

Title (en)
Curtain application device

Title (de)
Vorhang-Auftragswerk

Title (fr)
Unité d'application de rideau

Publication
EP 2146003 A2 20100120 (DE)

Application
EP 09163082 A 20090618

Priority
DE 102008040403 A 20080715

Abstract (en)

The curtain coating tool comprises a curtain coating head (3) arranged above a fiber material web (2). The single or multi-layered curtain that reduces the gravity following on the fiber material web. On a web edge, an edge scarper is arranged by which the coating medium subjected by curtain (7) on the surface of the fiber material web in the adjusted coating width is removable at the edge area of the coating width. A desired coating width is attainable without undesirable peripheral thickening. A suction unit is equipped for the coating medium removed by the edge scraper (10). The curtain coating tool comprises a curtain coating head (3) arranged above a fiber material web (2). The single or multi-layered curtain that reduces the gravity following on the fiber material web. On a web edge, an edge scarper is arranged by which the coating medium subjected by curtain (7) on the surface of the fiber material web in the adjusted coating width is removable at the edge area of the coating width. A desired coating width is attainable without undesirable peripheral thickening. A suction unit is equipped for the coating medium removed by the edge scraper (10), which is movable in the width direction of the fiber material web. The edge scraper is arranged in the downstream direction of the curtain coating head and/or an impact (13) of the curtain before drying. The edge scraper and/or the suction unit comprise a suction nozzle that is directed in its effect against the motion direction of the fiber material web. The suction nozzle has a slot height of 0.2-3.0 mm and a slot width of 19-50 mm. The suction nozzle comprises an offset between its slit opening and/or scraper edge and its lower slit opening and scraper edge, where the offset lies 1-10 mm. The lower scraper edge is formed in an angle of 5-45[deg] . The suction nozzle comprises a recess that lies on the side turned away the lower scraper edge and has a height of 2-8 mm, and a scraper chamber in which a suction channel flows. The suction channel is formable in any cross-section form. The curtain coating heads are assigned an edge guide through which the multi-layered curtain is guidable over a part stretch of its fall path between a cutting edge and the surface of the fiber material web at its lateral edges. The edge guides are adjustable in width direction of the curtain for adjusting a coating width. The edge scraper is assigned a web support element present over the fiber material web, where the web support element forms a spring air cushion between it and the lower side of the fiber material web. The air cushion has a thickness of 1-3 mm. Independent claims are included for: (1) edge scraper for curtain coating tool; and (2) method for coating a moving paper, cardboard or other fibrous material web with fluid to pasty coating medium in the form of single or multi-layered curtain.

Abstract (de)

Die Erfindung betrifft ein Vorhang-Auftragswerk (1, 1a, 1b) zur Beschichtung einer laufenden Papier-, Karton- oder anderen Faserstoffbahn (2) mit wenigstens einem flüssigen bis pastösen Auftragsmedium (M) in Form eines ein- oder mehrschichtigen Vorhangs (7), der im Wesentlichen der Schwerkraft folgend auf die Faserstoffbahn (2) herabfällt, mit einem oberhalb der Faserstoffbahn (2) angeordneten Vorhang-Auftragskopf (3). Erfindungsgemäß ist vorgesehen, dass an wenigstens einem Bahnrand (R) ein Randschaber (10) angeordnet ist, mit dem das mittels Vorhang (7) auf die Oberfläche der Faserstoffbahn (2) in der eingestellten Beschichtungsbreite (BB) aufgetragene Auftragsmedium (M) am Randbereich der Beschichtungsbreite (BB) entfernbar ist, wodurch eine gewünschte Auftragsbreite (AB) ohne unerwünschte Randverdickung (9) erreichbar ist.

IPC 8 full level
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CPC (source: EP)
B05C 5/008 (2013.01); **B05C 11/1039** (2013.01); **D21H 23/48** (2013.01)

Citation (applicant)
• DE 10232949 A1 20040129 - VOITH PAPER PATENT GMBH [DE]
• WO 03049870 A1 20030619 - DOW GLOBAL TECHNOLOGIES INC [US], et al
• WO 03049871 A1 20030619 - DOW GLOBAL TECHNOLOGIES INC [US], et al
• EP 1255615 A1 20021113 - TETRA LAVAL HOLDINGS & FINANCE [CH]

Cited by
CN110860428A; CN112657714A; WO2013167771A1; WO2012010511A1; WO2021258315A1; EP2985385A1; EP2985386A1

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