



- (51) International Patent Classification:
B29D 11/00 (2006.01) *G02B 5/124* (2006.01)
- (21) International Application Number:
PCT/US2015/061278
- (22) International Filing Date:
18 November 2015 (18.11.2015)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
62/082,179 20 November 2014 (20.11.2014) US
- (71) Applicant: **AVERY DENNISON CORPORATION**
[US/US]; 207 Goode Avenue, Glendale, CA 91203 (US).
- (72) Inventors: **CHAPMAN, Steven, R.**; 3029 Applegate Lane, Glenview, IL 60025 (US). **GALICIA, Ethelbert**; 6649 N. Cicero Avenue, Lincolnwood, IL 60712 (US). **WU, Feng**; 14804 Thornton Drive, North Royalton, OH 44133 (US).
- (74) Agents: **STROBEL, Jason, R.** et al.; Avery Dennison Corporation, 8080 Norton Parkway, 22D, Mentor, OH 44060 (US).

- (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, BN, 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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

- (54) Title: **TILED RETROREFLECTOR WITH MULTI-STAGE DICING**

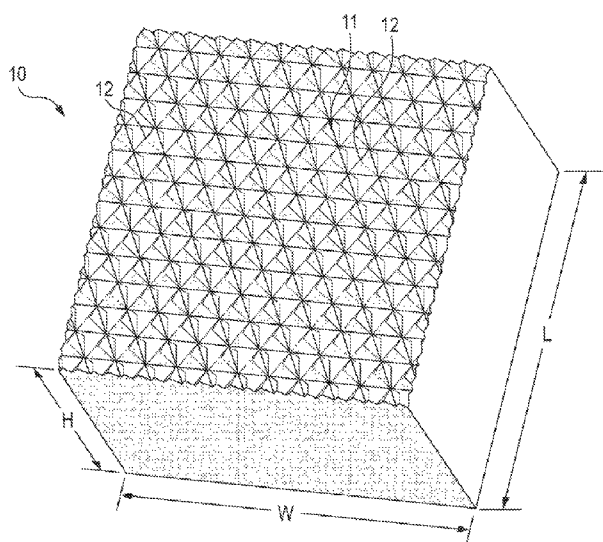


FIG. 1

- (57) Abstract: Methods of making tiled articles and molds used to make retroreflective articles. The methods include forming a prism array on a master substrate and forming a replica of the master. A reference edge is formed on the replica, thereby reducing the size of the prism array, yet maintaining a lateral dimension of the replica to maintain ease of handling of the replica. The replica is copied and the reference edge on the copied tiles are exposed, such that the reference edge can be mated and secured face-to-face with a reference edge on other tiles in order to form a tiled article. The tiled article is used as a mold to produce retroreflective articles or can be further duplicated and mated to form larger tiled articles to be used as molds. Tiled articles used as molds and retroreflective articles produced from the molds are also disclosed.



- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))* — *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))*

Published:

- *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:

7 July 2016