

Title (en)
HEAT-SEALING BARRIER PAPER

Title (de)
HEISSIEGELBARRIEREPAPIER

Title (fr)
PAPIER BARRIERE THERMOSCELLANT

Publication
EP 3186442 B1 20210526 (FR)

Application
EP 15752945 A 20150729

Priority
• FR 1457368 A 20140730
• EP 2015067438 W 20150729

Abstract (en)
[origin: WO2016016340A1] The invention relates to a paper comprising: a fibrous substrate; a precoat including a binder and a mixture of lamellar filler(s) having a form factor of at least 15 and of finer filler(s) having a particle size, at a concentration of 80% by weight, of less than 2 µm (measured using the SediGraph technique according to ISO 13317-3); and at least one coating layer applied to the precoat, said paper having a water vapour permeability of at most 150 g/m²/24h and preferably less than 100g /m²/24h, measured according to ASTM F 1249 under so-called tropical conditions of 38 °C and 90% relative humidity.

IPC 8 full level
D21H 27/10 (2006.01); **B65D 65/42** (2006.01); **D21H 19/38** (2006.01); **D21H 19/82** (2006.01); **D21H 21/52** (2006.01)

CPC (source: CN EP US)
B65D 65/42 (2013.01 - CN EP US); **D21H 19/22** (2013.01 - US); **D21H 19/38** (2013.01 - CN EP US); **D21H 19/385** (2013.01 - CN US); **D21H 19/40** (2013.01 - CN US); **D21H 19/54** (2013.01 - US); **D21H 19/58** (2013.01 - CN); **D21H 19/62** (2013.01 - US); **D21H 19/82** (2013.01 - CN EP US); **D21H 19/826** (2013.01 - CN EP US); **D21H 19/84** (2013.01 - US); **D21H 21/16** (2013.01 - US); **D21H 21/52** (2013.01 - CN EP US); **D21H 27/10** (2013.01 - CN EP US)

Citation (opposition)
Opponent : BillerudKorsnäs AB
• EP 2777934 A1 20140917 - JUJO PAPER CO LTD [JP]
• US 2004241475 A1 20041202 - MORABITO PATRICK [US]
• ANONYMOUS: "Polymer database", PVOH FILMS, 2012, pages 1 - 2, XP055903920
• ANONYMOUS: "Technical datasheet @Kuraray Poval", KURARAY POVAL, July 2014 (2014-07-01), pages 1 - 4, XP055903923
• LAHTINEN KIMMO; KUUSIPALO JURKKA: "Statistical prediction model for water vapor barrier of extrusion-coated paper", TAPPI JOURNAL, vol. 9, 2008, pages 8 - 15, XP055903377
• "Paper Chemistry and Technology", vol. 2, 2009, article GUNNAR E.: "16 Pigment Coating", pages: 341 - 351, XP055903955
• DIXON ET AL.: "Packaging materials: 9. multilayer packaging for food and beverages", ILSI EUROPE, July 2011 (2011-07-01), pages 23, XP055904028
• ANONYMOUS: "PVDC (Polyvinylidene chloride) resin", BLOG NAVER, 16 July 2014 (2014-07-16), pages 1, XP055904049, Retrieved from the Internet <URL:https://m.blog.naver.com/PostView.naver?isHttpsRedirect=true&blogId=ysinnet &logNo=220062278447>
• ANONYMOUS: "FMT SERIES", FIMATEC LTD, 25 February 2022 (2022-02-25), pages 1, XP055904062, Retrieved from the Internet <URL:https://www.fimatec-japan.com/products/fmt_series.html>
• YASUSHI UMEDA ET AL.: "Effect which the Particle Size of Ground Calcium Carbonate Exerts on Color Rheology and Coated Paper Property", FIMATEC LTD, 1999, pages 1174 - 1179, XP055904065
• ANONYMOUS: "Determination of thermoplastic coating adhesion to nonporous substrates (WITHDRAWN TEST METHOD - November 2000; T 540 om-93 PROVISIONAL METHOD - 1983 OFFICIAL TEST METHOD - 1993)", TAPPI, 1 November 2000 (2000-11-01), XP093141003, [retrieved on 20240313]
• ANONYMOUS: "Tm and Tg for some EXCEVAL and Kuraray Poval grades", KURARAY, 8 July 2022 (2022-07-08), XP093141005, [retrieved on 20240313]
Opponent : Hoffman Eitle partmbB
• KJELLGREN, HENRIK: "Barrier properties of greaseproof paper", THESIS KARLSTAD UNIVERSITY, 1 January 2005 (2005-01-01), pages 1 - 94, XP055640832
• ZHANG WEIWEI; XIAO HUINING; QIAN LIYING: "Enhanced water vapour barrier and grease resistance of paper bilayer-coated with chitosan and beeswax", CARBOHYDRATE POLYMERS, APPLIED SCIENCE PUBLISHERS, LTD BARKING, GB, vol. 101, 5 October 2013 (2013-10-05), GB, pages 401 - 406, XP028790615, ISSN: 0144-8617, DOI: 10.1016/j.carbpol.2013.09.097
Opponent : Omya International AG
• JP 2009024288 A 20090205 - OJI PAPER CO
• KR 20060049760 A 20060519 - OJI PAPER CO [JP]
• US 2004241475 A1 20041202 - MORABITO PATRICK [US]
• US 2004121079 A1 20040624 - URSCHER ROBERT [CH], et al
• EP 2777934 A1 20140917 - JUJO PAPER CO LTD [JP]
• EP 1908991 B1 20090930 - ASAHI KASEI CHEMICALS CORP [JP]
• "Brilliant-15", INTERNET ARCHIVE WAYBACK MACHINE, 23 September 2006 (2006-09-23), Retrieved from the Internet <URL:https://web.archive.org/web/20060923215131> [retrieved on 20210831]
• HORIBA INSTRUMENTS: "A guidebook to particle size analysis", 1 January 2010 (2010-01-01), pages 1 - 30, XP002682130, Retrieved from the Internet <URL:http://www.horiba.com/fileadmin/uploads/Scientific/Documents/PSA/PSA_Guidebook.pdf> [retrieved on 20120829]
• PABST WILLI, BERTHOLD CHRISTOPH: "A Simple Approximate Formula for the Aspect Ratio of Oblate Particles", PARTICLE AND PARTICLE SYSTEMS CHARACTERIZATION, VCH, WEINHEIM., DE, vol. 24, no. 6, 28 December 2007 (2007-12-28), DE, pages 458 - 463, XP055903362, ISSN: 0934-0866, DOI: 10.1002/ppsc.200701102
• ASTM: "Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor", ASTM STANDARD TEST METHOD F 1249 - 01, 1 January 2001 (2001-01-01), pages 1 - 5, XP055903424, [retrieved on 20220321]
• ANONYMOUS: "Standard Test Methods for Water Vapor Transmission of Materials 1", ASTM STANDARD TEST METHOD E 96 - 95, 1 January 1995 (1995-01-01), pages 1 - 8, XP055903397, [retrieved on 20220321]

