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(54) Manufacturing process used to obtain waterproof footwear and footwear obtained using the said process

(57) The present invention relates to the process used to produce footwear with the "IDEAL" technique featuring a para rubber band that covers the perimeter of both the sole and the bottom tread, partially overlapping the lower edge of the upper.

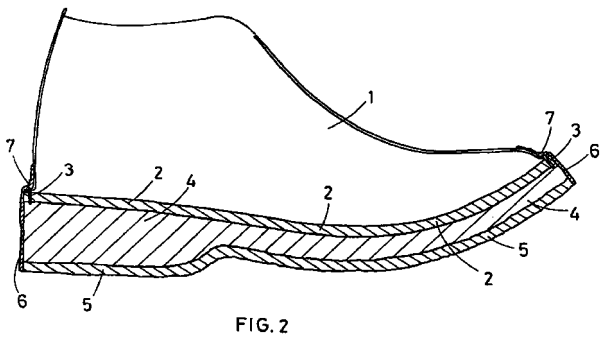

FIG. 2

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Description

[0001] The present patent application for industrial invention relates to the process used to obtain waterproof footwear, characterised by the presence of a para rubber band covering the perimeter of the sole and partially overlapping the upper, in order to avoid any possible water infiltration between sole and mid-sole.

[0002] The patent protection also extends to footwear obtained with the process according to the present invention, characterised by an unusual external look, especially in the base perimeter because of the effect created by the para rubber band forming a kind of heavy base that completely hides the sole and partially overlaps the upper.

[0003] In the process according to the present invention, the upper is assembled on the mid-sole according to the technique that is commonly known as "IDEAL" in the footwear sector, consisting in folding the upper edges outwards and sewing them over and along the mid-sole edges, so that the external stitching joining the upper edges to the mid-sole edges remains visible.

[0004] In the process according to the present invention, a bottom made up of a microporous wedge is glued under the mid-sole and a para rubber piece is fixed under the wedge to form the bottom tread.

[0005] Once the bottom has been glued to the mid-sole and the mid-sole sewn to the upper, a milling operation is simultaneously and externally carried out on the microporous wedge, the underlying para rubber piece and the overlying mid-sole, in order to level and smooth the edges of the three overlapped layers of different material, until obtaining the shape and size of the template used as a reference for the bottom.

[0006] In the process according to the present invention, a soft, flexible para rubber band is now applied around the bottom, whose height allows for partially covering also the lower edge of the upper.

[0007] In other words, the height of the band allows for completely covering the sides of the tread, the microporous wedge and the mid-sole, as well as the lower edge of the upper, as already mentioned above.

[0008] This means that also the external stitching joining the upper to the mid-sole remains covered and hidden under the para rubber band, on which a external step is created where the band adheres to the underlying step, along which the above external stitching runs.

[0009] For major clarity the description of the process and footwear according to the present invention continues with reference to the enclosed drawings, which are intended for purposes of illustration and not in a limiting sense, whereby:

- Figure 1 is the side view of a shoe obtained with the process according to the present invention;
- Figure 2 is the section of the shoe shown in Figure 1 with a longitudinal vertical plane.

[0010] With reference to the above figures, the shoe obtained with the process according to the present invention comprises the upper (1), whose edges are joined to the edges of the mid-sole (2) by means of an external stitching (3) according to the traditional technique known as "IDEAL".

[0011] Moreover, the said shoe includes a bottom that is preferably made up of a microporous wedge (4) and a para rubber piece (5) glued under the wedge (4).

[0012] Finally, the said shoe includes a soft, flexible para rubber band (6) that externally surrounds the bottom and overlaps the lower edge of the upper (1).

[0013] The process according to the present invention comprises the following production steps:

a — fixing the upper (1) to the mid-sole (2) by means of external stitching (3) according to the technique commonly known as "IDEAL",
b — gluing a bottom preferably made up by a microporous wedge (4) under the mid-sole (2), with a para rubber piece (5) fixed under the microporous wedge (4) to form the bottom tread;
c — simultaneous external milling of the microporous wedge (4), the underlying para rubber piece (5) and the overlying mid-sole (2);
d — gluing a soft, flexible para rubber band (6) around the bottom, with the height of the band that allows for partially covering the lower edge of the upper (1), thus covering the stitching (3).

[0014] In the preferred embodiment, the covering of the bottom with the para rubber band (6) is carried out by hand. Successively, the shoe is placed in a water press, that is capable of firmly pressing the band (6) to guarantee its perfect adhesion to the bottom and upper, and, in particular, its exact, uniform forming on the step (7) along which the external stitching (3) runs.

Claims

1. Process used to obtain waterproof footwear, characterised by the fact that it includes the following production steps:

a - fixing the upper (1) to the mid-sole (2) by means of external stitching (3) according to the technique commonly known as "IDEAL";
b - gluing a bottom preferably made up by a microporous wedge (4) under the mid-sole (2), with a para rubber piece (5) fixed under the microporous wedge (4) to form the bottom tread;
c - simultaneous external milling of the microporous wedge (4), the underlying para rubber piece (5) and the overlying mid-sole (2);
d - gluing a soft, flexible para rubber band (6) around the bottom, with the height of the band that allows for partially covering the lower edge

of the upper (1), thus covering the stitching (3).

2. Process used to obtain waterproof footwear according to the previous claim, characterised by the fact that, once the band (6) has been glued to the bottom and upper, the shoe is placed in a water press, that is capable of firmly pressing the band (6) to guarantee its perfect adhesion to the bottom and upper, and, in particular, its exact, uniform forming on the step (7) along which the external stitching (3) runs.

