

Title (en)
PROCESS FOR PRODUCING PAPER

Title (de)
VERFAHREN ZUR PAPIERHERSTELLUNG

Title (fr)
PROCEDE POUR LA FABRICATION DU PAPIER

Publication
EP 0700473 B2 20030122 (EN)

Application
EP 93902274 A 19930120

Priority
• FI 9300019 W 19930120
• FI 920246 A 19920120

Abstract (en)
[origin: WO9314263A1] The invention relates to a process for the production of paper by adding to an aqueous fiber suspension, which possibly contains a filler, auxiliary agents for improving retention and/or dewatering, the auxiliary agents being a cationic long-chain polyacrylamide and an aluminum salt, and by dewatering the obtained fiber suspension during the sheet-forming stage. According to the invention, the said aqueous fiber suspension, possibly containing a filler, to which the cationic long-chain polyacrylamide has first been added, is subjected to shearing forces, whereafter there is added to it, directly before sheet forming, a polymeric aluminum salt or an aluminum salt, in which case a base or an acid is added, when necessary, to the said fiber suspension so that the pH be within the range 7-9 before the sheet forming, in which case aluminum hydroxy particles having anionic surface charges will be formed in situ.

IPC 1-7
D21H 23/76; **D21H 21/10**

IPC 8 full level
D21H 17/44 (2006.01); **D21H 17/37** (2006.01); **D21H 17/45** (2006.01); **D21H 17/55** (2006.01); **D21H 17/56** (2006.01); **D21H 17/63** (2006.01); **D21H 17/65** (2006.01); **D21H 17/66** (2006.01); **D21H 21/10** (2006.01); **D21H 23/14** (2006.01)

IPC 8 main group level
D21H (2006.01)

CPC (source: EP)
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Citation (opposition)
Opponent :
• WO 8806659 A1 19880907 - EKA NOBEL AB [SE]
• US 4927498 A 19900522 - RUSHMERE JOHN D [US]
• JP S62125096 A 19870606 - SEIKO KAGAKU KOGYO CO LTD, et al
• JP S5512868 A 19800129 - MITSUBISHI PAPER MILLS LTD
• L. Nealy, et al, "Some factors affecting strength enhancement by a polyacrylamide dual polymer system", 1989, Papermakers Conference, Tappi Proceedings, pp. 261-263

Cited by
US10458067B2; US11970819B2; WO2008076071A1; US8157962B2

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