

Title (en)

METHOD AND DEVICE FOR PERFORATING A NON-WOVEN FABRIC BY MEANS OF HYDRODYNAMIC NEEDLING

Title (de)

VERFAHREN UND VORRICHTUNG ZUM PERFORIEREN EINES VLIESES MITTELS HYDRODYNAMISCHER VERNADELUNG

Title (fr)

PROCÉDÉ ET DISPOSITIF DE PERFORATION D'UN NON-TISSÉ AU MOYEN D'UN AIGUILLETAGE HYDRODYNAMIQUE

Publication

EP 2758217 A2 20140730 (DE)

Application

EP 12759416 A 20120911

Priority

- DE 102011113672 A 20110920
- EP 2012067690 W 20120911

Abstract (en)

[origin: WO2013041403A2] A device (1,3) for perforating a non-woven fabric (22, 26, 28, 34) by means of hydrodynamic needling is proposed, having a first carrier element (12, 40) with a carrier surface (14, 42), wherein the first carrier surface (14, 42) has first elevations and first perforations (4, 4', 4'') as drainage openings and wherein the non-woven fabric (22, 26, 28, 34) for processing can be placed on the first carrier surface (14, 42) having at least a first nozzle bar (24, 24', 36, 36') comprising openings, wherein fibres of the non-woven fabric (22, 26, 28, 34) arranged on the first carrier surface (14, 42) which are arranged on the first elevations of the first carrier surface (14, 42) can be flushed down from the elevations by means of liquid (3) emerging under high pressure from the openings of the first nozzle bar (24, 24', 36, 36'), such that perforations (4, 4', 4'') are created in the non-woven fabric (22, 26, 28, 34), and wherein a second carrier element (14, 42) is provided, having second elevations and second perforations (4, 4', 4'') as drainage openings, wherein the elevations of the second carrier element (12, 40) are spaced in relation to each other and the non-woven fabric (22, 26, 28, 34) provided with the perforations (4, 4', 4'') can be positioned on the second carrier element (12, 40) such that the elevations of the second carrier element (12, 40) protrude into the perforations (4, 4', 4'') of the non-woven fabric (22, 26, 28, 34) arranged on the second carrier element (12, 40), wherein at least a second nozzle bar (24, 24', 36, 36') is provided by means of which the non-woven fabric (22, 26, 28, 34) is subjected to a liquid (30) emerging under high pressure from the openings of the second nozzle bar (24, 24', 36, 36').

IPC 8 full level

B26F 1/26 (2006.01); **D04H 1/492** (2012.01)

CPC (source: EP US)

B26F 1/26 (2013.01 - EP US); **D04H 1/492** (2013.01 - EP US); **D04H 1/495** (2013.01 - EP US); **D04H 18/04** (2013.01 - EP US)

Citation (search report)

See references of WO 2013041403A2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

DE 102011113672 A1 20130321; CN 103813890 A 20140521; CN 103813890 B 20160210; EP 2758217 A2 20140730; EP 2758217 B1 20191204; IL 231559 A0 20140430; IN 2057CHN2014 A 20150529; PL 2758217 T3 20200629; US 2014215780 A1 20140807; WO 2013041403 A2 20130328; WO 2013041403 A3 20130725

DOCDB simple family (application)

DE 102011113672 A 20110920; CN 201280045855 A 20120911; EP 12759416 A 20120911; EP 2012067690 W 20120911; IL 23155914 A 20140317; IN 2057CHN2014 A 20140318; PL 12759416 T 20120911; US 201214346084 A 20120911