

Title (en)  
IMPROVING THE STRENGTH OF PAPER AND BOARD PRODUCTS

Title (de)  
VERBESSERUNG DER PAPIERFESTIGKEIT UND KARTONPRODUKTE

Title (fr)  
AMÉLIORATION DE LA RÉSISTANCE DU PAPIER ET PRODUITS EN CARTON

Publication  
**EP 2432934 B1 20130904 (EN)**

Application  
**EP 10722156 A 20100517**

Priority

- FI 2010050397 W 20100517
- FI 20095547 A 20090518

Abstract (en)  
[origin: WO2010133762A1] The present invention concerns a paper or board product with an improved tensile strength comprising cellulose fibres, one or more zirconium carbonate compound(s) and water-insoluble polyvinyl alcohol fibres, and a process for manufacturing such a product, comprising the steps of forming a combined aqueous suspension of cellulose fibres and water-insoluble polyvinyl alcohol fibres, and pressing it into a paper or board product, or pressing layers of water-insoluble polyvinyl alcohol fibres and cellulose fibres into a product having a sandwich-structure, and treating the product before drying with an aqueous solution of a zirconium carbonate compound by impregnating one or more of the surfaces of the product or the complete product with the solution.

IPC 8 full level  
**D21H 13/12** (2006.01); **D21H 13/16** (2006.01); **D21H 17/63** (2006.01); **D21H 17/67** (2006.01); **D21H 17/70** (2006.01); **D21H 19/10** (2006.01); **D21H 19/12** (2006.01); **D21H 19/60** (2006.01); **D21H 21/18** (2006.01); **D21H 23/66** (2006.01); **D21H 23/70** (2006.01); **D21H 23/76** (2006.01); **D21H 27/30** (2006.01)

CPC (source: EP FI KR US)  
**D21H 13/12** (2013.01 - EP KR US); **D21H 13/16** (2013.01 - EP FI KR US); **D21H 17/63** (2013.01 - EP KR US); **D21H 17/67** (2013.01 - EP US); **D21H 17/675** (2013.01 - FI); **D21H 17/70** (2013.01 - EP US); **D21H 19/10** (2013.01 - EP US); **D21H 19/12** (2013.01 - EP US); **D21H 19/60** (2013.01 - EP KR US); **D21H 19/80** (2013.01 - EP US); **D21H 21/18** (2013.01 - EP FI US); **D21H 23/66** (2013.01 - EP US); **D21H 23/70** (2013.01 - EP US); **D21H 23/76** (2013.01 - EP US); **D21H 27/30** (2013.01 - EP US)

Cited by  
WO2016001016A1

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 SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2010133762 A1 20101125**; BR PI1010992 A2 20190409; CA 2762024 A1 20101125; CN 102482850 A 20120530; CN 102482850 B 20151125; EP 2432934 A1 20120328; EP 2432934 B1 20130904; FI 121478 B 20101130; FI 20095547 A0 20090518; JP 2012527544 A 20121108; KR 20120036315 A 20120417; US 2012055642 A1 20120308; ZA 201108255 B 20120829

DOCDB simple family (application)  
**FI 2010050397 W 20100517**; BR PI1010992 A 20100517; CA 2762024 A 20100517; CN 201080022102 A 20100517; EP 10722156 A 20100517; FI 20095547 A 20090518; JP 2012511314 A 20100517; KR 20117030376 A 20100517; US 201013319645 A 20100507; ZA 201108255 A 20111110