the recess.

[0021] For this application the second membrane section 6 is cut into along the edge 7, after which the second membrane section 6 is folded against the horizontal flange 5 of the first membrane section.

[0022] Figure 1C shows a second application of the corner seal 1. The horizontal flange 5 of the first membrane section is here cut into so that two edges 8 are created and whereby the horizontal flange 5 can be folded upward and against the second membrane section 6. In this application the corner seal 1 can be arranged in simple manner in the corner formed by a floor and two upright walls.

[0023] It will be apparent that the corner seal 1 can be transformed with only a single cut in either horizontal flange 5 or second membrane section 6, wherein the seal of corner seal 1 is not adversely affected.

[0024] Figure 2A shows a perspective view of a second embodiment of a corner seal 10 according to the invention. The corner seal 10 has a first membrane section (identical to the embodiment according to figures 1A-1C), which has been deformed by heat, in a bottom 2, at least two upright and mutually adjacent walls 3, 4 and a horizontal flange 5 which extends along the upper edge of the at least two upright walls 3, 4. Arranged against the mutually remote sides of upright walls 3, 4 is a second membrane section 11, 12. This second membrane section 11, 12 has a first, upward directed zone 11 with which the second membrane section 11, 12 is attached to the upright walls 3, 4, and a second, downward directed zone 12 connecting to the first zone 11. It can be clearly seen that the second zone 12 is folded.

[0025] Figure 2B shows a first application of the corner seal 10 for sealing a corner formed by a floor and upright walls. For this purpose the horizontal flange 5 is cut into along the line 13, whereby the horizontal flange 5 can be folded upward together with the second zone 12 of second membrane section 11, 12. Because the first zone 11 is attached to the upright walls 3, 4, a good seal is maintained.

[0026] Figure 2C shows a second application of the corner seal 10 according to the invention. In this application corner seal 10 can be arranged in a recess in floor, wherein a drain or shower drain is placed in the recess after corner seal 10 has been arranged.

[0027] In this application the second zone 12 of second membrane section 11, 12 can be folded against the underside of bottom 2. This second zone 12 can optionally be cut into, although this is usually not necessary because a thickened portion as a result of folding of the membrane section will not cause problems under the drain or shower drain for placing. When tiles are however placed on the corner seal, it is desirable to prevent local thickened portions resulting from folding. This can be pre-

vented by cutting into the second zone 12, which has no adverse effects for the seal of corner seal 10.

Claims

1. Corner seal for watertight sealing of a corner of a building construction, such as for instance between a recess and a surrounding floor or between a floor and two walls at right angles to each other, which corner seal comprises:

   - a first membrane section, which is deformed by heat, in a bottom, at least two upright and mutually adjacent walls, and a horizontal flange which extends along the upper edge of the at least two upright walls;

   characterized by

   - a second membrane section which extends parallel to and along the two adjacent, upright walls and is attached thereto.

2. Corner seal according to claim 1, wherein the second membrane section is arranged on the mutually facing sides of the at least two upright walls.

3. Corner seal according to claim 2, wherein the second membrane section is level in the direction perpendicularly to the bottom of the first membrane section.

4. Corner seal according to claim 1, wherein the second membrane section is arranged on the mutually remote sides of the at least two upright walls.

5. Corner seal according to claim 4, wherein the second membrane section has in the direction perpendicularly to the bottom of the first membrane section a first, upward directed zone and a second, downward directed zone connecting thereto.

6. Corner seal according to claim 5, wherein the first, upward extending zone of the second membrane section is attached to the upright walls of the first membrane section.

7. Corner seal according to any one of the foregoing claims, wherein the first and second membrane section are a watertight membrane which is coated on both sides with a layer of non-woven material.

8. Corner seal according to claim 7, wherein the contact surfaces, where the second membrane section is attached to the first membrane section, are free from the layer of non-woven material and are provided with an adhesive layer for mutually adhering the second membrane section to the first membrane section.

