

Title (en)

Method for adjusting the local characteristics of a non-woven fabric and corresponding installation

Title (de)

Verfahren zur Einstellung der lokalen Eigenschaften eines Vliesstoffs und entsprechende Anlage

Title (fr)

Procédé de réglage des caractéristiques locales d'un textile non-tissé, et installation s'y rapportant

Publication

EP 1936016 A2 20080625 (FR)

Application

EP 07150195 A 20071220

Priority

FR 0611238 A 20061222

Abstract (en)

The process for making non-woven textile sheet, comprises determining orientations (OVB, OVC) of fibers in function of its position according to a bandwidth direction by dynamic adjustment, establishing different distributions of fiber orientation in different points of the bandwidth, and making and then strengthening a fibrous layer. The distribution of the orientation of fibers is selected in a direction to standardize a size representative of the mechanical resistance or lengthening of the textile non-woven material. A card supplying veil (421) is superposed on transverse segments. The process for making non-woven textile sheet, comprises determining orientations (OVB, OVC) of fibers in function of its position according to a bandwidth direction by dynamic adjustment, establishing different distributions of fiber orientation in different points of the bandwidth, and making and then strengthening a fibrous layer. The distribution of the orientation of fibers is selected in a direction to standardize a size representative of the mechanical resistance or lengthening of the textile non-woven material. A card supplying veil (421) is superposed on successive transverse segments for forming a cloth in a distributor layer. In a spectrum of orientation of fibers, a component parallel to a width of the cloth is larger than a longitudinal component. The dynamic adjustment moves a carriage of the distributor layer along a transverse direction of the cloth. The dynamic adjustment is influenced on a connection between a speed to which the cloth leaves the distributor layer and a speed to which a point of veil moves along the width of the cloth, and on a scrolling speed of an exit apron of the distributor layer supplied with fibrous veil presenting an anisotropic orientation. The fibrous layer is strengthened by mechanical needle punching and/or by thermal or chemical water jet cutting. The dynamic adjustment belongs to a regulation loop having a unit for measuring a physical size relating to the sheet, and a unit to control the dynamic adjustment according to the measured physical size. The measured physical size is the width removed from the sheet during the strengthening process. The physical size relative to the orientation is determined by an image analysis. An other regulation takes place on a surface weight of the sheet in different width points while influencing a second dynamic adjustment without an effect on the orientation of fibers. The second dynamic adjustment affects the quantity of fibers collected by a fiber comb of the card. An independent claim is included for an installation for producing a non-woven.

Abstract (fr)

Un étaleur-nappeur (2) reçoit un voile de cardé (421) et le replie en une nappe (431) destinée à être aiguilletée ou consolidée par d'autres moyens. Le voile (421) comporte des zones (VC) plus condensées présentant un spectre d'orientation de fibres (OVC) avec une composante parallèle à la largeur du voile (421), alternant avec des zones (VB) moins condensées présentant un spectre d'orientations (OVB) unidirectionnel longitudinal. Les zones moins condensées (VB) se placent aux bords de la nappe (431). Il en résulte pour la nappe présente des spectres d'orientation respectifs (ON1, ON2) différents, qui précompensent les altérations indésirables produites par l'aiguilletage ou autre consolidation qui va suivre. Utilisation pour produire une nappe aiguilletée ayant un rapport MD/CD (rapport des résistances à la rupture en traction longitudinale et respectivement transversale) uniforme, ou présentant un profil voulu.

IPC 8 full level

D04H 1/46 (2012.01); **D04H 1/482** (2012.01); **D04H 1/498** (2012.01); **D04H 1/74** (2006.01)

CPC (source: EP US)

D01G 23/06 (2013.01 - EP US); **D01G 25/00** (2013.01 - EP US); **D04H 1/46** (2013.01 - EP US); **D04H 1/482** (2013.01 - EP US); **D04H 1/498** (2013.01 - EP US); **D04H 1/74** (2013.01 - EP US)

Citation (applicant)

- FR 2234395 A1 19750117 - ASSELIN ROBERT [FR]
- EP 0371948 B1 19930922
- EP 1036227 A1 20000920 - ASSELIN [FR]
- WO 0073547 A2 20001207 - ASSELIN [FR], et al
- EP 1057906 B1 20030423 - AUTEFA AUTOMATION GMBH [DE]
- WO 02101130 A1 20021219 - AUTEFA AUTOMATION GMBH [DE], et al
- FR 2828696 A3 20030221 - DILO KG MASCHF OSKAR [DE]
- WO 0073547 A2 20001207 - ASSELIN [FR], et al

Cited by

CN104583477A; EP2998424B1; EP3575455B1

Designated contracting state (EPC)

AT BE CH DE ES FR LI

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

EP 1936016 A2 20080625; **EP 1936016 A3 20090429**; **EP 1936016 B1 20201021**; FR 2910496 A1 20080627; FR 2910496 B1 20090313; US 2009217498 A1 20090903; US 8381375 B2 20130226

DOCDB simple family (application)

EP 07150195 A 20071220; FR 0611238 A 20061222; US 39931109 A 20090306