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(54) **ULTRA-LIGHT SHOWER TRAY**

(57) An ultra-lightweight shower tray made of a material composed of a coating layer based on an unsaturated polyester resin of isophthalic acid and neopentylglycol, a combined glass fibre layer of woven and non-woven

glass fibres wetted with an unsaturated orthophthalic unsaturated polyester resin, a layer of extruded polystyrene; and a layer of mesh-reinforced extruded polystyrene sheet lining mortar.

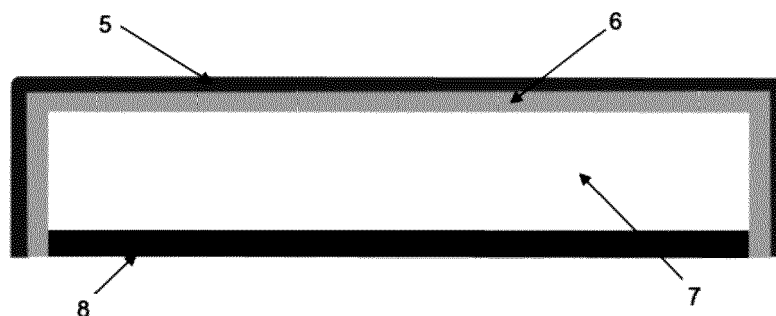


Figure 3

Description

[0001] The present invention relates to an ultra-light shower tray, thus finding its application in the field of manufacturing sanitary installations.

[0002] The shower tray of the invention, being very light, with a weight of approximately 12 kg/m², mineral-load trays weighing 45 kg/m², offers numerous advantages in terms of installation and handling, while maintaining better performance in terms of mechanical stability, durability, installation and logistics.

[0003] Porcelain, acrylic, fiberglass-reinforced acrylic or mineral-filled resin shower trays are well known.

[0004] Known acrylic shower trays are made of an acrylic resin reinforced with fiberglass on the underside, their main disadvantage being the feeling of flexibility they give to the user, their poor mechanical stability and the difficulty of cleaning them, mainly due to the damage it can cause to the acrylic material. As for porcelain or mineral resin plates, they have the great disadvantage of their weight.

[0005] The present invention solves the disadvantages of known shower trays by providing an ultra-light shower tray with high mechanical stability, consisting of different layers of various materials, as will be described below.

[0006] The invention is now described in more detail on the basis of an example embodiment thereof and with reference to the attached figures, wherein:

Figure 1: Schematic plan view of the shower tray according to an example embodiment thereof;

Figure 2: Sectional detail of the drain valve housing of shower tray in figure 1;

Figure 3: Outline of the layered structure forming shower tray in figure 1; and

Figure 4: Shows a perspective view of drain valve housing in figure 2 and a detail thereof.

[0007] Figure 1 shows a schematic view of the ultralight shower tray of the invention (1), including corresponding slopes (2) towards a drain hole (3) and a drain valve housing (4), the detail of said housing (4) being shown in figure 2.

[0008] Referring now to figure 3, ultra-lightweight shower tray (1) consists of a material composed of the following layers, indicated in successive order and taking the visible part of shower tray as the top layer:

i. A coating layer based on an unsaturated polyester resin of isophthalic acid and neopentylglycol (5), with a thickness of 500 μ m;

ii. A combined glass fibre layer of woven and non-woven glass fibres wetted with an unsaturated orthophthalic polyester resin (6), with a thickness of 3 mm;

iii. A layer of extruded polystyrene (7) pre-milled with shower tray slopes (2), with a thickness of 23 mm; and

iv. A layer of mesh-reinforced extruded polystyrene sheet coating mortar (8), with a thickness of 4 mm.

[0009] In this figure 3, the different thicknesses of the layers that make up the shower tray are not scaled for better visualisation.

[0010] Drain valve housing (4) is arranged integrally with the shower tray embedded in layers i) and ii) described above and, as shown in figure 4, it is intended to receive a drain closure element (not shown), which may be a conventional grid or a cover made of the same material as described layer i), in this case in order to give the shower tray of the invention an homogeneous aesthetic finish. To this end, this drain valve housing (4) has corresponding internal support means (9) to support the aforementioned closure elements.

