

Title (en)  
Curtain coater

Title (de)  
Vorhang-Auftragsvorrichtung

Title (fr)  
Enduiseuse à rideau

Publication  
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Application  
**EP 01127739 A 20011121**

Priority  
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Abstract (en)

The curtain coating assembly (10), to coat the surface of a moving web substrate (U) with a paste or liquid coating (18) and especially a pigment suspension, has a jet unit (14) at the applicator (12) to deliver a coating curtain (18). At least one guide (22) is in the falling path of the coating curtain, which directs the coating over the whole curtain width over at least a part of its falling path. The web curtain coating assembly has a guide in the path of the falling coating curtain, which divides it into a path section (24) between the feed and the guide, and a second path section (26) between the guide and the moving substrate. The guide can be directly at the delivery jet. The variable length of the curtain coating which covers the guide is measured in the direction of its movement. The guide forms an included angle (  $\alpha$  ) of 5-30 degrees with the direction of the curtain coating free fall line. The surface (22a) of the guide, covered by the coating medium, forms an included angle (  $\beta$  ) with the end surface (22b) of the guide of 20-60 degrees . The guide can be a guide scraper against the substrate. The guide is pitched at an angle of 20-80 degrees in the required flow direction, and preferably 45-80 degrees . The end of the guide surface towards the moving substrate can be extended at an angle of 30-50 degrees . The guide can also cover the whole flow stretch for the coating medium, between the delivery jet and the moving substrate. The surface of the guide, towards the coating medium, has a hydrophobic character, or has a hydrophobic cladding of a treated glass fiber film. At least the end surface of the guide is free of hydrophobic cladding. The coating curtain flows over the upper surface of the guide, or along its under surface. At least one electrode can be at the guide, on the side away from the flowing coating. A suction box is at the moving substrate, in front of the contact line where the coating curtain strikes it, together with a scraper at the entry and/or exit side, with a scraping edge lying on the moving substrate. The scraper at the exit side can be formed by the coating guide. The coating curtain flows over the guide surface, in a length (l) of 1-200 mm and preferably 1-50 mm. The travel speed of the substrate is 1000-3000 m/min. for a paper web and 200-1000 m/min. for a cardboard web. The coating is applied in ready doses to the substrate surface. The delivery jet has a coating delivery rate of 2-200 l/min. per meter of the web width. The length (H) of the coating curtain is 5-400 mm and preferably 40-200 mm. The guide is of metal or plastics e.g. a plastics with reinforcement carbon or glass fibers. The guide has a thickness (D) of 0.2-1.0 mm. The guide is positioned at the applicator, at an angle to the moving substrate of 70 degrees , in either direction. The guide can have a convex or concave curvature, with a curved surface at a tangent to the free fall of the coating curtain, in either direction, at an angle of up to 70 degrees .

Abstract (de)

Die Erfindung betrifft eine Vorrichtung (10) zum Auftragen von flüssigem oder pastösem Auftragsmedium (16) auf einen laufenden Untergrund (U), umfassend ein Vorhang-Auftragswerk (12), welches das Auftragsmedium aus einer Abgabedüse (14) als sich im Wesentlichen schwerkraftbedingt bewegenden Vorhang (18) an den Untergrund (U) abgibt wobei der Untergrund (U) bei direktem Auftrag die Oberfläche einer Materialbahn, insbesondere aus Papier oder Karton, und bei indirektem Auftrag die Oberfläche eines Übertragungselements, vorzugsweise einer Übertragungswalze, ist, welches das Auftragsmedium dann an die Oberfläche der Materialbahn überträgt, wobei in dem Fallweg des Vorhangs (18) wenigstens ein Leitelement (22) angeordnet ist, das den Vorhang (18) längs zumindest eines Teils des Fallwegs im Wesentlichen auf seiner gesamten Breite führt.  
<IMAGE>

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Citation (applicant)  
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