

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
19 August 2004 (19.08.2004)

PCT

(10) International Publication Number
WO 2004/069476 A1

(51) International Patent Classification⁷: **B24B 37/04**,
B24D 13/14, 3/34

(21) International Application Number:
PCT/IB2004/000385

(22) International Filing Date: 9 February 2004 (09.02.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/361,520 10 February 2003 (10.02.2003) US

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, 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, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

Declarations under Rule 4.17:

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

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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: CMP PAD WITH COMPOSITE TRANSPARENT WINDOW

(57) Abstract: The invention is directed to chemical-mechanical polishing pads comprising a transparent window. In one embodiment, the transparent window comprises an inorganic material and an organic material, wherein the inorganic material comprises 20 wt.% or more of the transparent window. In another embodiment, the transparent window comprises an inorganic material and an organic material, wherein the inorganic material is dispersed throughout the organic material and has a dimension of 5 to 1000 nm, and wherein the transparent window has a total light transmittance of 30 % or more at at least one wavelength in the range of 200 to 10,000 nm. In yet another embodiment, the transparent window comprises an inorganic/organic hybrid sol-gel material. In an additional embodiment, the transparent window comprises a polymer resin and a clarifying material, wherein the transparent window has a total light transmittance that is substantially higher than a window comprising only the polymeric resin.



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