CHEMICAL-MECHANICAL POLISHING COMPOSITION AND METHOD FOR USING THE SAME

ABSTRACT

The invention provides a chemical-mechanical polishing composition comprising: (a) an abrasive comprising α-alumina, (b) 0.05 to 50 mmol/kg of ions of at least one metal selected from the group consisting of calcium, strontium, barium, and mixtures thereof, based on the total weight of the polishing composition, and (c) a liquid carrier comprising water. The invention also provides a chemical-mechanical polishing composition comprising: (a) an abrasive selected from the group consisting of α-alumina, γ-alumina, δ-alumina, θ-alumina, diamond, boron carbide, silicon carbide, tungsten carbide, titanium nitride, and mixtures thereof, (b) 0.05 to 3.5 mmol/kg of ions of at least one metal selected from the group consisting of calcium, strontium, barium, magnesium, zinc, and mixtures thereof, based on the total weight of the polishing composition, and (c) a liquid carrier comprising water. The invention further provides methods of polishing a substrate using each of the above-described chemical-mechanical polishing compositions.

(no suitable figure)