

Title (en)
CHEMICALLY ENHANCED MULTI-DENSITY PAPER STRUCTURE AND METHOD FOR MAKING SAME

Title (de)
CHEMISCH VEREDELTE PAPIERSTRUKTUR MIT MANNIGFALTIGER DICHT E UND VERFAHREN ZU IHRER HERSTELLUNG

Title (fr)
STRUCTURE DE PAPIER CHIMIQUEMENT AMELIOREE A DENSITE MULTIPLE ET METHODE DE FABRICATION DE LADITE STRUCTURE

Publication
EP 0910698 A1 19990428 (EN)

Application
EP 97929952 A 19970613

Priority
• US 9710177 W 19970613
• US 66350096 A 19960614

Abstract (en)
[origin: WO9747809A1] A chemically enhanced paper structure (20) having a discrete pattern of a chemical composition is disclosed. The paper structure (20) comprises a cellulose substrate (22) such as tissue paper. The substrate has regions of relatively high (34) and relatively low (38) densities. The chemical composition (24) may include a chemical softener composition or a surface-active composition and is preferentially applied to the low density regions (38) of the substrate. Preferably, the low density regions (38) are discrete (36), so that an essentially continuous high density network (32) is present between the low density regions (36, 38). The paper structure is suitable for use as bath tissue or facial tissue. Preferably, the additive (24) is applied to the paper (22) from a solution (40) in an apparatus (50) comprising at least two axially rotatable rolls, i.e. an anvil roll (56) and optionally a transfer roll (54) and a metering gravure roll (52), forming a gap (60) through which the paper (22) passes, and optionally a nip (58).

IPC 1-7
D21H 19/72; **D21H 27/02**

IPC 8 full level
D21H 17/07 (2006.01); **D21F 11/00** (2006.01); **D21H 19/72** (2006.01); **D21H 21/14** (2006.01); **D21H 23/22** (2006.01); **D21H 23/56** (2006.01); **D21H 27/02** (2006.01); **D21H 19/74** (2006.01); **D21H 19/76** (2006.01); **D21H 21/18** (2006.01); **D21H 21/22** (2006.01)

CPC (source: EP KR)
D21F 11/006 (2013.01 - EP); **D21H 5/003** (2013.01 - KR); **D21H 5/02** (2013.01 - KR); **D21H 19/72** (2013.01 - KR); **D21H 21/14** (2013.01 - KR); **D21H 27/02** (2013.01 - EP); **D21H 19/74** (2013.01 - EP); **D21H 19/76** (2013.01 - EP); **D21H 21/14** (2013.01 - EP); **D21H 21/18** (2013.01 - EP); **D21H 21/22** (2013.01 - EP); **D21H 23/56** (2013.01 - EP)

Citation (search report)
See references of WO 9747809A1

Designated contracting state (EPC)
AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE

DOCDB simple family (publication)
WO 9747809 A1 19971218; AT E226269 T1 20021115; AU 3389297 A 19980107; AU 729714 B2 20010208; BR 9709711 A 19990810; CA 2257691 A1 19971218; CA 2257691 C 20040921; CN 1109161 C 20030521; CN 1229448 A 19990922; DE 69716431 D1 20021121; DE 69716431 T2 20031120; EP 0910698 A1 19990428; EP 0910698 B1 20021016; ES 2185950 T3 20030501; HK 1019625 A1 20000218; JP 3180916 B2 20010703; JP H11513083 A 19991109; KR 100309585 B1 20011228; KR 20000016661 A 20000325; ZA 975333 B 19980126

DOCDB simple family (application)
US 9710177 W 19970613; AT 97929952 T 19970613; AU 3389297 A 19970613; BR 9709711 A 19970613; CA 2257691 A 19970613; CN 97196745 A 19970613; DE 69716431 T 19970613; EP 97929952 A 19970613; ES 97929952 T 19970613; HK 99104722 A 19991022; JP 50182298 A 19970613; KR 19980710260 A 19981214; ZA 975333 A 19970617