

Title (en)
Application device and process for a papermaking machine

Title (de)
Applikationsvorrichtung und -verfahren für eine Papiermaschine

Title (fr)
Dispositif et procédé d'application pour une machine à papier

Publication
EP 1050622 A3 20010816 (DE)

Application
EP 00106651 A 20000329

Priority
DE 19921592 A 19990507

Abstract (en)
[origin: EP1050622A2] The papermaking machine has a station to spray the fiber web with water and/or a bonding agent, with jets distributed across machine width in at least one row. The bonding agent is sprayed on to the web surface at the drying section of the papermaking machine. The row of jets have structured openings, to apply a closed film of bonding agent over the web surface. The jet openings give spray stream with a droplet size of 20-250 μm and pref. 50-70 μm . A system controls the longitudinal profile and/or the mass of the applied bonding agent on the web surface from the row of jets, using a monitor to register the mass/longitudinal and or mass/lateral profile, coupled to a control circuit. The bonding agent is applied to the web surface, by the jets, at a rate of 0.05-5.0 g/m² dry rate with a bonding agent solution concentration of 2-30 wt% and pref. 5-20 wt% and especially 10-15 wt%, working with a machine speed of 8-50 m/sec. and pref. 10-35 m/sec. The application jets have an average throughput of the bonding agent solution of 0.03-5.0 l/min. and pref. 0.05-3.0 l/min. and especially 0.06-1.0 l/min. The jets, across the machine width, are at intervals of 10-100 mm and pref. 20-70 mm and especially 25-50 mm. The system uses at least two rows of jets, with pref. one for the jets which deliver the bonding agent. The application system with the web drying station (3) gives the paper a dry content of $\geq 55\%$ and pref. $\geq 60\%$ and especially $\geq 80\%$. At the calender (4), to polish the web, the dry content is $\geq 90\%$. An independent claim is included for a papermaking machine with at least one jet applicator system at the drying station (3) and/or calender (4). With a paper for gravure printing, the jet sprays are wholly to equalize the lateral moisture content profile of the paper. If the paper is for offset printing, a bonding agent pref. of starch is used additionally or wholly to treat the web surface. Preferred Features: The spray jets are located on both sides of the paper web. At least one jet applicator is at a gap of 10-200 mm from the web and pref. 20-250 mm and especially 20-100 mm. The applied bonding agent also affects the lateral moisture content profile of the web.

IPC 1-7
D21H 23/50; **D21G 7/00**; **D21H 23/24**; **D21H 23/26**; **D21H 23/28**

IPC 8 full level
D21G 7/00 (2006.01); **D21H 23/50** (2006.01); **D21H 23/26** (2006.01); **D21H 23/28** (2006.01)

CPC (source: EP US)
D21G 7/00 (2013.01 - EP US); **D21H 23/50** (2013.01 - EP US); **D21H 23/26** (2013.01 - EP US); **D21H 23/28** (2013.01 - EP US)

Citation (search report)

- [X] EP 0881330 A2 19981202 - VOITH SULZER PAPIERMASCH GMBH [DE]
- [DX] DE 1942348 A1 19710304 - VOITH GMBH J M
- [DX] EP 0345670 A2 19891213 - VIB APPARATEBAU GMBH [DE]
- [X] DE 19545182 A1 19961002 - NEW OJI PAPER CO LTD [JP]
- [X] US 5045342 A 19910903 - BOISSEvain MATHEW G [US], et al
- [A] FR 1550033 A 19681213
- [X] US 5433826 A 19950718 - GLOMB JOHN W [US], et al

Cited by
DE10343021A1; DE10233795A1; US8261465B2; WO03004769A1; WO03004770A1; US7459062B2; US7045036B2; JP2005533938A; JP2005538267A

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

DOCDB simple family (publication)
EP 1050622 A2 20001108; **EP 1050622 A3 20010816**; DE 19921592 A1 20001109; US 6494988 B1 20021217

DOCDB simple family (application)
EP 00106651 A 20000329; DE 19921592 A 19990507; US 55740300 A 20000424