

Title (en)
Multi-ply/single ply embossed absorbent paper products

Title (de)
Ein- oder mehrlagiges, saugfähiges geprägtes Papierprodukt

Title (fr)
Produit papetier absorbant gaufré mono- ou multi-couche

Publication
EP 1099539 A1 20010516 (EN)

Application
EP 00310059 A 20001113

Priority

- US 16527099 P 19991112
- US 16508099 P 19991112
- US 70913900 A 20001109
- US 70918500 A 20001109

Abstract (en)
The invention relates to embossing single-ply or multi-ply paper products, for example, paper towels, tissue and napkins, in which an improved embossing arrangement is used which is particularly suitable for paper products which have been processed so as to impart undulations whose axes extend in a principal undulatory direction, typically in the machine direction. The absorbent sheet typically further includes undulations which extend in the cross (transverse direction) of the web such that the absorbent sheet has a biaxially undulatory structure. The undulations may be formed by the use of an undulatory creping blade. Defined parameters accommodate: the distance at which the undulations are spaced, the total surface area of the design (embossing) elements, the width and length of the embossing elements and the aspect ratio of the elements, as well as the angular orientation of the embossing elements with respect to the undulations. <IMAGE>

IPC 1-7
B31F 1/14; **B31F 1/12**; **B31F 1/07**

IPC 8 full level
B31F 1/07 (2006.01); **B31F 1/12** (2006.01); **B31F 1/14** (2006.01)

CPC (source: EP)
B31F 1/07 (2013.01); **B31F 1/122** (2013.01); **B31F 1/145** (2013.01); **B31F 2201/072** (2013.01); **B31F 2201/0728** (2013.01); **B31F 2201/0735** (2013.01); **B31F 2201/0738** (2013.01); **B31F 2201/0756** (2013.01); **B31F 2201/0758** (2013.01); **B31F 2201/0761** (2013.01); **B31F 2201/0784** (2013.01)

Citation (search report)

- [DA] US 5656134 A 19970812 - MARINACK ROBERT J [US], et al
- [A] US 5328565 A 19940712 - RASCH DAVID M [US], et al
- [A] EP 0806520 A1 19971112 - JAMES RIVER CORP [US]
- [A] WO 9618771 A1 19960620 - KAYSERSBERG SA [FR], et al

Cited by
AU2002324939B2; KR100912980B1; CN114829708A; US7531062B2; WO2010135387A1; WO03045681A1; US7235156B2; US9243368B2; US8753737B2; US9701101B2; US9937694B2; WO2021126026A1

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

DOCDB simple family (publication)
EP 1099539 A1 20010516; **EP 1099539 B1 20070328**; AT E358016 T1 20070415; DE 60034098 D1 20070510; DE 60034098 T2 20071213; ES 2281325 T3 20071001

DOCDB simple family (application)
EP 00310059 A 20001113; AT 00310059 T 20001113; DE 60034098 T 20001113; ES 00310059 T 20001113