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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
23 June 2011 (23.06.2011)

PCT

(10) International Publication Number
WO 2011/073716 A1

(51) International Patent Classification:
H01L 21/762 (2006.01)

(21) International Application Number:
PCT/IB2009/007972

(22) International Filing Date:
15 December 2009 (15.12.2009)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant *(for all designated States except US)*: **S.O.I. TEC SILICON ON INSULATOR TECHNOLOGIES** [FR/FR]; Chemin des Franques, Parc Technologique des Fontaines, F-38190 Bernin (FR).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: **BELLE, Anne Laure** [FR/FR]; Résidence Horizon Belledonne, 1 rue Anne Franck, F-38400 Saint Martin D'heres (FR).

(74) Agents: **DESORMIERE, Pierre-Louis** et al.; Cabinet Beau de Loménie, 158, rue de l'Université, F-75340 Paris Cedex 07 (FR).

(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, CL, 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, PE, 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, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, 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))*

[Continued on next page]

(54) **Title**: PROCESS FOR RECYCLING A SUBSTRATE.

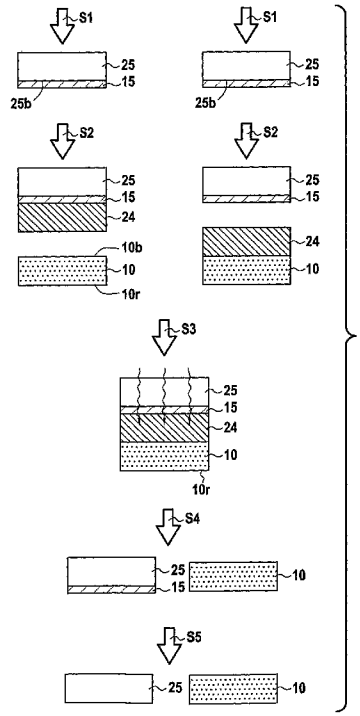


FIG.1

(57) **Abstract**: Process for recycling a support substrate (25) of a material substantially transparent to at least a wavelength of electromagnetic radiation, said process comprising: a) providing an initial substrate (10); b) forming (S1) an intermediate layer (15) on a bonding face of the support substrate (25) having an initial roughness, said intermediate layer (15) being of a material substantially transparent to at least a wavelength of electromagnetic radiation, c) forming (S2) an electromagnetic radiation absorbing layer (24) either on the bonding face (10b) of the initial substrate (10), and/or on the intermediate layer (15), d) bonding (S3) the initial substrate (10) to the support substrate (25) via the electromagnetic radiation absorbing layer (24), and e) carrying out irradiation (S4) of the electromagnetic radiation absorbing layer (24) through the support substrate (25) and the intermediate layer to induce separation of the support substrate (25) from the initial substrate.

WO 2011/073716 A1

— *with amended claims (Art. 19(1))*