

Title (en)
PROCESS FOR PRODUCING PAPER WITH A HIGH DRY STRENGTH

Publication
EP 0193111 B1 19891213 (DE)

Application
EP 86102199 A 19860220

Priority
DE 3506832 A 19850227

Abstract (en)
[origin: EP0193111A2] 1. A process for making paper having a high dry strength by adding (A) a water-soluble cationic polymer and (B) a water-soluble anionic polymer in succession to the paper stock and draining the latter with sheet formation by using component (A) in an amount of from 0.01 to 3% by weight and component (B) in an amount of from 0.05 to 3% by weight, based on dry paper stock in each case, component (B) being a homopolymer of an ethylenically unsaturated C3 -C5 -carboxylic acid or a copolymer having a K value of from 50 to 250 (determined according to H. Fikentscher at 20 degrees C in 5% strength aqueous sodium chloride solution and at a polymer concentration of 0.5% by weight) and having been formed from (a) from 35 to 99% by weight of an ethylenically unsaturated C3 -C5 -carboxylic acid, (b) from 65 to 1% by weight of an amide, nitrile and/or ester of an ethylenically unsaturated C3 -C5 -carboxylic acid and (c) from 0 to 15% by weight of styrene or of a C1 -C4 -alkyl vinyl ether, the sum of the percentages by weight in the copolymer being 100 in each case.

IPC 1-7
D21D 3/00; D21H 3/38

IPC 8 full level
C08L 33/02 (2006.01); **C08L 33/00** (2006.01); **C08L 33/18** (2006.01); **C08L 33/20** (2006.01); **C08L 33/24** (2006.01); **C08L 33/26** (2006.01); **D21H 17/34** (2006.01); **D21H 17/37** (2006.01); **D21H 17/43** (2006.01); **D21H 17/45** (2006.01); **D21H 21/20** (2006.01)

CPC (source: EP)
D21H 17/34 (2013.01); **D21H 17/375** (2013.01); **D21H 17/43** (2013.01); **D21H 17/455** (2013.01); **D21H 21/20** (2013.01)

Cited by
EP0362770A3; US5633300A; US5338406A; US2011308752A1; US8529732B2; US6228217B1; WO9214881A1; WO2010145956A1; WO2010020551A1; US8404083B2; US8926797B2

Designated contracting state (EPC)
AT BE CH DE FR GB IT LI NL SE

DOCDB simple family (publication)
EP 0193111 A2 19860903; EP 0193111 A3 19870520; EP 0193111 B1 19891213; AT E48667 T1 19891215; AU 5409786 A 19860904; AU 577448 B2 19880922; DE 3506832 A1 19860828; DE 3667516 D1 19900118; FI 860787 A0 19860224; FI 860787 A 19860828; JP S61201097 A 19860905; NZ 215254 A 19890224

DOCDB simple family (application)
EP 86102199 A 19860220; AT 86102199 T 19860220; AU 5409786 A 19860226; DE 3506832 A 19850227; DE 3667516 T 19860220; FI 860787 A 19860224; JP 3402086 A 19860220; NZ 21525486 A 19860221