

Title (en)

Use of carbon dioxide for pH control of the wet end section of a paper machine

Title (de)

Verwendung von Kohlendioxid zur Optimierung des pH-Werts im nassen Teil der Papiermaschine

Title (fr)

Utilisation du dioxyde de carbone pour optimiser le pH dans la partie humide de la machine à papier

Publication

**EP 1816259 A1 20070808 (FR)**

Application

**EP 06300114 A 20060207**

Priority

EP 06300114 A 20060207

Abstract (en)

A method for controlling pH in the flow of cellulose pulp in a paper machine where carbon dioxide is introduced into at least one aqueous medium circulating in the wet end, in which the amount of CO<sub>2</sub> introduced is a function of the pH of saturation of calcium carbonate (pH<sub>s</sub>). A method for controlling pH in the flow of cellulose pulp in a paper machine where carbon dioxide is introduced into at least one aqueous medium circulating in the wet end, in which the amount of CO<sub>2</sub> introduced is a function of the pH of saturation of calcium carbonate (pH<sub>s</sub>), defined as pH<sub>s</sub> = -log[H<sub>3</sub>O<sup>+</sup>], with [H<sub>3</sub>O<sup>+</sup>]<sup>2</sup> = s + (2 × K<sub>2</sub> - (TAC × [Ca<sup>2+</sup>] × K<sub>2</sub>)/K<sub>s</sub>) × [H<sub>3</sub>O<sup>+</sup>] + K<sub>e</sub> = 0; where TAC = [OH<sup>-</sup>] + 2.[CO<sub>3</sub><sup>2-</sup>] + [HCO<sub>3</sub><sup>-</sup>], K<sub>2</sub> = [H<sub>3</sub>O<sup>+</sup>] × [CO<sub>3</sub><sup>2-</sup>]/[HCO<sub>3</sub><sup>-</sup>], K<sub>s</sub> = [Ca<sup>2+</sup>] {CO<sub>3</sub><sup>2-</sup>} and K<sub>e</sub> {H<sub>3</sub>O<sup>+</sup>}[OH<sup>-</sup>]. An independent claim is included for a device for use in this method, in which all or part of the carbon dioxide is introduced into the short white-water circuit and/or the long white-water circuit.

Abstract (fr)

La présente invention concerne l'utilisation de dioxyde de carbone pour contrôler les propriétés calco-carboniques des eaux lors de la formation d'une feuille de papier dans la machine à papier, elle se rapporte plus particulièrement à un procédé de contrôle du pH du flux de pâte cellulosique pour la fabrication d'un produit papetier entrant dans la machine à papier, procédé dans lequel on introduit du dioxyde de carbone dans au moins un véhicule aqueux circulant dans les circuits de la partie humide (wet end).

IPC 8 full level

**D21H 17/67** (2006.01); **D21C 9/00** (2006.01); **D21H 17/64** (2006.01); **D21H 17/70** (2006.01)

CPC (source: EP)

**D21C 9/004** (2013.01); **D21H 17/64** (2013.01); **D21H 17/675** (2013.01); **D21H 17/70** (2013.01)

Citation (search report)

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- [X] WO 03050356 A1 20030619 - LINDE AG [DE], et al
- [Y] WO 02097189 A1 20021205 - LINDE AG [DE], et al
- [Y] CA 2377695 A1 20010118 - LINDE GAS AG [DE]
- [DY] US 6207062 B1 20010327 - DE RIGAUD JEAN-MATHIEU [FR]
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Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

**EP 1816259 A1 20070808**

DOCDB simple family (application)

**EP 06300114 A 20060207**