

ABSTRACT

CERIA-BASED COMPOSITE FINE PARTICLE DISPERSION, PRODUCTION METHOD THEREFOR, AND POLISHING ABRASIVE GRAIN DISPERSION INCLUDING CERIA-BASED COMPOSITE FINE PARTICLE DISPERSION

Aiming at providing a ceria-based composite particle dispersion capable of polishing silica film, Si wafer or even hard-to-process material at high polishing rate, and can give high surface accuracy, disclosed is a ceria-based composite particle dispersion that contains a ceria-based composite particle that has an average particle size of 50 to 350 nm, to solve the aforementioned problem, featured by that the ceria-based composite particle has a mother particle, a cerium-containing silica layer, a child particle, and an easily soluble silica-containing layer; the mother particle contains amorphous silica as a major ingredient; the child particle contains crystalline ceria as a major ingredient; ratio of the mass of the easily soluble silica-containing layer relative to the mass of the ceria-based composite particle falls in a specific range; mass ratio of silica and ceria in the ceria-based composite particle falls in a specific range; the ceria-based composite particle, when analyzed by X-ray diffractometry, shows only a crystal phase of ceria; and the ceria-based composite particle has an average crystallite size of the crystalline ceria, when analyzed by X-ray diffractometry, of 10 to 25 nm.

[Figure 1]