

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 A2 20001108 (DE)**

Application  
**EP 00106651 A 20000329**

Priority  
DE 19921592 A 19990507

Abstract (en)  
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  $\mu\text{m}$  and pref. 50-70  $\mu\text{m}$ . 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/m<sup>2</sup> 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.

Abstract (de)  
Die Erfindung betrifft eine Applikationsvorrichtung, insbesondere einen Düsenfeuchter, für eine Papiermaschine und eine Papiermaschine mit Applikationsvorrichtung, wobei die Applikationsvorrichtung mit einer Vielzahl von maschinenbreit verteilten Düsen zum Besprühen einer vorbeilaufenden Papierbahn ausgestattet ist und wobei mindestens eine Reihe von Düsen für den Durchsatz von Wasser und/oder Bindemittel vorgesehen ist. Weiterhin betrifft die Erfindung ein Verfahren zur Oberflächenverbesserung eines Offset-Papieres. Das Verfahren ist dadurch gekennzeichnet, daß maschinenbreit Bindemittel im Bereich einer Trockenpartie einer Papiermaschine auf die in Herstellung begriffene Papierbahn aufgebracht wird. <IMAGE>

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IPC 8 full level  
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Cited by  
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