Title (en)

Curtain application device

Title (de)

Vorhang-Auftragswerk

Title (fr)

Unité d'application de rideau

Publication

EP 2172592 B1 20120307 (DE)

Application

EP 09170506 A 20090917

Priority

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Abstract (en)

[origin: EP2172592A1] The curtain coater (1) comprises a curtain-coater head (3) arranged above a fibrous material web (2) and corresponding to the width of the fibrous material web for delivering liquid to pasty application medium in the form of a single- or multi-layered curtain (4), which falls onto the fibrous material web following the gravity, and edge elements for guiding the curtain over its falling path i.e. between a trailing edge (5) of the coater head and the surface of the fibrous material web on its both edges. The edge guiding element is admitted with an auxiliary fluid for guiding the curtain. The curtain coater (1) comprises a curtain-coater head (3) arranged above a fibrous material web (2) and corresponding to the width of the fibrous material web for delivering liquid to pasty application medium in the form of a single- or multi-layered curtain (4), which falls onto the fibrous material web following the gravity, and edge elements for guiding the curtain over its falling path i.e. between a trailing edge (5) of the coater head and the surface of the fibrous material web on its both edges. The edge guiding element is admitted with an auxiliary fluid for guiding the curtain, and consists of a retainer and a guiding strip accommodated in the retainer. A partial area of an outer surface of the guiding strip is turned to the curtain edge and is formed in an elevated manner. The edge guiding element is designed, so that two streams of the auxiliary fluid sliding down the guiding strip are present parallel to the curtain and guide the curtain and/or the edge of the curtain. The retainer has two opposing channels, which receive the auxiliary fluid and between which the guiding strip is concentrically inserted, so that fluid-outlet-gaps originating from the channels are present between the retainer and the guiding strip, where the guiding strip has a contact surface for the falling curtain. The guiding strip has two opposing channels, which receive the auxiliary fluid and between which a projection of the guiding strip is present, where the projection has the contact surface on its side turned to the curtain. The side of the guiding strip turned to the curtain and/or the projection is rounded off and is provided with radius of 2-2.5 mm. The total guiding strips have a circular-cylindrical shape with a radius of 2-2.5 mm. The contact surface of the guiding strip is polished and consists of non-rusted metal such as aluminum, brass or stainless steel, or plastic. The auxiliary fluid is demineralized water, and water/coating color mixture or a mixture of water with surfactants, thickeners and starch, where 1-10 l/h of the auxiliary fluid are required for guiding and stabilizing the falling curtain. The curtain coater includes a sucking system on the lower side of the edge guiding element, a first suction opening and a second suction opening. The first suction opening is lockable with a counter surface of the moving web during the coating process. A suction effect of the second suction opening, which acts parallel to a web plane and is directed to the curtain, is reinforced.

IPC 8 full level

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