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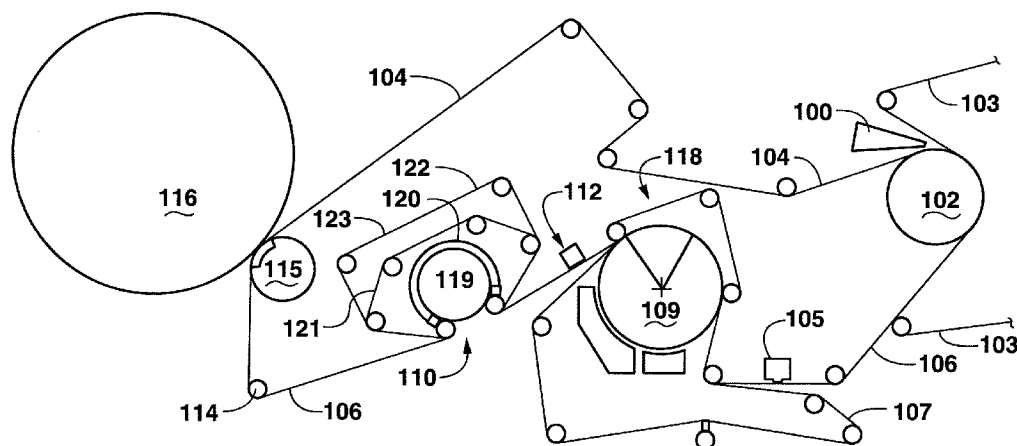
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(54) Title: PROCESS FOR PRODUCING TISSUE PRODUCTS



(57) Abstract: Tissue products are disclosed containing an additive composition. The additive composition, for instance, comprises an aqueous dispersion containing an alpha-olefin polymer, an ethylene-carboxylic acid copolymer, or mixtures thereof. The alpha-olefin polymer may comprise an interpolymers of ethylene and octene, while the ethylene-carboxylic acid copolymer may comprise ethylene-acrylic acid copolymer. The additive composition may also contain a dispersing agent, such as a fatty acid. The additive composition may be incorporated into the tissue web as the web is being formed. Alternatively, the additive composition may be topically applied to the web in a post processing operation. For instance, in one embodiment, the additive composition may be applied to the web as a creping adhesive during a creping operation.

WO 2008/068651 A3

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
D21H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/148257 A1 (HERMANS MICHAEL A [US] ET AL) 7 July 2005 (2005-07-07) paragraph [0101]; claims 1-66; figure 1	1-4,6
X	DE 41 42 460 A1 (WACKER CHEMIE GMBH [DE]) 24 June 1993 (1993-06-24) claims 1-8; examples 1-3	1-4,6
P,X	WO 2007/070145 A (KIMBERLY CLARK CO [US]; LOSTOCCO MICHAEL R [US]; DYER THOMAS JOSEPH [U] 21 June 2007 (2007-06-21) claims 1-19	1-4,6
P,X	WO 2007/070114 A (KIMBERLY CLARK CO [US]; FLUGGE BERENDES LISA ANN [US]; SHANNON THOMAS) 21 June 2007 (2007-06-21) paragraph [0040]; claims 1-19	1-4,6
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☒ See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 2007/075356 A (KIMBERLY CLARK CO [US]; DYER THOMAS JOSEPH [US]; LOSTOCCO MICHAEL R [U] 5 July 2007 (2007-07-05) claims 1-37 -----	1-4, 6
A	US 5 160 484 A (NIKOLOFF KOYU P [US]) 3 November 1992 (1992-11-03) claims 1-19 -----	1-25
A	US 2004/084165 A1 (SHANNON THOMAS GERARD [US] ET AL) 6 May 2004 (2004-05-06) the whole document -----	1-25
A	US 2004/118532 A1 (SARBO BENJAMIN [US] ET AL) 24 June 2004 (2004-06-24) the whole document -----	1-25

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2005148257	A1	07-07-2005	NONE	
DE 4142460	A1	24-06-1993	AT 136915 T AU 3159193 A DE 59206068 D1 DK 617715 T3 WO 9313165 A1 EP 0617715 A1 ES 2086920 T3 MX 9207346 A1	15-05-1996 28-07-1993 23-05-1996 20-05-1996 08-07-1993 05-10-1994 01-07-1996 01-06-1993
WO 2007070145	A	21-06-2007	US 2007137808 A1 US 2007284069 A1 US 2007295465 A1 US 2008073045 A1	21-06-2007 13-12-2007 27-12-2007 27-03-2008
WO 2007070114	A	21-06-2007	AU 2006325523 A1 US 2007137812 A1	21-06-2007 21-06-2007
WO 2007075356	A	05-07-2007	AR 058360 A1 AU 2006329940 A1	30-01-2008 05-07-2007
US 5160484	A	03-11-1992	CA 2052115 A1	29-03-1992
US 2004084165	A1	06-05-2004	AU 2003286628 A1 CA 2503739 A1 EP 1558810 A2 MX PA05004175 A WO 2004044318 A2	03-06-2004 27-05-2004 03-08-2005 08-06-2005 27-05-2004
US 2004118532	A1	24-06-2004	AU 2003286634 A1 BR 0317072 A CA 2509025 A1 EP 1573131 A1 KR 20050085354 A MX PA05005953 A TW 271462 B WO 2004061233 A1	29-07-2004 25-10-2005 22-07-2004 14-09-2005 29-08-2005 18-08-2005 21-01-2007 22-07-2004