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Declarations under Rule 4.17:

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— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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(54) Title: METHOD FOR MAKING MULTILAYER FILM, SHEET AND ARTICLES THEREFROM

(57) Abstract: A multilayer thermoformable film comprises (A) a top-layer thermoplastic film having an inner surface and an outer surface, where the top layer thermoplastic film has a softening temperature, (B) at least one mask layer thermoplastic film, where the mask layer thermoplastic film has a softening temperature that is within about 30 degrees centigrade of the softening temperature of the top layer film, and (C) at least one tielayer disposed between the inner surface of the top layer film and the mask layer.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER B32B27/36 B32B27/08 B29C45/14		
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B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) B32B B29C		
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, PAJ		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/047857 A (GENERAL ELECTRIC COMPANY) 12 June 2003 (2003-06-12) page 25, line 11 - line 19; claims 1-5,7,8,12-17,21-32,40-47; example 11 page 3, line 19 - page 4, last line page 21, line 15 - line 20; figure 1(c) figure 2; example 2 page 22, line 11 - line 28 page 24, line 1 - page 25, line 3 ----- -/--	1-39
☒ Further documents are listed in the continuation of box C. ☒ Patent family members are listed in 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. *g* document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer
		Kanetakis, I

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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.
X	<p>EP 1 316 419 A (GENERAL ELECTRIC COMPANY) 4 June 2003 (2003-06-04)</p> <p>paragraphs '0006!, '0007!, '0009! - '0011!, '0028!, '0031!, '0037! - '0044!, '0049!, '0051!, '0052!, '0054!, '0056!; claims 1-3,5,6,8-10 page 10, line 43 - line 44</p>	<p>1-10,14, 15,21, 22,26, 27,31, 32,39</p>
X	<p>WO 02/094560 A (RUBBERMAID INCORPORATED) 28 November 2002 (2002-11-28) claims 32-37</p>	<p>31-34,39</p>
X	<p>US 5 632 133 A (WYSLOTSKY ET AL) 27 May 1997 (1997-05-27) column 4, line 23 - line 61; claims 1,9,13-16,18,24; figures</p>	<p>14-17, 21,26-29</p>
A	<p>WO 00/61664 A (GENERAL ELECTRIC COMPANY) 19 October 2000 (2000-10-19) claims 1-7</p>	<p>1,4</p>

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2005/024824

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 03047857	A	12-06-2003	AU 2002327589 A1 17-06-2003
		CN 1617798 A	18-05-2005
		EP 1465769 A1	13-10-2004
		JP 2005536370 T	02-12-2005
		US 2003175488 A1	18-09-2003
EP 1316419	A	04-06-2003	US 2004028907 A1 12-02-2004
WO 02094560	A	28-11-2002	CA 2446583 A1 28-11-2002
		EP 1390197 A2	25-02-2004
US 5632133	A	27-05-1997	NONE
WO 0061664	A	19-10-2000	EP 1171513 A1 16-01-2002
		JP 2002542325 T	10-12-2002
		US 6572956 B1	03-06-2003
		US 2003207096 A1	06-11-2003
		US 2001055671 A1	27-12-2001