Claims

1. An ultra-lightweight shower tray (1) comprising corresponding slopes (2) towards a drain hole (3) and a drain valve housing (4), **characterised in that** it is made of a material composed of the following layers, indicated in successive order and taking the visible part of the shower tray as the top layer:

i. A coating layer based on an unsaturated polyester resin of isophthalic acid and neopentylglycol (5), with a thickness of 500 μ m;

ii. A combined glass fibre layer of woven and non-woven glass fibres wetted with an unsaturated orthophthalic unsaturated polyester resin (6), with a thickness of 3 mm;

iii. A layer of extruded polystyrene (7) pre-milled with shower tray slopes (2), with a thickness of 23 mm; and

iv. A layer of mesh-reinforced extruded polystyrene sheet lining mortar (8), with a thickness of 4 mm.

2. An ultra-lightweight shower tray (1) according to claim 1, **characterised in that** drain valve housing (4) is arranged integrally with the shower tray embedded in layers i) and ii).

3. An ultra-light shower tray (1) according to claim 1, **characterised in that** drain valve housing (4) has corresponding internal support means (9) to support elements for closing drain hole (3).

4. An ultra-lightweight shower tray (1) according to claim 4, **characterised in that** closure elements of drain hole (3) are selected from a conventional grid or a cover made of the same material as layer i).

