

PCTWORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : D04H 1/60	A1	(11) International Publication Number: WO 96/35011 (43) International Publication Date: 7 November 1996 (07.11.96)
(21) International Application Number: PCT/US96/03753 (22) International Filing Date: 21 March 1996 (21.03.96) (30) Priority Data: 08/434,612 4 May 1995 (04.05.95) US (71) Applicant: MINNESOTA MINING AND MANUFACTURING COMPANY [US/US]; 3M Center, P.O. Box 33427, Saint Paul, MN 55133-3427 (US). (72) Inventors: PALAIKIS, Liana, V.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). OLSON, Gary, L.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). SANDERS, Rufus, C., Jr.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). (74) Agents: PASTIRIK, Daniel, R. et al.; Minnesota Mining and Manufacturing Company, Office of Intellectual Property Counsel, P.O. Box 33427, Saint Paul, MN 55133-3427 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>

(54) Title: SCOURING ARTICLES AND PROCESS FOR THE MANUFACTURE OF SAME

(57) Abstract

Lofty, low density nonwoven pads and a process for the manufacture of such pads are described. The pads of the invention each comprise a bundle of discontinuous fibers bonded to one another at their mutual points of contact. The fibers are arranged within the bundle to provide a dense longitudinal central portion extending to opposite ends of the bundle, less dense side portions, a longitudinal tensile strength and a transverse tensile strength, wherein the longitudinal tensile strength is greater than the transverse tensile strength. The pads are made according to a process comprising forming a tow of discontinuous fibers so that the fibers are arranged

within the tow to extend along a first axis, twisting the tow along the first axis to form a slubbed tow, bonding the fibers to one another at their mutual contact points and cutting the slubbed tow into scouring pads and the like.

