

ABSTRACT

**SILICA-BASED COMPOSITE FINE PARTICLE DISPERSION AND METHOD FOR
MANUFACTURING SAME**

The present invention addresses the problem of providing a silica-based composite fine particle dispersion with which a silica film, a Si-wafer, or even a difficult to machine material can be polished at high speed while achieving high planar accuracy (such as few scratches), and which can be preferably used for polishing the surface of a semiconductor device, such as a semiconductor substrate or a wiring board. The problem is solved by means of a silica-based composite fine particle dispersion including a silica-based composite fine particle which comprises a mother particle containing amorphous silica as a main component with a child particle containing crystalline ceria as a main component on a surface thereof. The silica-based composite fine particle has the following features. The silica-based composite fine particle has a silica to ceria mass ratio of 100:11 to 316. The silica-based composite fine particle is such that, when subjected to X-ray diffraction, only the crystalline phase of ceria is detected. The silica-based composite fine particle is such that, when subjected to X-ray diffraction for measurement, the crystalline ceria has a crystallite diameter of 10 to 25 nm.

[Fig. 1]