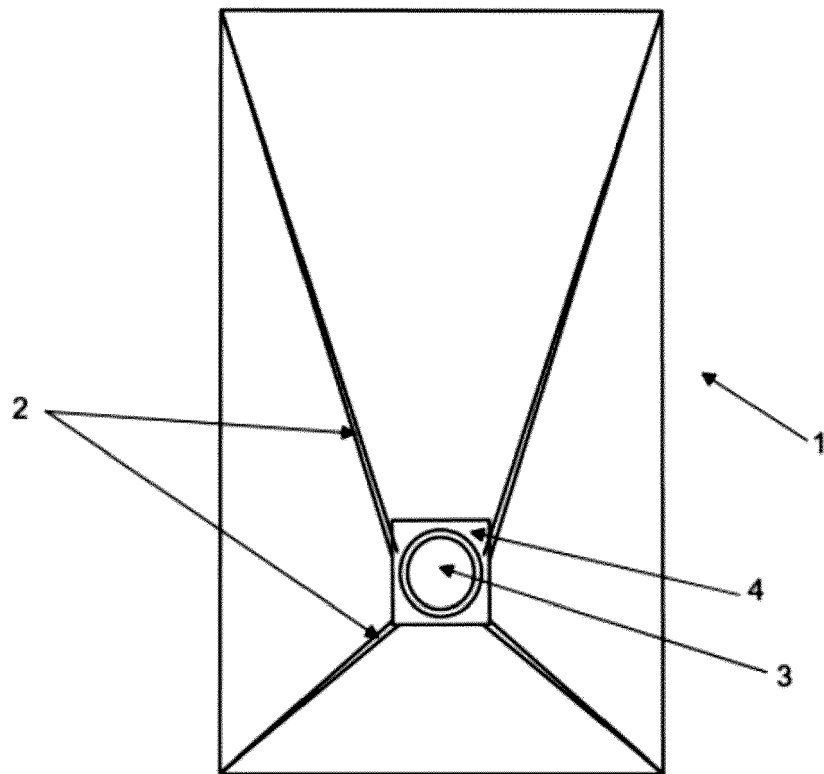


Figure 1

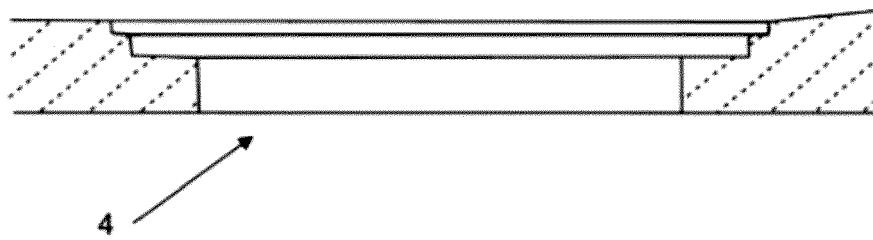


Figure 2

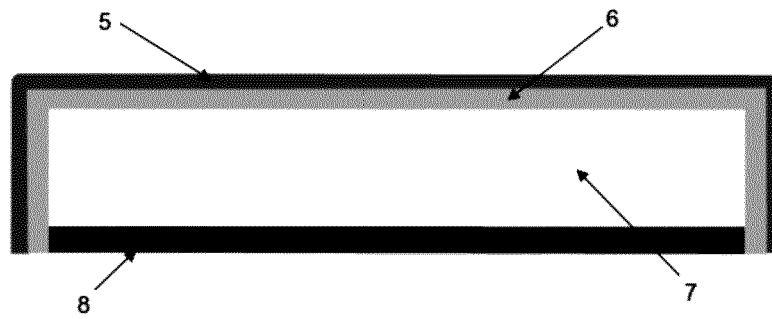


Figure 3

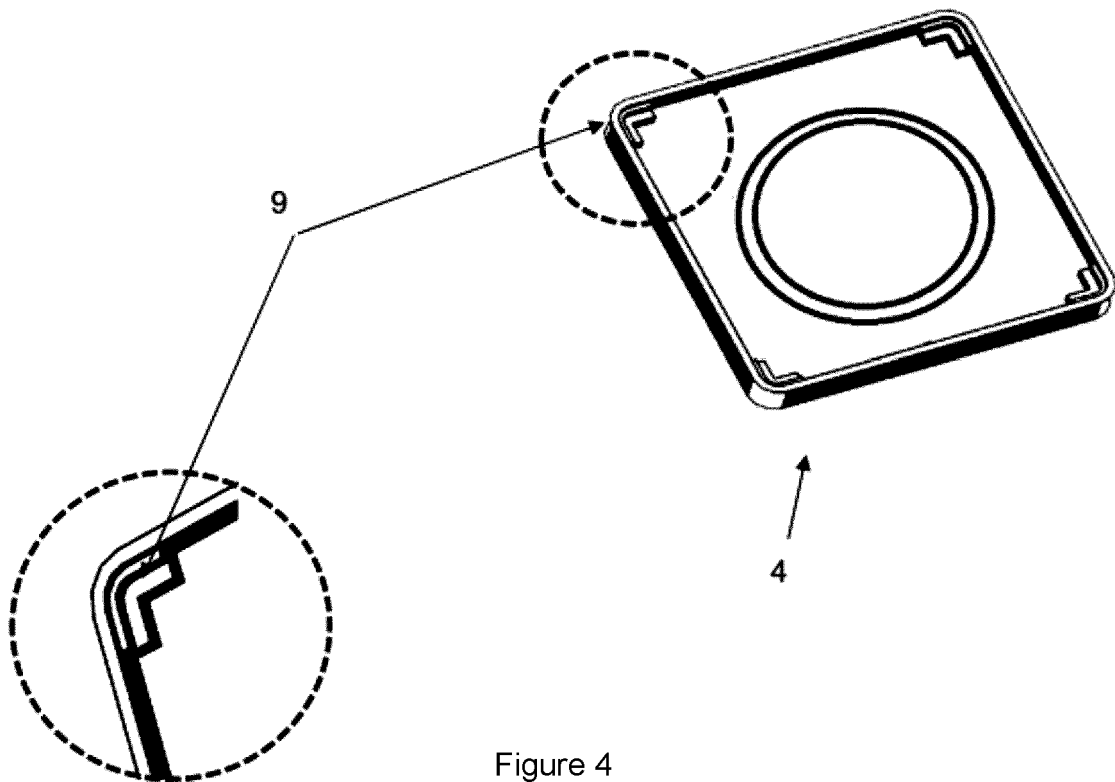


Figure 4



EUROPEAN SEARCH REPORT

Application Number

EP 22 18 1242

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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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
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EPO FORM 1503 03.82 (P04C01)

Place of search	Date of completion of the search	Examiner
The Hague	29 November 2022	Van Bost, Sonia
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		

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 22 18 1242

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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29-11-2022

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