

(19) World Intellectual Property Organization
International Bureau



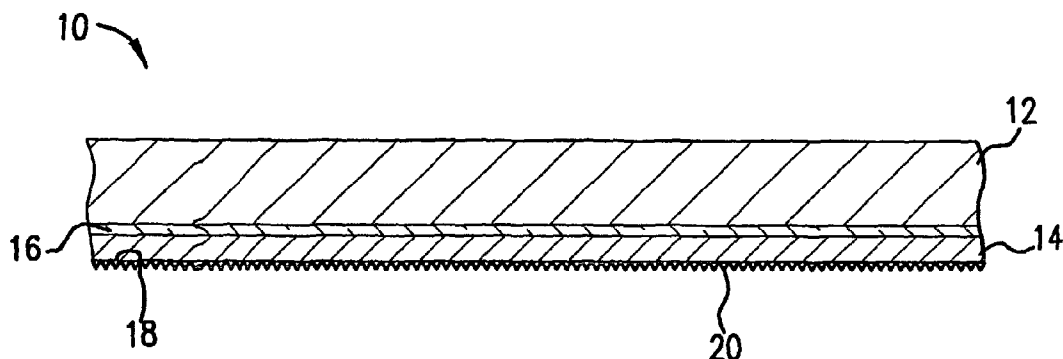
(43) International Publication Date
20 March 2003 (20.03.2003)

PCT

(10) International Publication Number
WO 03/022569 A1

- (51) International Patent Classification⁷: **B32B 15/20**, C25D 5/10
- (74) Agent: **ROSENBLATT, Gregory, S.**; Wiggin & Dana LLP, One Century Tower, New Haven, CT 06508-1832 (US).
- (21) International Application Number: PCT/US02/27703
- (22) International Filing Date: 30 August 2002 (30.08.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/948,166 6 September 2001 (06.09.2001) US
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant: **OLIN CORPORATION** [US/US]; 501 Meritt 7, P.O. Box 4500, Norwalk, CT 06856-4500 (US).
- (72) Inventors: **CHEN, Szuchain, F.**; 365 Mather Street, #36, Hamden, CT 06514 (US). **BRENNEMAN, William, L.**; 30 Kelley Court, Cheshire, CT 06410 (US). **VACCO, Andrew**; 4 Frank's Court, Wallingford, CT 06492 (US). **YUKOV, Nina**; 422 Old Country Road, Orange, CT 06477 (US).
- Published:**
— with international search report
- 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: COPPER FOIL WITH LOW PROFILE BOND ENHANCEMENT



(57) Abstract: A composite material (10), comprising a carrier strip (12), the carrier strip (12) comprising a first side, the first side comprising a substantially uniform roughness, an electrolytically deposited copper foil layer (14) having opposing first and second sides and a thickness of from 0.1 micron to 15 microns. The entire copper foil layer (14) thickness having been deposited from a copper containing alkaline electrolyte, and a release layer (16) effective to facilitate separation of the copper foil layer (14) from the carrier strip (12) disposed between and contacting both the first side of the carrier strip (12) and the second side of the copper foil layer (14).



WO 03/022569 A1