

Title (en)

Method for preparing fluid or paste application media, in particular starch for application to a strip of fibrous material, in particular a strip of cardboard or paper and application system

Title (de)

Verfahren zur Aufbereitung von flüssigen oder pastösen Auftragsmedien, insbesondere Stärke zum Auftrag auf eine Faserstoffbahn, insbesondere Papier- oder Kartonbahn und Auftragssystem

Title (fr)

Procédé de préparation de milieux d'application liquides ou pâteux, notamment amidon destiné à l'application sur une bande de matière fibreuse, notamment bande de papier ou de carton et système d'application

Publication

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Application

EP 09169904 A 20090910

Priority

DE 102008042072 A 20080915

Abstract (en)

The method for processing fluid or pasty coating medium (2) existing out of fluid and starch for coating on a fiber material web (3) such as paper or cardboard web by a coating device in a coating system comprising a processing- and supply system (4) that is coupled with the coating device (5), comprises producing shear stresses within a coating medium through effect of shearing forces of the coating medium before discharge of the coating medium from a coating device temporally limited over a predefined time duration. The method for processing fluid or pasty coating medium (2) existing out of fluid and starch for coating on a fiber material web (3) such as paper or cardboard web by a coating device in a coating system comprising a processing- and supply system (4) that is coupled with the coating device (5), comprises producing shear stresses within a coating medium through effect of shearing forces of the coating medium before discharge of the coating medium from a coating device temporally limited over a predefined time duration. A supply path (8) is characterized through guiding way of the coating medium in the processing- and supply system. A constant high shearing force is applied into the coating medium over a predefined time duration. The time duration of the shearing force effect is determined as function of the length of the influential area and the flow speed of the coating medium. The size of the shearing force and/or the time duration are selected in dependence of a desired viscosity reduction of the coating medium. The influential area of the shearing force within the supply path is selected so that the coating medium has a slight viscosity than the base viscosity in coating area or in outlet of the coating device, coming from a base viscosity of the coating medium before the influential area in dependence of the size of the existing viscosity after termination of the influencing of the shearing force and change in viscosity behavior of the coating medium between the influential area and the coating area of the web. The shearing rate is lowered over the predefined time duration. The shearing force is produced over static mixer or tube extruder. The starch is treated by dispersing and agglutination. The starch is treated by diluting of starch pulp produced by agglutination, where the effect of the shearing force results during the dilution. The starch is treated by two temporally staggered steps, where the first pre-treatment following the agglutination is carried out for producing the shelf life of the starch pulp. The effect of the shearing force during the second step, which includes a fluidization of pre-treated starch-pulp, is carried out. The viscosity in the coating area is adjusted under retention of the characteristics such as degradation rate, solid content and temperature in the coating medium in the supply path. The temperature of the coating medium in the supply path is reduced under retention of the characteristics such as degradation rate, solid content and viscosity in the coating medium in the supply path. The solid content of the coating medium in the supply path is increased under retention of the characteristics such as degradation rate, solid content and viscosity in the coating medium. The degradation rate of the coating medium is reduced under retention of the characteristics such as temperature, solid content and viscosity. An independent claim is included for a coating system for processing fluid or pasty coating medium existing out of fluid and starch for coating on a fiber material web such as paper or cardboard web.

Abstract (de)

Die Erfindung betrifft ein Verfahren zur Aufbereitung von flüssigen oder pastösen Auftragsmedien, insbesondere Stärke zum Auftrag auf eine Faserstoffbahn, insbesondere eine Papier- oder Kartonbahn in einem Auftragssystem, umfassend eine Stärkeaufbereitungsanlage, die mit einer Auftragsvorrichtung gekoppelt ist. Die Erfindung ist dadurch gekennzeichnet, dass vor dem Austritt des Auftragsmediums aus der Auftragseinrichtung Schubspannungen innerhalb des Auftragsmediums durch das Einbringen von Scherkräften erzeugt werden.

IPC 8 full level

D21H 23/22 (2006.01)

CPC (source: EP)

D21H 23/22 (2013.01)

Citation (applicant)

- WO 9844200 A1 19981008 - BELOIT TECHNOLOGIES INC [US]
- WO 2006005738 A2 20060119 - VOITH PAPER PATENT GMBH [DE], et al
- WO 0204745 A1 20020117 - VOITH PAPER PATENT GMBH [DE], et al

Citation (search report)

- [Y] WO 0204745 A1 20020117 - VOITH PAPER PATENT GMBH [DE], et al
- [Y] WO 2006005738 A2 20060119 - VOITH PAPER PATENT GMBH [DE], et al
- [Y] WO 9844200 A1 19981008 - BELOIT TECHNOLOGIES INC [US]
- [A] US 3911179 A 19751007 - GOETTSCH WALTER J
- [A] DE 10318028 A1 20041104 - VOITH PAPER PATENT GMBH [DE]

Designated contracting state (EPC)

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