- JAPANESE STANDARD ASSOCIATION: "Testing Methods for Determination of the Water Vapour Transmission Rate of Moisture-Proof Packaging Materials(Dish Method)", JAPANESE INDUSTRIAL STANDARD JIS Z 0208 - 1976, 1 January 1976 (1976-01-01), XP055903437, [retrieved on 20220321]
- E. HAMANN, SCHKOPAU, S. ILISCH, H. H. LE, H.-J. RADUSCH, HALLE: "Styrene and Vinyl Content of Styrene Butadiene Rubber", KGK KAUTSCHUK, GUMMI, KUNSTSTOFFE, vol. 64, no. 3, 1 March 2011 (2011-03-01), pages 33 - 38, XP055903372
- PAISLEY KIRK: "PVDC – New Developments, New Opportunities", TAPPI 2007 PLACE CONFERENCE, 11 December 2009 (2009-12-11), XP055903379, Retrieved from the Internet <URL:https://www.tappi.org/content/events/07place/papers/paisley.pdf> [retrieved on 20220321]
- ANONYMOUS: "Diofan® A 297 polyvinylidene chloride", SOLVAY - TECHNICAL DATA SHEET, 19 September 2020 (2020-09-19), pages 1 - 3, XP055903432, Retrieved from the Internet <URL:https://www.solvay.com/en/product/diofan-297> [retrieved on 20220321]
- LAHTINEN KIMMO, KUUSIPALO JURKKA: "Statistical prediction model for water vapor barrier of extrusion-coated paper View project", TAPPI JOURNAL, 1 September 2008 (2008-09-01), pages 8 - 15, XP055903377
- ANONYMOUS: "HYDROCARB® 90 - ME 78%", OMYA - DATASHEET, 5 September 2003 (2003-09-05), XP055903391, [retrieved on 20220321]
- "Industrial Minerals & Rocks.7th ed.", 1 January 2006, SME, ISBN: 978-0-87335-283-3, article KOGEL J. E., TRIVEDI, BARKER, KRUKOWSKI: "Information on Hydragloss 90", pages: 1296, XP055903381
- TAPPI: "Water vapor transmission rate of paper and paperboard at high temperature and humidity", T 464 OM-95, 1 January 1995 (1995-01-01), XP055654350
- ROGER BOLLSTRÖM, ROGER NYQVIST, JANET PRESTON, PEKKA SALMINEN, MARTTI TOIVAKKA: "Barrier properties created by dispersion coating", APRIL 2013, vol. 12, no. 4, pages 45 - 51, XP055683276, DOI: 10.32964/TJ12.4.45

Cited by

US11549216B2; WO2022103458A1

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

DOCDB simple family (publication)

WO 2016016340 A1 20160204; AR 101667 A1 20170104; BR 112017001817 A2 20180214; BR 112017001817 B1 20220201; CA 2956766 A1 20160204; CN 107075810 A 20170818; CN 107075810 B 20190827; EP 3186442 A1 20170705; EP 3186442 B1 20210526; EP 3186442 B2 20240710; FI 3186442 T4 20240802; FR 3024467 A1 20160205; FR 3024467 B1 20190517; JP 2017524081 A 20170824; JP 2020073753 A 20200514; US 2017211237 A1 20170727; ZA 201700739 B 20180524

DOCDB simple family (application)

EP 2015067438 W 20150729; AR P150102418 A 20150729; BR 112017001817 A 20150729; CA 2956766 A 20150729; CN 201580053261 A 20150729; EP 15752945 A 20150729; FI 15752945 T 20150729; FR 1457368 A 20140730; JP 2017526012 A 20150729; JP 2020027993 A 20200221; US 201515500334 A 20150729; ZA 201700739 A 20170130