

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
9 April 2009 (09.04.2009)

(10) International Publication Number  
**WO 2009/043817 A3**

(51) International Patent Classification:  
**H01L 31/048** (2006.01)

(21) International Application Number:  
PCT/EP2008/062916

(22) International Filing Date:  
26 September 2008 (26.09.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
MI 2007 A 001903 4 October 2007 (04.10.2007) IT

(71) Applicant (for all designated States except US): **SAES GETTERS S.p.A.** [IT/IT]; Viale Italia 77, I-20020 Lainate MI (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BONUCCI, Antonio** [IT/IT]; Via Chiarelli 8/M, I-20151 Milano MI (IT). **RONDENA, Sergio** [IT/IT]; Strada Marcallo, I-20013 Magenta MI (IT). **LONGONI, Giorgio** [IT/IT]; Via Scivivia 9, I-20052 Monza MI (IT). **AMIOTTI, Marco** [IT/IT]; Via Mattei 28/D, I-20010 Comaredo MI (IT). **TOIA, Luca** [IT/IT]; Via della Fontana 14/a, I-21040 Carnago VA (IT).

(74) Agents: **ADORNO, Silvano** et al.; Società Italiana Brevetti S.p.A., Via Carducci 8, I-20123 Milano (IT).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

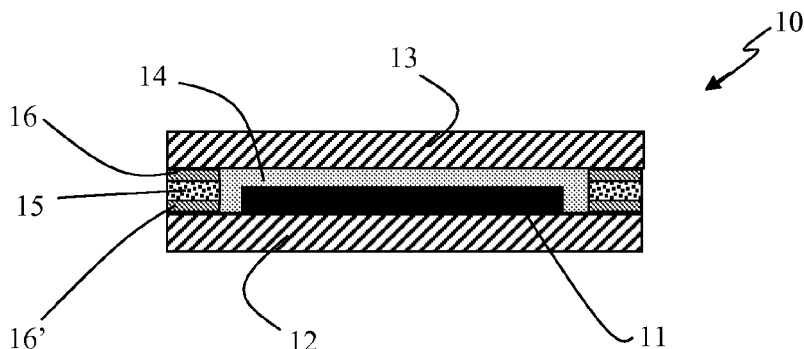
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- 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))

(88) Date of publication of the international search report:  
3 December 2009

(54) Title: METHOD FOR MANUFACTURING PHOTOVOLTAIC PANELS BY THE USE OF A POLYMERIC TRI-LAYER COMPRISING A COMPOSITE GETTER SYSTEM



**Fig. 1A**

(57) Abstract: The present invention relates to a method for manufacturing thin-film photovoltaic panels by the use of a sealing means composed by a polymeric tri-layer comprising a composite getter system composed of a polymer with a low H<sub>2</sub>O transmission, having dispersed in its inside a H<sub>2</sub>O sorption material, and two outer polymeric layers with the composite getter system therebetween, as well as to a polymeric tri-layer for the manufacturing of photovoltaic panels.

WO 2009/043817 A3

## INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2008/062916

A. CLASSIFICATION OF SUBJECT MATTER  
INV. H01L31/048

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)  
H01L

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	EP 0 631 328 A (CANON KK [JP]) 28 December 1994 (1994-12-28) figures 2a,2b page 17 page 9, line 14 page 11, lines 5-7	1-9, 11, 16
X	WO 03/050891 A (BP CORP NORTH AMERICA INC [US]; OSWALD ROBERT STEPHEN [US]; GITTINGS B) 19 June 2003 (2003-06-19) page 32, lines 20-31; figure 10(b) page 35, lines 26-31 page 36, line 7	1, 10, 12-14, 17
Y	BE 1 013 036 A4 (GLAVERBEL [BE]) 7 August 2001 (2001-08-07) page 9, lines 29-34; figure 3	1, 15
	-/--	

 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.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

9 October 2009

Date of mailing of the international search report

16/10/2009

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

Chao, Oscar

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2008/062916

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007/144576 A1 (CRABTREE GEOFFREY J [US] ET AL) 28 June 2007 (2007-06-28) pages 17,18,19 -----	1,15
A	US 5 478 402 A (HANOKA JACK I [US]) 26 December 1995 (1995-12-26) the whole document -----	1-17
A	WO 2007/071703 A (SHELL ERNEUERBARE EN GMBH [DE]; CALWER HERMANN [DE]; PROBST VOLKER [DE]) 28 June 2007 (2007-06-28) the whole document -----	1-17

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2008/062916

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0631328	A	28-12-1994	DE 69410536 D1 DE 69410536 T2	02-07-1998 26-11-1998
WO 03050891	A	19-06-2003	AU 2002365087 A1	23-06-2003
BE 1013036	A4	07-08-2001	NONE	
US 2007144576	A1	28-06-2007	WO 2007079895 A1	19-07-2007
US 5478402	A	26-12-1995	AU 1840695 A DE 69532904 D1 DE 69532904 T2 EP 0694213 A1 HK 1014400 A1 WO 9522843 A1	04-09-1995 27-05-2004 02-09-2004 31-01-1996 14-01-2005 24-08-1995
WO 2007071703	A	28-06-2007	CN 101371367 A EP 1964181 A1	18-02-2009 03-09-2008