



(43) International Publication Date
13 February 2014 (13.02.2014)

- (51) International Patent Classification:
B32B 15/08 (2006.01) *H01J 1/70* (2006.01)
- (21) International Application Number:
PCT/US2013/052633
- (22) International Filing Date:
30 July 2013 (30.07.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/680,963 8 August 2012 (08.08.2012) US
61/779,455 13 March 2013 (13.03.2013) US
- (71) Applicant: **3M INNOVATIVE PROPERTIES COMPANY** [US/US]; 3M Center, Post Office Box 33427, Saint Paul, MN 55133-3427 (US).
- (72) Inventors; and
- (71) Applicants : **SPAGNOLA, Joseph, C.** [US/US]; 3M Center, Post Office Box 33427, Saint Paul, MN 55133-3427 (US). **ROEHRIG, Mark, A.** [US/US]; 3M Center, Post Office Box 33427, Saint Paul, MN 55133-3427 (US). **KLUN, Thomas, P.** [US/US]; 3M Center, Post Office Box 33427, Saint Paul, MN 55133-3427 (US). **NACHTIGAL, Alan, K.** [US/US]; 3M Center, Post Office Box 33427, Saint Paul, MN 55133-3427 (US). **LYONS, Christopher, S.** [US/US]; 3M Center, Post Office Box 33427, Saint

Paul, MN 55133-3427 (US). **JOLY, Guy, D.** [US/US]; 3M Center, Post Office Box 33427, Saint Paul, MN 55133-3427 (US).

(74) Agents: **TÉLLEZ, Carlos, M.** et al.; 3M Center Office of Intellectual Property Counsel, Post Office Box 33427, Saint Paul, MN 55133-3427 (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, IS, JP, KE, KG, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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, 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).

[Continued on next page]

(54) Title: BARRIER FILM CONSTRUCTIONS AND METHODS OF MAKING SAME

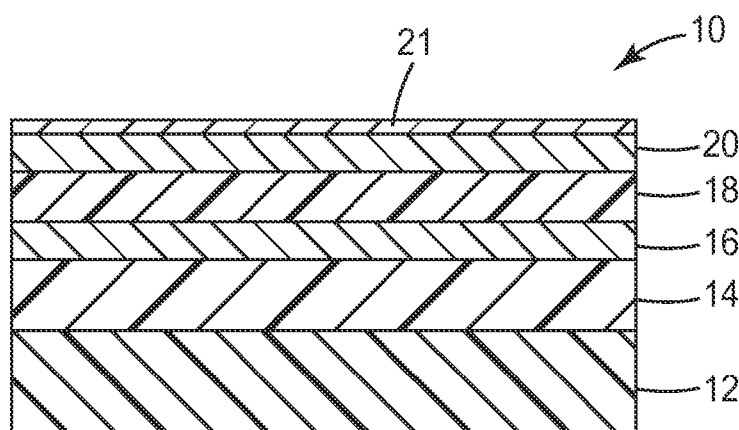


FIG. 1

(57) Abstract: A barrier film including a substrate; a base polymer layer adjacent to the substrate; an oxide layer adjacent to the base polymer layer; an adhesion-modifying layer adjacent to the oxide layer; and a top coat polymer layer adjacent to the adhesion-modifying layer. An optional inorganic layer can be applied over the top coat polymer layer. The inclusion of an adhesion-modifying layer provides for enhanced resistance to moisture and improved peel strength adhesion of the top coat polymer layer to the underlying barrier stack layers.



**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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))*