Cu CMP 에서 나노 콜로이달 입자의 크기가 연마제거율과 Cu/TaN 선택비에 미치는 영향

Effect of Nano-Colloidal Abrasive size on Removal Rate and Selectivity of Cu/TaN Film in Cu CMP

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Chemical mechanical polishing (CMP) is an essential process in the production of integrated circuits containing copper interconnects We investigated the abrasive size effect of nano-colloidal silica slurry containing alanine through the chemical mechanical polishing test for the 8 inch blanket wafers as deposited Cu and TaN film, respectively The removal rate of copper film was increased linearly as increasing of abrasive size but tantalum-nitride film was increased exponentially as increasing of abrasive size Abrasive size reaches at 70[nm], then, the selectivity goes down