

Title (en)
Process for smoothing a paper web

Title (de)
Vorrichtung zum Glätten einer Materialbahn

Title (fr)
Procédé pour le lissage d' une bande de papier

Publication
EP 0967324 A2 19991229 (DE)

Application
EP 99110294 A 19990527

Priority
DE 19828156 A 19980624

Abstract (en)
The assembly (12) to polish the surface of a moving web (14), especially of paper or cardboard, has at least one polishing zone (10) formed by a roller (16) with bend adjustment and a soft or elastic surface and a hard and smooth continuous belt (18) with high thermal conductivity. The assembly comprises at least one polishing zone (10) and a hard and smooth continuous belt (18) with high thermal conductivity. A support surface (20) is within the belt (18) loop, with inner heating for the heat to be transferred to the belt (18) and build up a hydrodynamic lubricating liquid film (30) between the support surface (20) and the belt (18). The inner surface of the continuous belt (18) is subjected to a hot gas medium, and especially steam, to give a hydrodynamic lubrication liquid film (30) through the condensation of the medium. The steam is applied to the belt (18) before the support surface (20) in the direction (L) of web travel. The belt heater (28) delivers the hot steam to the belt (18) in controlled zones, across the web width, through a zone-controlled steamer or steam blower box. The support surface (20) is composed of at least one support unit (22), which is cooled at least at the support surface (20) zone to assist the formation of condensation. The support surface (20) has a support unit (22) which is of a high stiffness, and especially as a shoe unit (22). The continuous belt (18) is of metal. The belt (18) travels over at least one belt guide roller (24) and/or at least one tensioning roller (26). A unit (32) to extract the condensation is within the belt (18) loop, after the support surface (20) in the direction (L) of web travel. The condensation extractor has at least one takeoff gutter and preferably a scraper. The extractor (32) has at least one suction extraction unit. The zone within the belt (18) loop is maintained at the prevailing ambient atmospheric pressure. A single hard continuous belt (18) can work with a number of rollers (16) to form a number of polishing zones (10), for the web (14) to be polished on a different side at each polishing zone (10).

Abstract (de)
Eine Vorrichtung 12 zum Glätten einer Materialbahn 14 wie insbesondere einer Papier- oder Kartonbahn umfaßt wenigstens eine Glättzone 10, durch die die Materialbahn 14 hindurchgeführt ist. Zumindest eine Glättzone 10 ist zwischen einer weichen oder elastischen Oberfläche aufweisenden Durchbiegungseinstellwalze 16 und einem harten und glatten Oberfläche aufweisenden beheizbaren Endlosband 18 hoher Wärmeleitfähigkeit gebildet, das im Bereich der Glättzone 10 über eine innerhalb der Bandschleife liegende Stützfläche 20 geführt und innenseitig mit einem Heizmedium so beaufschlagt ist, daß einerseits dieses Endlosband 18 erhitzt und andererseits durch dasselbe Heizmedium zwischen der Stützfläche 20 und dem Endlosband 18 ein hydrodynamische Schmierung bewirkender Flüssigkeitsfilm 30 aufgebaut wird. <IMAGE>

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D21G 1/00

IPC 8 full level
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Cited by
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