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(21) International Application Number: PCT/US99/04874 (22) International Filing Date: 2 March 1999 (02.03.99) (30) Priority Data: 09/038,300 11 March 1998 (11.03.98) US 09/244,022 4 February 1999 (04.02.99) US (71) Applicant: NORTON COMPANY [US/US]; 1 New Bond Street, Box Number 15138, Worcester, MA 01615-0138 (US). (72) Inventors: BULJAN, Sergej-Tomislav; 23 Washington Street, Acton, MA 01720 (US). ANDREWS, Richard, M.; 56 Upton Road, Westborough, MA 01581 (US). GEARY, Earl, G.; 12 Waveney Road, Framingham, MA 01701 (US). (74) Agents: PORTER, Mary, E. et al.; Saint Gobain Corporation, 1 New Bond Street, Box Number 15138, Worcester, MA 01615-0138 (US).		(81) Designated States: AU, BR, CA, CN, CZ, HU, ID, IL, IN, JP, KR, MX, NZ, PL, SG, SK, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>Without international search report and to be republished upon receipt of that report.</i>
(54) Title: SUPERABRASIVE WIRE SAW AND METHOD FOR MAKING THE SAW (57) Abstract A wire saw has a small diameter metal wire and a layer of abrasive grains firmly affixed to the wire surface by a brazed or soldered active metal bond. Preferably, the grains are present in a single layer. The grains are disposed on the surface of the wire in a preselected surface distribution. The wire saw can be made by a completely continuous process involving coating the wire with a paste of metal bond powder components combined with a fugitive liquid binder component. Abrasive grains are deposited into a layer of the paste. Thereafter, the bond composition is fused at a elevated temperature to braze the grains to the wire. The abrasive grains can include superabrasive materials, such as diamond and cubic boron nitride. Accordingly, the novel wire saw is suitable for cutting ultra thin wafers ceramic wafers with minimum waste of the work piece.		