

## Title (en)

Paper manufacturing process including a step for fixing of mineral filler on cellulosic fibres

## Title (de)

Papierherstellungsverfahren mit Fixierung von Mineralfüllstoff auf cellulosischen Fasern

## Title (fr)

Procédé de fabrication d'une feuille de papier comprenant la fixation d'une charge minérale sur des fibres cellulosiques

## Publication

**EP 1076132 B1 20081126 (FR)**

## Application

**EP 99402058 A 19990813**

## Priority

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## Abstract (en)

[origin: EP1076132A1] To bond a charge of a mineral material to the cellulose fibers in a suspension, the fiber suspension as a papermaking pulp contains at least hydrogen carbonates, carbonates or alkaline metal silicates and/or alkaline earths together with a reagent. The bonding material for attachment to the fibers is added as a mineral hydroxide for precipitation of its carbonates or silicates on to the fibers. The fiber suspension contains sodium hydrogen carbonates and also calcium hydrogen carbonates and/or magnesium hydrogen carbonates. The alkali content is completed at 2-30 degrees F. The fiber suspension contains ions of sodium (Na<sup>+</sup>) at a rate of 20-1000 ppm, or ions of calcium (Ca<sup>2+</sup>) at a rate of 5-200 ppm and/or magnesium ions (Mg<sup>2+</sup>) at a rate of 5-200 ppm. The hydroxide mineral charge is a calcium hydroxide either as a concentrated milk or in solid form with a particle size of  $\leq 6 \mu m$ . After the mineral material has precipitated on to the fibers in the suspension, a gas is injected into the suspension containing a carbon dioxide to neutralize and stabilize the pH value of the cellulose fiber suspension. The fiber suspension used is supplied as a pulp of chemically bleached or unbleached fibers, a mechanical pulp, a thermomechanical pulp, or mixtures of pulp types. An Independent claim is included for the production of paper sheets from the pulp of a fiber suspension where mineral materials have been deposited on to the fibers. The wet pulp is fed to a papermaking machine, and the wet sheets are dried.

## IPC 8 full level

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## CPC (source: EP US)

**D21C 9/00** (2013.01 - EP US); **D21C 9/004** (2013.01 - EP US); **D21C 11/0035** (2013.01 - EP US); **D21H 17/675** (2013.01 - EP US); **D21H 17/70** (2013.01 - EP US)

## Citation (examination)

- US 5665205 A 19970909 - SRIVATSA NARENDRA R [US], et al
- E. WIBERG: "Holleman-Wiberg Lehrbuch der anorganischen Chemie", 1976, WALTER DE GRUYTER, BERLIN
- "Encyclopedia of Polymer Science and Engineering, vol. 10", 1987, JOHN WILEY & SONS, NEW YORK (US)
- "Memento Technique de l'eau, Tome 1", 1989, DEGREMONT, F-92508 RUEIL-MALMAISON

## Cited by

EP1243693A3; FR2831565A1; CN115491927A; WO02088187A3; WO03038184A1; US7691227B2; US7501041B2; WO2009103854A2; EP1881481A1; WO2014174155A1

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