

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
22 October 2009 (22.10.2009)(10) International Publication Number
WO 2009/129384 A8

(51) International Patent Classification:

B24D 3/20 (2006.01) **C09K 3/14** (2006.01)**B24D 11/02** (2006.01)

(21) International Application Number:

PCT/US2009/040797

(22) International Filing Date:

16 April 2009 (16.04.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/124,168 18 April 2008 (18.04.2008) US

(71) Applicants (for all designated States except US):

SAINT-GOBAIN ABRASIVES, INC. [US/US]; One New Bond Street, Worcester, MA 01615 (US). **SAINT-GOBAIN ABRASIFS** [FR/FR]; Rue De L'ambassadeur, F-78700 Conflans-Sainte Honorine (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SETH, Anuj** [IN/US]; 37 Royal Crest Drive, Apartment 9, Marlborough, MA 01752 (US). **CAI, Ying** [CN/US]; 33 Sheridan Drive, Apartment 8, Shrewsbury, MA 01545 (US).(74) Agents: **BUJOLD, Michael, J.** et al.; Davis & Bujold, P.L.L.C., 112 Pleasant Street, Concord, NH 03301 (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, BR, BW, BY, BZ, CA, CH, 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, KM, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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))

— with information submitted by the applicant concerning one or more priority claims (Rule 26bis.2(d))

(88) Date of publication of the international search report:

21 January 2010

[Continued on next page]

(54) Title: HYDROPHILIC AND HYDROPHOBIC SILANE SURFACE MODIFICATION OF ABRASIVE GRAINS

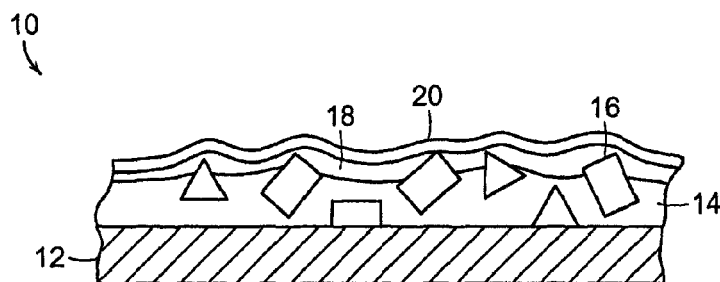


FIG. 1

(57) Abstract: A surface-modified abrasive grain includes an abrasive grain as a substrate, and a film on the grain that includes a relatively hydrophilic silane component and a relatively hydrophobic silane component. The film can be a single film layer or multiple film layers, wherein a film layer most proximal to the abrasive grain has a predominately hydrophilic silane component, and a film layer more distal to the abrasive grain includes predominately a relatively hydrophobic silane component. Coated abrasive products and bonded abrasive products include the surface-modified abrasive grains.



(48) Date of publication of this corrected version:

2 December 2010

(15) Information about Correction:

see Notice of 2 December 2010