ABSTRACT

A polishing compound for chemical mechanical polishing of a substrate, which comprises (A) abrasive grains, (B) an aqueous medium, (C) tartaric acid, (D) trishydroxymethylaminomethane and (E) at least one member selected from the group consisting of malonic acid and maleic acid, and more preferably, which further contains a compound having a function to form a protective film on the wiring metal surface to prevent dishing at the wiring metal portion, such as benzotriazole. By use of this polishing compound, the copper wirings on the surface of a semiconductor integrated circuit board can be polished at a high removal rate while suppressing formation of scars as defects in a polishing step. Particularly in a first polishing step of polishing copper wirings having a film made of tantalum or a tantalum compound as a barrier film, excellent selectivity will be obtained, dishing and erosion due to polishing are less likely to occur, and an extremely high precision flat surface of a semiconductor integrated circuit board can be obtained.