(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 17 August 2006 (17.08.2006)

(10) International Publication Number WO 2006/085757 A3

(51) International Patent Classification:

G03F 7/00 (2006.01) G03F 7/36 (2006.01)

G03F 7/095 (2006.01) G03F 7/038 (2006.01)

(21) International Application Number:

PCT/NL2006/000067

- (22) International Filing Date: 9 February 2006 (09.02.2006)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: PCT/NL2005/000106

9 February 2005 (09.02.2005)

(71) Applicant (for all designated States except US): STICHT-ING DUTCH POLYMER INSTITUTE [NL/NL]; John F. Kennedylaan 2, NL-5612 AB Eindhoven (NL).

- (72) Inventors; and
- (75) Inventors/Applicants (for US only): BASTIAANSEN, Cees [NL/NL]; Burgemeester Geurtsweg 3, NL-6065 EE Montfort (NL). BROER, Dirk, J. [NL/NL]; Palantir 11, NL-5663 SE Geldrop (NL). SANCHEZ, Carlos [ES/ES]; ICMA/CSIC, Universidad de Zaragoza, C./Pedro Cerbuna 12, E-50009 Zaragoza (ES).
- (74) Agent: J.G.M. NIEUWKAMP; DSM Intellectual Property, P.O. Box 9, NL-6160 MA Geleen (NL).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): 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, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, 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, US, UZ, VC, VN, YU, 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, HU, IE, IS, IT, LT, LU, LV, MC, NL, 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
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of
- (88) Date of publication of the international search report:

7 December 2006

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.

(54) Title: PROCESS FOR PREPARING A POLYMERIC RELIEF STRUCTURE

(57) Abstract: The present invention relates to a process for the preparation of a polymeric relief structure by a) coating a substrate with a first coating composition comprising one or more radiation-sensitive ingredients, d) locally treating the coated substrate with electromagnetic radiation having a periodic or random radiation-intensity pattern, forming a latent image, e) polymerizing and/or crosslinking the resulting coated substrate to a first coating. This process is improved by applying a second coating composition on top of the first coating composition, said second coating composition comprising either an organic compound (C_0) of a monomeric nature and wherein C_0 is also polymerized during the process, or wherein said second coating comprises a dissolved polymer (C_p) . As a result a polymeric relief structure is obtained, where a substrate is coated with a functional, stacked, bi-layer, in which each layer exhibits a specific, and from each other differing function.





INTERNATIONAL SEARCH REPORT

International application No PCT/NI 2006/000067

		101/NL200	0/ 00000/		
A. CLASSI INV.	G03F7/00 G03F7/36 G03F7	/095 G03F7/038			
According to	o International Patent Classification (IPC) or to both national cla	ssification and IPC			
B. FIELDS	SEARCHED				
Minimum do GO3F	ocumentation searched (classification system followed by class	ification symbols)			
Documental	tion searched other than minimum documentation to the extent	that such documents are included in the fields so	earched		
	lata base consulted during the international search (name of daternal, WPI Data, PAJ	ta base and, where practical, search terms usec	()		
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the	Relevant to claim No.			
Х	WO 2005/008321 A (KONINKLIJKE ELECTRONICS N.V.) 27 January 2005 (2005-01-27) page 11, line 4 - line 9 figure 1D claims	1-43			
	·	□	·		
	her documents are listed in the continuation of Box C.	X See patent family annex.			
"A" docume consid "E" earlier of filing d "L" docume which icitation "O" docume other n "P" docume later th	ent which may throw doubts on priority claim(s) or is cited to establish the publication date of another in or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or means ent published prior to the international filing date but han the priority date claimed	or priority date and not in conflict with cited to understand the principle or the invention "X" document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the do "Y" document of particular relevance; the cannot be considered to involve an inventive an inventive step when the document is combined with one or more ments, such combination being obvious in the art.	"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		
	actual completion of the international search		Date of mailing of the international search report $10/10/2006$		
	9 September 2006	10/10/2006			
Name and n	nailing 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 Heywood, Christop	Authorized officer Heywood, Christopher		



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/NL2006/000067

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 2005008321	A	27-01-2005	CN US	1823295 A 2006187383 A1	23-08-2006 24-08-2006

Form PCT/ISA/210 (patent family annex) (April 2005)