

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

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
24 September 2020 (24.09.2020)



(10) International Publication Number  
**WO 2020/190213 A1**

(51) International Patent Classification:

*C09D 5/00* (2006.01) *G03F 7/00* (2006.01)  
*B32B 3/30* (2006.01) *B29C 59/02* (2006.01)  
*G02B 1/118* (2015.01)

(21) International Application Number:

PCT/SG2020/050143

(22) International Filing Date:

18 March 2020 (18.03.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10201902396V 18 March 2019 (18.03.2019) SG

(71) Applicant: **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way, #20-10 Connexis North, Singapore 138632 (SG).

(72) Inventor: **MOXEY, Mark Allen**; c/o Institute of Materials Research and Engineering, 2 Fusionopolis Way, #08-03, Innovis, Singapore 138634 (SG).

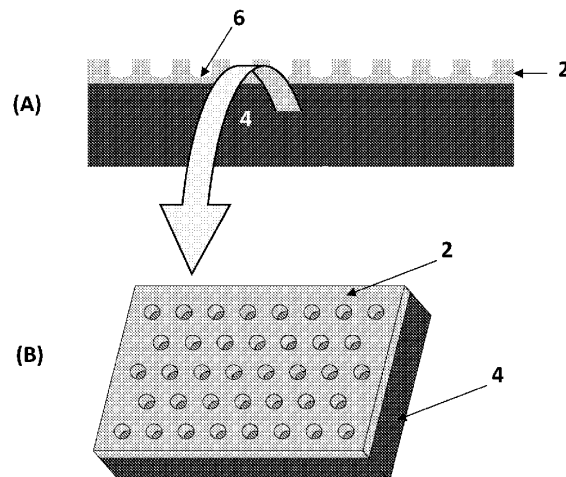
(74) Agent: **SPRUSON & FERGUSON (ASIA) PTE LTD**; P.O. Box 1531, Robinson Road Post Office, Singapore 903031 (SG).

(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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, 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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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,

(54) Title: A MULTI-LAYERED COATING

[Fig. 1]



(57) Abstract: There is provided a multi-layered coating having a plurality of cavities therein, the multi-layered coating comprises a first layer comprising an oxide-containing polymer; and a second layer disposed on said first layer, said second layer comprising an oxide. There is also provided a process for forming such multi-layered coating, an article comprising the multi-layered coating and uses thereof. Additionally, the multi-layered coating may have anti-reflection, anti-fog and abrasion resistance properties.

[Continued on next page]

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 the identity of the inventor (Rule 4.17(i))*
- *of inventorship (Rule 4.17(iv))*

**Published:**

- *with international search report (Art. 21(3))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*