3. Footwear obtained with the process as per claims 1 and 2.

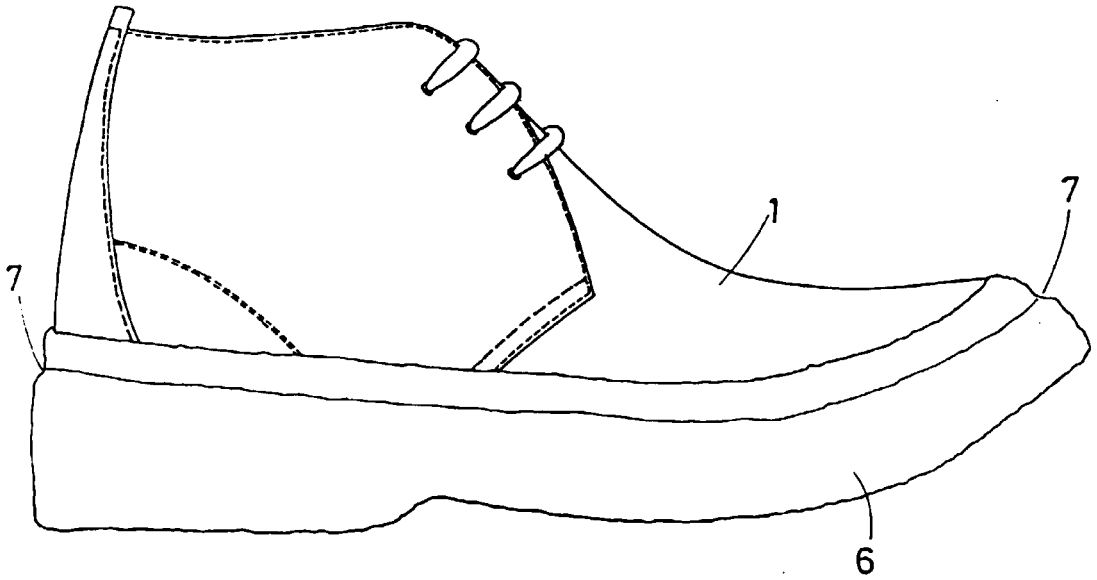

FIG. 1

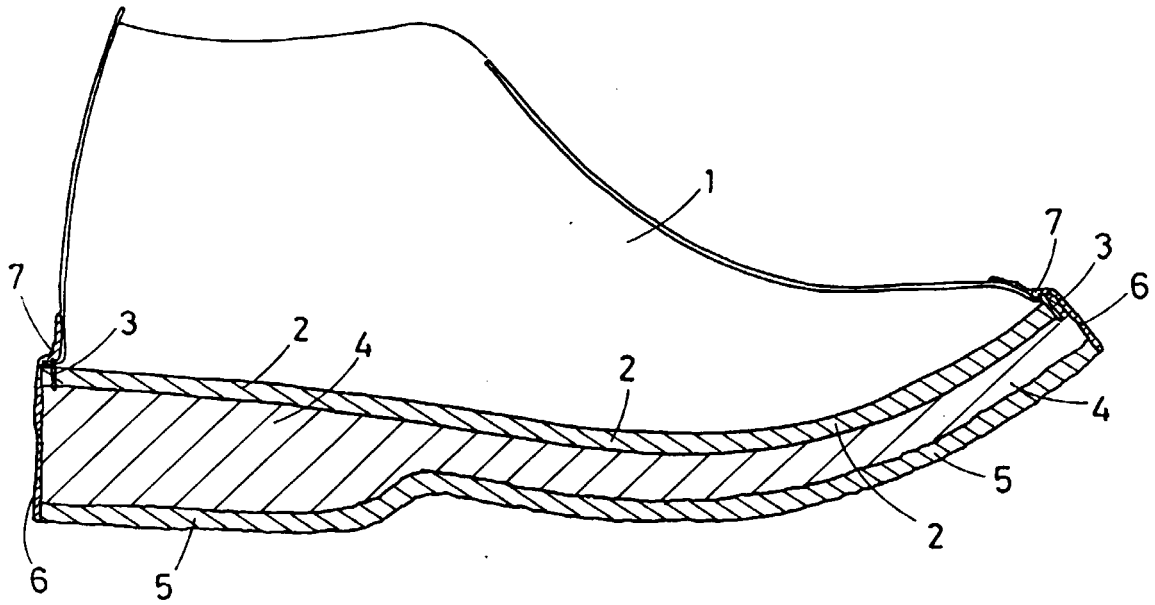

FIG. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 99 83 0597

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	EP 0 865 741 A (CHEN EDDIE) 23 September 1998 (1998-09-23) * figure 3 * * column 3, line 39 - line 51 *	1,3	A43B7/12 A43B9/10
A	FR 2 489 667 A (MEPHISTO SA) 12 March 1982 (1982-03-12) * claims 1,3 * * figure *	1,3	
A	DE 35 39 209 A (MUELLER ORTWIN) 7 May 1987 (1987-05-07) * the whole document *	1,3	
A	FR 796 132 A (ÉTABL. BRILLAULT) 30 March 1936 (1936-03-30) * claim; figures 1,2 *	1,3	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7) A43B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	11 January 2000	van Elk, M

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 99 83 0597

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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11-01-2000

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82