- 7 JUN 2002

POLISHING COMPOSITION AND POLISHING METHOD EMPLOYING IT

ABSTRACT

The present invention provides a polishing composition comprising the following components:

(a) an abrasive,
(b) α-alanine,
(c) hydrogen peroxide, and
(d) water.

Further, the present invention provides a polishing method for polishing a semiconductor device having a layer of copper and a layer of a tantalum-containing compound formed on a substrate, by means of a polishing composition comprising the following components:

(a) an abrasive,
(b) α-alanine,
(c) hydrogen peroxide, and
(d) water.

According to the present invention, in a CMP process for a semiconductor device having at least a copper layer and a tantalum-containing compound layer, it is possible to provide a high selectivity ratio i.e. a high stock removal rate of the copper layer and a low stock removal rate of the tantalum-containing compound layer, and to provide a polished surface excellent in smoothness. Further, according to the present invention, it is possible to produce a semiconductor device in good yield in the above-mentioned production of the semiconductor device.

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