

Title (en)
Process for making a multiply and /or multilayer fibrous web

Title (de)
Verfahren zur Bildung einer mehrschichtigen und/oder mehrlagigen Faserstoffbahn

Title (fr)
Procédé de fabrication d'une feuille fibreuse multicouche et/ou multijet

Publication
EP 1152086 B1 20040602 (DE)

Application
EP 01106092 A 20010313

Priority
DE 10021979 A 20000505

Abstract (en)
[origin: EP1152086A2] To form a multi-layer fiber web (34), especially of paper or cardboard, at least one of the two outer layers (34',34) is from a fiber material with at least one additive at the fiber surfaces. For a multi-layer paper/cardboard web, the additive is deposited on the surfaces of hollow fibers and, in addition, within the hollow fibers and at their walls. The additive includes a filling material, and the outer layers of the web have a higher filling material content than a center layer. Calcium carbonate is used as the additive or filling material at the wet fibers, or is used as a precipitate. To apply the calcium carbonate to wet fibers, a medium with calcium oxide and/or calcium hydroxide is used so that at least a portion associates with the water at the fibers. The treated fibers are exposed to carbon dioxide to give a chemical reaction with the calcium carbonate at the fiber surfaces. The calcium oxide and/or calcium hydroxide is used at a rate of 0.1-50.0 wt.% of the fiber dry weight. The fibers are treated with carbon dioxide in a closed vessel, as a gas under pressure, during a mixing phase where a high shear effect is applied to the fibers using an energy of at least 10-50 W/hr/kg based on the dry weight. The fiber material is derived in a pulper from cellulose or used paper materials, or it is a never-dried pulp. An Independent claim is included for a papermaking/cardboard production machine, to produce a multi-layer web, with stock inlet channels (36,40) charged with fiber materials where an additive is deposited on the fiber surfaces at least partially. Preferred Features: The multi-layer stock inlet assembly (28) is structured to form a web with two outer layers or a sandwich with an intermediate layer, where the pulp for the outer layers has fibers with an additive on their surfaces.

IPC 1-7
D21H 27/38; **D21F 11/04**; **D21H 23/20**; **D21H 17/00**

IPC 8 full level
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CPC (source: EP US)
D21F 11/04 (2013.01 - EP US); **D21H 27/38** (2013.01 - EP US)

Cited by
AU2011260153B2; US8758566B2; WO2011151525A1

Designated contracting state (EPC)
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EP 1152086 A2 20011107; **EP 1152086 A3 20020807**; **EP 1152086 B1 20040602**; AT E268411 T1 20040615; CA 2345600 A1 20011105; DE 10021979 A1 20011108; DE 50102455 D1 20040708; US 2001045265 A1 20011129; US 6627042 B2 20030930

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