

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 July 2003 (03.07.2003)

PCT

(10) International Publication Number
WO 03/054097 A1

- (51) **International Patent Classification⁷:** C09G 1/16, B24B 37/00, B24D 11/00, 17/00
- (74) **Agents:** MARMO, Carol, A. et al.; PPG Industries, Inc., One PPG Place, Pittsburgh, PA 15272 (US).
- (21) **International Application Number:** PCT/US02/40626
- (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, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) **International Filing Date:**
18 December 2002 (18.12.2002)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
60/343,324 20 December 2001 (20.12.2001) US
10/317,982 13 December 2002 (13.12.2002) US
- (84) **Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), 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, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) **Applicant:** PPG INDUSTRIES OHIO, INC. [US/US]; 3800 West 143rd Street, Cleveland, OH 44111 (US).
- (72) **Inventors:** ALLISON, William, C.; 3960 Murry Highland Circle, Murrysville, PA 15668 (US). SWISHER, Robert, G.; 204 Sunridge Road, Pittsburgh, PA 15238 (US). WANG, Alan, E.; 1032 Old Orchard Drive, Gibsonsia, PA 15044 (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.*



WO 03/054097 A1

(54) **Title:** POLISHING PAD

(57) **Abstract:** A polishing pad is described as comprising, (a) particulate polymer which can be chosen from particulate thermoplastic polymer (e.g., particulate thermoplastic polyurethane), particulate crosslinked polymer (e.g., particulate crosslinked polyurethane and/or particulate crosslinked polyepoxide) and mixtures thereof; and (b) organic polymer binder (e.g., polyurethane binder and/or polyepoxide binder), which can bind the particulate polymer together, wherein said organic polymer binder can be prepared in-situ. The particulate polymer and organic polymer binder can be distributed substantially across the work surface the polishing pad, and the pad can have a percent pore volume of from 2 percent by volume to 50 percent by volume, based on the total volume of said polishing pad.