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(88) Date of publication of the international search report:
5 November 2009

(54) Title: ADHESIVE POLYMER COMPOSITION

(57) Abstract: A novel adhesive composition suitable for composing multilayered coatings onto large, industrial equipment such as pipeline tubes is devised. The composition is a blend based on a polyethylene which determines the blend's favorable properties, which polyethylene itself can be used further in coating cables and for producing mouldings, especially rotomoulded articles.



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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2009/001164

A. CLASSIFICATION OF SUBJECT MATTER
INV. C09J151/06 C08F10/02 H01B3/44

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)
C09J C08F H01B

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, WPI Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2005/103095 A (BASELL POLYOLEFINE GMBH [DE]; KIPKE JENNIFER [DE]; MIHAN SHAHRAM [DE];) 3 November 2005 (2005-11-03) cited in the application	1-19,24
X Y	examples 1-3; table 2 page 1, lines 5-7,9-11 page 2, lines 16-22 page 3, lines 27-29	20-23,27 25,26
A	EP 1 316 598 A (BOREALIS TECH OY [FI]) 4 June 2003 (2003-06-04) cited in the application paragraphs [0007], [0011], [0026]	1-19,24
A	US 7 198 852 B1 (VOGT HEINZ [DE] ET AL) 3 April 2007 (2007-04-03) the whole document	1-19
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Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2009/001164

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99/37730 A (DU PONT [US]) 29 July 1999 (1999-07-29) the whole document -----	1,2
Y	EP 1 739 691 A (BOREALIS TECH OY [FI]) 3 January 2007 (2007-01-03) paragraphs [0002], [0007]; example 1 -----	25,26
A	WO 97/03139 A (BOREALIS POLYMERS OY [FI]; LEIDEN LEIF [FI]; ASUMALAHTI MARKKU [FI]; A) 30 January 1997 (1997-01-30) page 1, lines 4-7,24-27 page 9, line 24 -----	25,26

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2009/001164

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful International search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

25-26
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-24, 27

Invention 1 (claims 1-19, 24):

A polymer composition, based on a polyethylene homo- or copolymer component a), a polar polyethylene copolymer component b), wherein the composition comprises polymer chains grafted with ethylenically unsaturated dicarboxylic acid or anhydrides.

Films, and a coated pipe obtained from said composition and the use of said composition for coating cables and wires.

Invention 2 (claims 20-23, 27):

The polyethylene homo- or copolymer suitable for use as component a), characterised by its molar mass distribution, degree of branching, vinyl group content, GPC and TREF distribution patterns.

2. claims: 25,26

Invention 3:

The cable or wire coated with polymer a).

3. claims: 28,29

Invention 4:

A process for obtaining hollow, solid film, moulding or fiber by Rotomoulding at a specific temperature.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2009/001164

Patent document cited in search report	Publication date	Patent family member(s)	Publication date			
WO 2005103095	A	03-11-2005	AR 048629 A1 10-05-2006			
			AT 397629 T 15-06-2008			
			AU 2005235721 A1 03-11-2005			
			AU 2005235722 A1 03-11-2005			
			AU 2005235755 A1 03-11-2005			
			BR PI0510239 A 23-10-2007			
			BR PI0510263 A 30-10-2007			
			BR PI0510275 A 23-10-2007			
			CA 2562289 A1 03-11-2005			
			CA 2562292 A1 03-11-2005			
			CA 2562925 A1 03-11-2005			
			CN 1976957 A 06-06-2007			
			CN 1976958 A 06-06-2007			
			DE 102004020524 A1 10-11-2005			
			EP 1753794 A1 21-02-2007			
			EP 1753791 A1 21-02-2007			
			EP 1740623 A1 10-01-2007			
			WO 2005103096 A1 03-11-2005			
			WO 2005103100 A1 03-11-2005			
			ES 2308484 T3 01-12-2008			
			JP 2007534812 T 29-11-2007			
			JP 2007534813 T 29-11-2007			
			JP 2007534822 T 29-11-2007			
			KR 20070015408 A 02-02-2007			
			KR 20070015409 A 02-02-2007			
			KR 20070015410 A 02-02-2007			
			US 2007255033 A1 01-11-2007			
			US 2008286509 A1 20-11-2008			
			US 2007213205 A1 13-09-2007			
			<hr/>			
			EP 1316598	A	04-06-2003	AU 2002365503 A1 10-06-2003
						BR 0214465 A 03-11-2004
						CN 1592776 A 09-03-2005
WO 03046101 A1 05-06-2003						
<hr/>						
US 7198852	B1	03-04-2007	AR 029556 A1 02-07-2003			
			AT 297955 T 15-07-2005			
			AU 8191201 A 14-01-2002			
			AU 2001281912 B2 16-06-2005			
			BR 0112120 A 13-05-2003			
			CA 2414698 A1 27-12-2002			
			CN 1440430 A 03-09-2003			
			DE 10031393 A1 17-01-2002			
			WO 0202661 A1 10-01-2002			
			EP 1299438 A1 09-04-2003			
			ES 2243537 T3 01-12-2005			
			JP 2004502801 T 29-01-2004			
			PL 361911 A1 04-10-2004			
			<hr/>			
WO 9937730	A	29-07-1999	CA 2314074 A1 29-07-1999			
			DE 69922343 D1 05-01-2005			
			DE 69922343 T2 02-03-2006			
			EP 1049751 A1 08-11-2000			
			JP 2002501108 T 15-01-2002			
			US 6166142 A 26-12-2000			
			US 6299985 B1 09-10-2001			
			<hr/>			
EP 1739691	A	03-01-2007	AT 416465 T 15-12-2008			

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2009/001164

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1739691	A	AU 2006265360 A1	11-01-2007
		CA 2610080 A1	11-01-2007
		CN 101238529 A	06-08-2008
		EA 200702515 A1	30-06-2008
		WO 2007003323 A1	11-01-2007
		ES 2318384 T3	01-05-2009
		JP 2008544469 T	04-12-2008
		KR 20080015832 A	20-02-2008
		US 2008196922 A1	21-08-2008
		ZA 200710392 A	29-10-2008
		WO 9703139	A
AU 6308096 A	10-02-1997		
BR 9609604 A	25-05-1999		
CA 2226549 A1	30-01-1997		
CN 1195363 A	07-10-1998		
DE 69614695 D1	27-09-2001		
DE 69614695 T2	20-06-2002		
EP 0837915 A1	29-04-1998		
ES 2161367 T3	01-12-2001		
PL 325016 A1	06-07-1998		
PT 837915 E	28-12-2001		
US 6645588 B1	11-11-2003		