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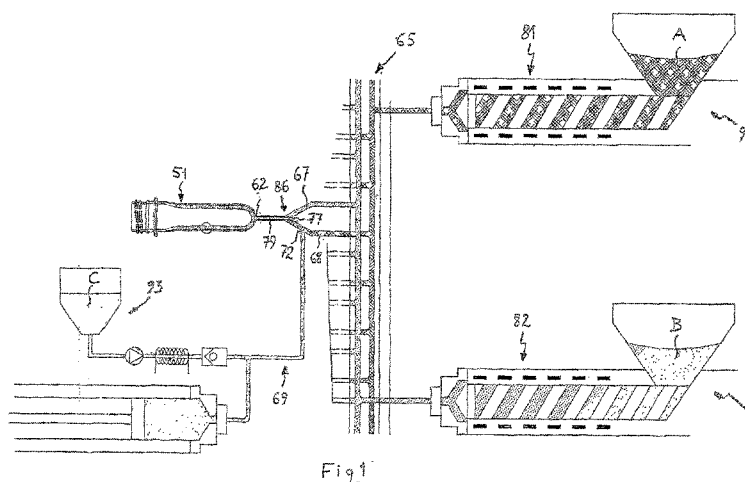
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Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i))
- of inventorship (Rule 4.17(iv))

[Continued on next page]

(54) Title: HOLLOW OBJECTS, IN PARTICULAR PLASTIC PREFORMS HAVING A BARRIER LAYER AND METHOD OF INJECTION MOULDING THE OBJECTS AND APPARATUS FOR MANUFACTURING OBJECTS



(57) Abstract: Hollow form, in particular to form convertible to retain holders (50) composed of a double base layer (11) consisting of a primary material (A) polymer, and a secondary intermediate layer (12) which is included in the base layer (11) comprising a secondary material (B), remarkable in that the secondary material (B) consists of a support material in which a tertiary material (C) as an initiator or / resp. activator material in recorded by formation of a barrier between the interior composite layer (12), and method of, resp. device for the manufacture thereof.

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- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

INTERNATIONAL SEARCH REPORT

International application No
PCT/BE2012/000027

A. CLASSIFICATION OF SUBJECT MATTER INV. B29C49/00 B29C49/22 B65D81/24 B29C45/18 B29C45/16 B65D81/26 B65D81/30 ADD. 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) B29C B65D 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 practicable, search terms used) EP0-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/181155 A1 (SHARE PAUL E [US] ET AL) 18 August 2005 (2005-08-18)	1-3, 16-18
Y	paragraphs [0019] - [0022], [0058], [0071], [0099]	12
X	US 2006/019045 A1 (BOURGEOIS PHILIP D [US]) 26 January 2006 (2006-01-26)	1-3
X	paragraphs [0001], [0006], [0010], [0019], [0025]	
X	EP 2 311 624 A1 (YOSHINO KOGYOSHO CO LTD [JP]) 20 April 2011 (2011-04-20)	1-3
A	paragraphs [0001], [0015] - [0017]	30-34, 36-39, 42
	-/-	
☒ 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 application or patent 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 21 March 2013		Date of mailing of the international search report 05/04/2013
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer Ingelgård, Tomas

INTERNATIONAL SEARCH REPORT

International application No

PCT/BE2012/000027

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2009/070800 A1 (ADVANCED PLASTICS TECHNOLOGIES [LU]; WILCZAK WOJCIECH [US]; FARHA SAID) 4 June 2009 (2009-06-04)	12
A	paragraph [0011]	1

X	WO 2006/099700 A2 (RESILUX [BE]; DIERICKX WILLIAM [BE]) 28 September 2006 (2006-09-28)	1-11, 16-25, 29-34, 36-39,42
	page 2, paragraph 2-4 page 8, paragraph 2 page 10, paragraph 2 page 11, line 7 - page 12, line 1 page 13, paragraph 5 page 14, paragraph 4; claims 1, 9-13, 21-25; figures 4-6, 16-18	

X	WO 2006/012713 A2 (RESILUX [BE]; DIERICKX WILLIAM [BE]) 9 February 2006 (2006-02-09)	1-3,12, 16-26
Y	page 1, line 7 - line 14; claims 24,25 page 3, line 15 - page 6, line 1 page 10, line 6 - page 11, line 24; figure 1	27,28

Y	WO 2010/034776 A1 (UNIV GENT [BE]; MERTENS JOHAN [BE]; BELADJAL LYNDAL [BE]; DEVLIEGHERE F) 1 April 2010 (2010-04-01)	27,28
	page 1, line 4 - line 10 page 16, line 16 - page 19, line 22	

E	EP 2 518 138 A1 (RESILUX [BE]) 31 October 2012 (2012-10-31)	1-3, 19-29,42
	paragraphs [0014], [0028] - [0033]; claims 1-4; figure 1	

A	DE 198 60 797 A1 (MOLD MASTERS LTD [CA]) 6 July 2000 (2000-07-06)	35,40
	column 3, line 66 - column 4, line 37; figure 1	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/BE2012/000027

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.:
1-12, 16-42
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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/BE2012/000027

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US 2005181155 A1	18-08-2005	AU 2005217350 A1 CN 1942519 A EP 1713860 A2 EP 2272912 A2 JP 2007522049 A JP 2012101546 A KR 20070007096 A KR 20120094006 A US 2005181155 A1 US 2012219670 A1 WO 2005083003 A2	09-09-2005 04-04-2007 25-10-2006 12-01-2011 09-08-2007 31-05-2012 12-01-2007 23-08-2012 18-08-2005 30-08-2012 09-09-2005
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/BE2012/000027

Patent document cited in search report	Publication date	Patent family member(s)	Publication date

		WO 2010034776 A1	01-04-2010

EP 2518138	A1	31-10-2012	NONE

DE 19860797	A1	06-07-2000	NONE

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-11

Preform comprising tertiary activator material consisting of a fluid.

2. claims: 12, 16-18

Preform comprising a tertiary activator material consisting of photo-initiators or comprising additives in form of dyes.

3. claims: 13-15

Preform having adapted thicknesses, and primary and secondary materials.

4. claims: 19-29

Preform and container having an intermediate barrier layer formed by bio-aggregates, e.g. cells, yeasts, and/or living organisms.

5. claims: 30-42

Method and device providing for separate feed channels for the primary and secondary materials in the hotrunner and injection mould and an independent supply outside the hotrunner plate for the tertiary material.
