

Title (en)  
SPUNBOND NONWOVEN FABRIC

Title (de)  
SPINNVLIESTOFF

Title (fr)  
TISSU NON-TISSÉ FILÉ-LIÉ

Publication  
**EP 3690096 A4 20201223 (EN)**

Application  
**EP 18860745 A 20180927**

Priority  
• JP 2017188004 A 20170928  
• JP 2018141053 A 20180727  
• JP 2018035928 W 20180927

Abstract (en)  
[origin: EP3690096A1] Provided is a spunbond nonwoven fabric which is made of a polypropylene fiber and satisfies all of the following conditions A to E: A. the average single fiber diameter of the fiber is 6-17  $\mu\text{m}$ ; B. the degree of crystal orientation of the fiber as obtained by wide-angle X-ray diffraction is at least 0.91; C. the crystallite size of the (110) plane of the fiber as obtained by wide angle X-ray diffraction is at least 12 nm; D. the average orientation parameter of the fiber as obtained by Raman spectroscopy is at least 8.0; and E. the complex viscosity of the spunbond nonwoven fabric at a temperature of 230°C is 20-100 Pa $\cdot$ sec at an angular frequency of 6.3 rad/sec.

IPC 8 full level  
**D04H 3/007** (2012.01); **D01F 6/46** (2006.01); **D04H 3/016** (2012.01); **D04H 3/14** (2012.01)

CPC (source: EP KR US)  
**D01F 6/06** (2013.01 - EP); **D01F 6/46** (2013.01 - EP); **D04H 3/007** (2013.01 - EP KR US); **D04H 3/016** (2013.01 - EP); **D04H 3/14** (2013.01 - EP); **D04H 3/16** (2013.01 - KR US)

Citation (search report)  
• [X] US 2012208422 A1 20120816 - KOORI YOHEI [JP], et al  
• [X] US 2007036972 A1 20070215 - CHANG ANDY C [US], et al  
• [X] US 2013317469 A1 20131128 - MATSUBARA AKIO [JP], et al  
• [A] US 2003148688 A1 20030807 - MATSUNAGA MAMIKO [JP], et al  
• See references of WO 2019065836A1

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 3690096 A1 20200805**; **EP 3690096 A4 20201223**; **EP 3690096 B1 20211215**; CN 111133142 A 20200508; CN 111133142 B 20220222; JP 6935805 B2 20210915; JP WO2019065836 A1 20200910; KR 102344007 B1 20211228; KR 20200058392 A 20200527; TW 201934834 A 20190901; TW I746892 B 20211121; US 2020240061 A1 20200730; WO 2019065836 A1 20190404

DOCDB simple family (application)  
**EP 18860745 A 20180927**; CN 201880061755 A 20180927; JP 2018035928 W 20180927; JP 2018561740 A 20180927; KR 20207007456 A 20180927; TW 107134253 A 20180928; US 201816651132 A 20180927