COMPOSITION FOR SELECTIVELY POLISHING SILICON NITRIDE LAYER AND POLISHING METHOD EMPLOYING IT

ABSTRACT

To provide a polishing composition whereby the stock removal rate of a silicon nitride layer is higher than the stock removal rate of a silicon oxide layer, there is substantially no adverse effect against polishing planarization, and a sufficient stock removal rate of a silicon nitride layer is obtainable, and a polishing method employing such a composition.

A polishing composition which comprises silicon oxide abrasive grains, an acidic additive and water, wherein the acidic additive is such that when it is formed into a 85 wt% aqueous solution, the chemical etching rate of the silicon nitride layer is at most 0.1 nm/hr in an atmosphere of 80°C. Particularly preferred is one wherein the silicon oxide abrasive grains have an average particle size of from 1 to 50 nm, and the pH of the composition is from 3.5 to 6.5.

Figure 1