9. Corner seal according to any one of the foregoing claims, wherein the first membrane section and the second membrane section are formed integrally.

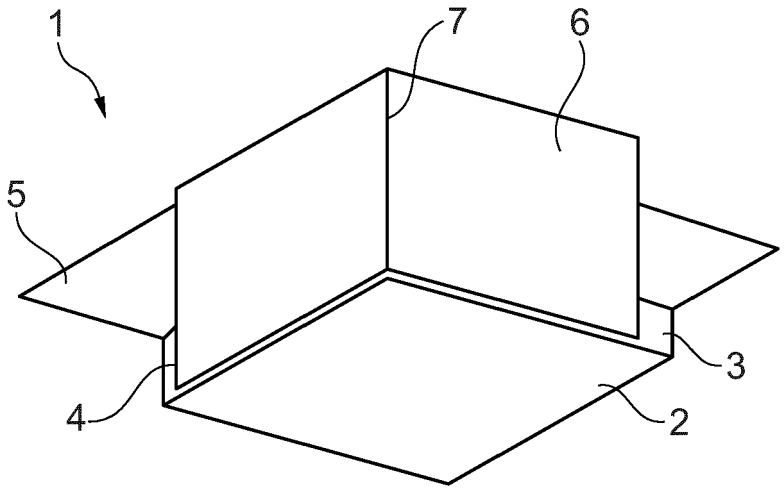

Fig. 1A

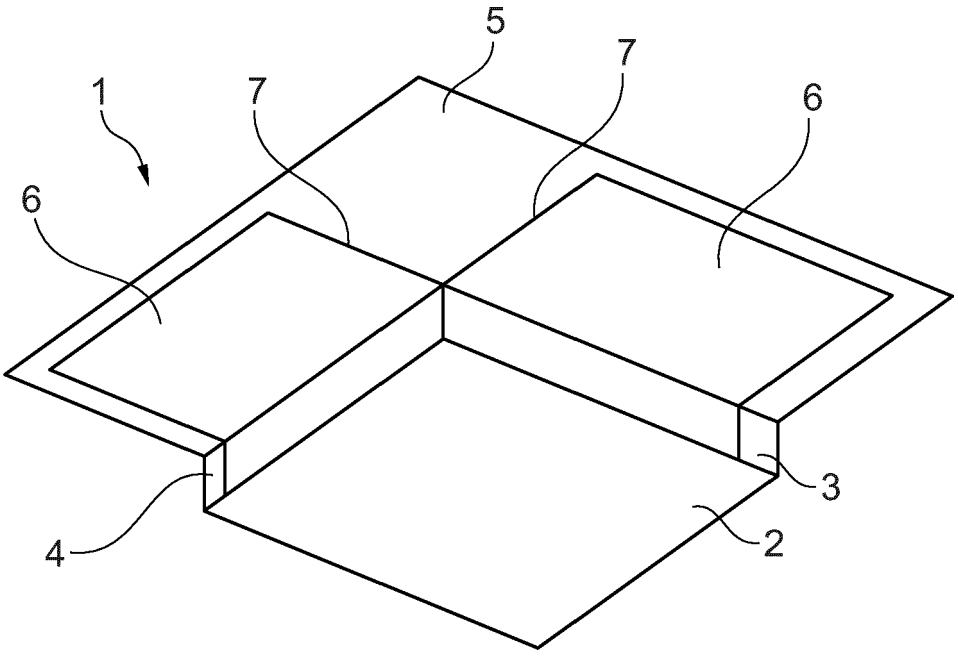

Fig. 1B

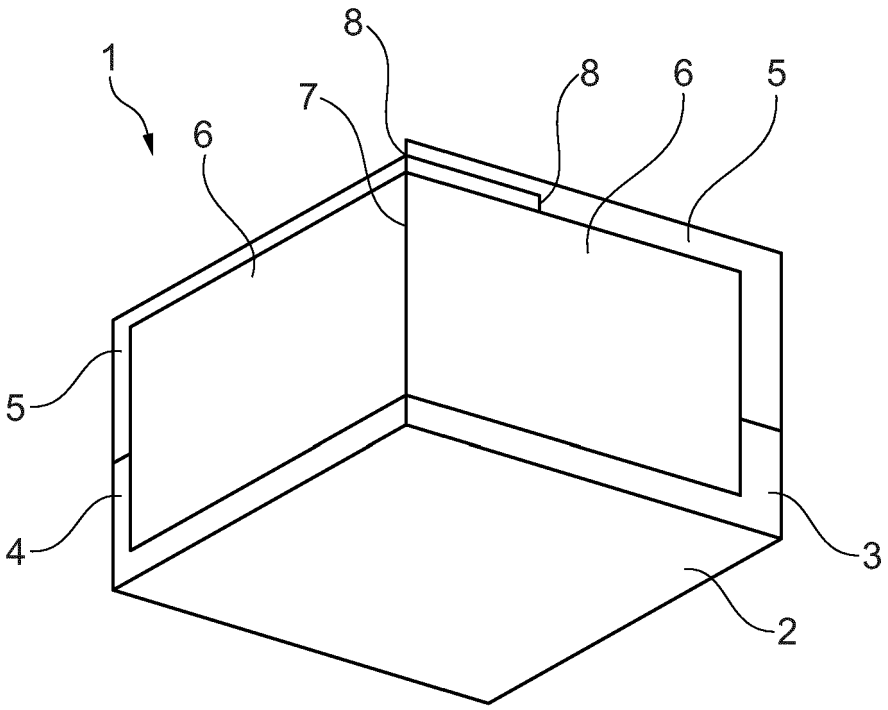

