

Title (en)

METHOD FOR IMPROVING FIBER SOFTNESS OF HIGH YIELD PULP

Title (de)

VERFAHREN ZUR VERBESSERUNG DER FASERWEICHHEIT VON ZELLSTOFF MIT HOHER AUSBEUTE

Title (fr)

PROCÉDÉ POUR AMÉLIORER LA DOUCEUR DE FIBRES DE PÂTE À HAUT RENDEMENT

Publication

EP 3770322 A1 20210127 (EN)

Application

EP 19219097 A 20191220

Priority

CN 201910672286 A 20190724

Abstract (en)

Disclosed is a method for improving fiber softness of high yield pulp, including a high yield pulp; the method comprises: treating the high yield pulp with ozone; and treating with cellulase; the disclosure offers the following advantages: The high yield pulp in the present disclosure is sequentially treated with ozone and cellulase. Removal of lignin on the surface with ozone increases the softness of the fiber and loosens the fiber structure. Therefore, treating the fiber with ozone can open a "channel" for the entry of cellulase. Then the cellulase allows water molecules to enter the fiber, and the distance between fiber macromolecule chains increases, which causes the fiber to deform with reduced stiffness, thereby improving the softness. Therefore, by treating with cellulase based on the pretreatment of high-yield pulp with ozone, the present disclosure increases the accessibility of cellulase and fiber. Besides, ozone as a green agent can improve the softness of the fiber without or with little pollution to the environment.

IPC 8 full level

D21H 21/22 (2006.01); **D21C 5/00** (2006.01); **D21C 9/153** (2006.01); **D21H 11/10** (2006.01); **D21H 17/00** (2006.01); **D21H 21/32** (2006.01)

CPC (source: CN EP)

D21C 3/045 (2013.01 - CN); **D21C 5/005** (2013.01 - CN EP); **D21C 9/153** (2013.01 - EP); **D21H 11/10** (2013.01 - EP);
D21H 17/005 (2013.01 - EP); **D21H 21/22** (2013.01 - EP); **D21H 21/32** (2013.01 - EP)

Citation (applicant)

CN 201610522493 A 20160704

Citation (search report)

- [X] WO 2014029909 A1 20140227 - STORA ENSO OYJ [FI]
- [A] WO 2013188657 A1 20131219 - UNIV MAINE SYS BOARD TRUSTEES [US]
- [A] US 2006102299 A1 20060518 - ELGARHY YASSIN [CA], et al
- [A] WO 9600811 A1 19960111 - SCOTT PAPER CO [US]
- [A] CN 108071038 A 20180525 - UNIV TIANJIN SCIENCE & TECH
- [A] WO 2016080895 A1 20160526 - INNVENTIA AB [SE]
- [A] WO 9513415 A1 19950518 - ECOLAB INC [US]

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3770322 A1 20210127; CN 110438835 A 20191112; WO 2021012616 A1 20210128

DOCDB simple family (application)

EP 19219097 A 20191220; CN 201910672286 A 20190724; CN 2019129642 W 20191228