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(54) Title: SLURRIES OF ABRASIVE INORGANIC OXIDE PARTICLES AND METHOD FOR ADJUSTING THE ABRASIVENESS OF THE PARTICLES

(57) Abstract

Autoclaving slurries of porous, inorganic oxide particles results in an increased abrasiveness of the particles as reflected in increased removal rates of a polished substrate at standard polishing conditions in chemical mechanical polishing operations. Slurries having novel abrasion properties, especially for silica–based slurries, are created. The increase in particle abrasivity strongly correlates with a decrease in particle surface area as determined by $N_2$ adsorption (BET method). As a result, methods for obtaining a desired abrasivity for a slurry can be practiced by heating a slurry of inorganic oxide particles to a BET surface area previously identified as associated with the abrasivity desired. The resulting slurries can be used in conventional polishing machinery. The method is particularly suitable for preparing silica–based abrasive slurries.