Fig. 1C

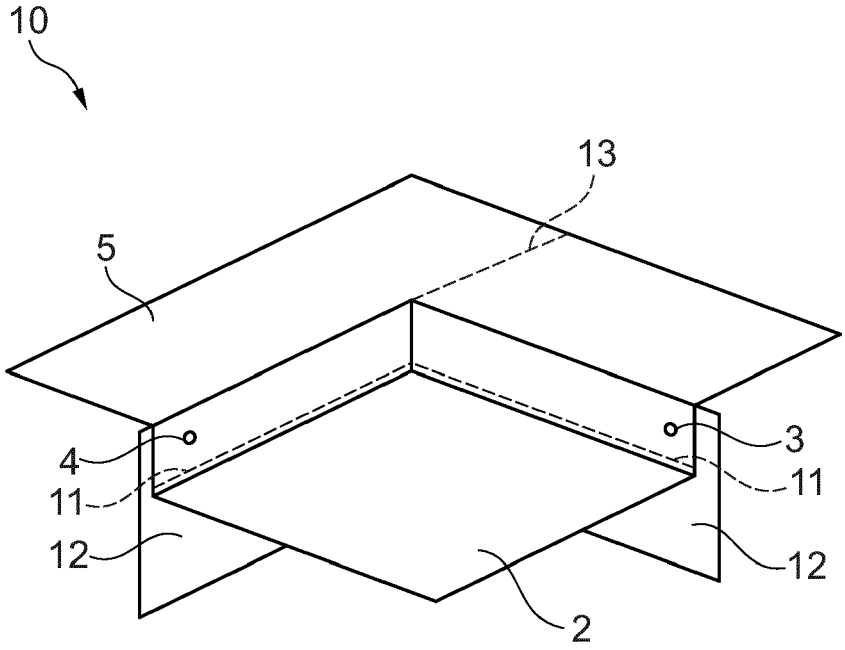

Fig. 2A

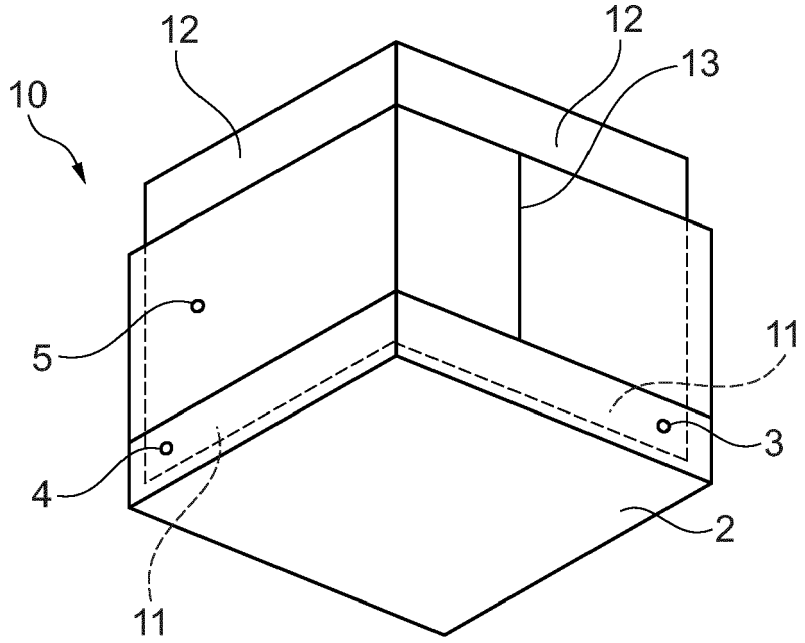

Fig. 2B

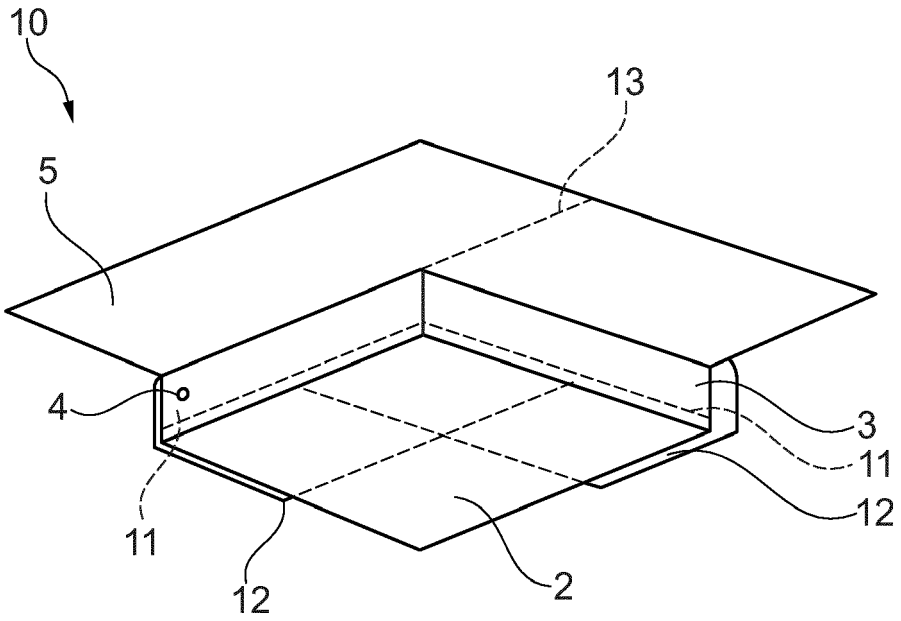

Fig. 2C

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EUROPEAN SEARCH REPORT

Application Number
EP 22 20 9099

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	WO 2015/104032 A1 (KNAUF GIPS KG [DE]) 16 July 2015 (2015-07-16) * figure 5 *	1-9	

TECHNICAL FIELDS SEARCHED (IPC)

E04F
E04B
A47K

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	23 March 2023	Fournier, Thomas

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