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(54) Title: AQUEOUS POLISHING COMPOSITION AND PROCESS FOR CHEMICALLY MECHANICALLY POLISHING SUBSTRATE MATERIALS FOR ELECTRICAL, MECHANICAL AND OPTICAL DEVICES

(57) Abstract: An aqueous polishing composition comprising (A) abrasive particles which are positively charged when dispersed in an aqueous medium having a pH in the range of from 3 to 9 as evidenced by the electrophoretic mobility; (B) water-soluble and water-dispersible hydroxy group containing components selected from (b1) aliphatic and cycloaliphatic hydroxycarboxylic acids, wherein the molar ratio of hydroxy groups to carboxylic acid groups is at least 1; (b2) esters and lactones of the hydroxycarboxylic acids (b1) having at least one hydroxy group; and (b3) mixtures thereof; and (C) water-soluble and water-dispersible polymer components selected from (c1) linear and branched alkylene oxide polymers; (c2) linear and branched, aliphatic and cycloaliphatic poly(N-vinylamide) polymers; and (c3) cationic polymeric flocculants having a weight average molecular weight of less than 100,000 Dalton.; and a process for polishing substrate materials for electrical, mechanical and optical devices.

