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Declaration under Rule 4.17:

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



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(54) Title: IMPROVED PROCESS FOR THE PRODUCTION OF A SYNTHETIC MATERIAL COMPRISING UNEXPANDED MICROSPHERES AS WELL AS LIGHT ARTICLES PRODUCED WITH SAID MATERIAL

(57) Abstract: A number of processes for the production of polyvinylchloride based material comprising expandable microspheres. Said material is advantageously used for the production of light articles for flooring, tiles and bent tiles, edges of pieces of furniture, furnishing elements and their components, advantageously skirting-board, panels for the building industry and for furniture's industry, applications for the thermal and/or acoustic insulation, pipes, floaters, as well as for accident-prevention applications, sporting and sanitary applications, interior of motor-vehicles, handle grips, joysticks and toys, shock-proof elements, cables (as a filler), oil resistant and anti-static products or applications, as also sole or the inner portions of shoes, being manufactured by a process of injection molding or intrusion molding or compression molding, as well as extrusion or calendaring.

INTERNATIONAL SEARCH REPORT

Int. Application No	PCT/IT 02/00519
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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C08L27/06 C08J9/32 C08K7/22

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)
 IPC 7 C08L C08J C08K B29B B29K

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 184 259 B1 (PASETTO RENZO ET AL) 6 February 2001 (2001-02-06) column 5 -column 6; examples III-IV column 7 -column 8; claims 1,2	1-4,6, 10-16, 18,22-29
A Y	column 5 -column 6; examples III-IV column 7 -column 8; claims 1,2 ---	5,17 9,21,28
X	WO 99 14267 A (INTERPLASTICA SRL ;PASETTO RENZO (IT); PERETTI GIORGIO (IT)) 25 March 1999 (1999-03-25) cited in the application page 14 -page 16; claims 1-16 page 9 -page 10; examples III-IV	4,14-16, 18,22-29
A A	page 9 -page 10; examples III-IV the whole document ----- -/--	5,17 9,21,28

Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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.</p> <p>"8" document member of the same patent family</p>
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Date of the actual completion of the international search 3 February 2003	Date of mailing of the international search report 19.02.03
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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 Baekelmans, D
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INTERNATIONAL SEARCH REPORT

Inventor Application No
PCT/IT 02/00519

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FR 1 447 510 A (GRUENZWEIG & HARTMANN) 29 July 1966 (1966-07-29) page 4, column 2, line 8-34 page 6, column 2; examples 1,2 -----	9, 21, 28

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IT 02/00519

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 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 fee, this Authority did not invite payment of any additional fee.
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.:
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.
- 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: 1-8,10-20,22-29

A process for manufacturing a material according to claims 1 to 8 and 10 to 13; a material according to claims 14 to 16; a blend according to claims 16 to 20 and 25; a material according to claims 22 to 24 and 26; an article according to claim 27; an article according to claim 28 as far as dependent upon claim 16; and a use according to claim 29.

2. Claims: 9, 21, 28

A process for manufacturing a material according to claim 9; a mixture according to claim 21; and an article according to claim 28 as far as dependent upon claim 21.

INTERNATIONAL SEARCH REPORT

Inventor	Application No
	PCT/IT 02/00519

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