

CLAIMS

1. A method for producing a polished object, comprising:
a double-side polishing step in which an object to be polished is subjected to double-side polishing using a
5 double-side polishing composition including first abrasive grains having an average primary particle diameter of 40 nm or more and a nitrogen-containing water-soluble polymer to obtain a double-side polished object; and
a single-side polishing step in which the double-side
10 polished object is subjected to single-side polishing using a single-side polishing composition including second abrasive grains having an average primary particle diameter of 40 nm or less and a water-soluble polymer, wherein
a ratio of an average primary particle diameter (A) of
15 the first abrasive grains with respect to an average primary particle diameter (B) of the second abrasive grains $(A)/(B)$ is more than 1 and 2.5 or less.
2. The method for producing a polished object according
20 to claim 1, wherein $(A)/(B)$ is 1.6 or more and less than 2.3.
3. The method for producing a polished object according to claim 1 or 2, wherein the concentration of the water-soluble polymer in the single-side polishing
25 composition is higher than that of the nitrogen-containing water-soluble polymer in the double-side polishing composition.
4. The method for producing a polished object according
30 to any one of claims 1 to 3, wherein the nitrogen-containing water-soluble polymer has one or more nitrogen atoms in a monomer unit, or one or more nitrogen atoms in a part of side

chain.

5 5. The method for producing a polished object according to any one of claims 1 to 4, wherein the nitrogen-containing water-soluble polymer is selected from the group consisting of polyvinyl imidazole, polyvinyl carbazole, polyvinyl pyrrolidone, poly N-vinylformamide, polyvinyl caprolactam, and polyvinyl piperidine.

10 6. The method for producing a polished object according to any one of claims 1 to 5, wherein

the single-side polishing step is performed multiple times, and

15 a water-soluble polymer used in the last single-side polishing step includes at least one selected from a polymer containing an oxyalkylene unit, a nitrogen-containing water-soluble polymer, polyvinyl alcohol, and a cellulose derivative.

20 7. The method for producing a polished object according to any one of claims 1 to 6, wherein the object to be polished is a semiconductor wafer.

25 8. The method for producing a polished object according to claim 7, wherein the semiconductor is silicon.

9. A polishing composition kit comprising:

30 first abrasive grains having an average primary particle diameter of 40 nm or more, used in double-side polishing;

a nitrogen-containing water-soluble polymer used in double-side polishing;

second abrasive grains having an average primary particle diameter of 40 nm or less, used in single-side polishing; and

5 a water-soluble polymer used in single-side polishing,
 wherein

 a ratio of an average primary particle diameter (A) of the first abrasive grains with respect to an average primary particle diameter (B) of the second abrasive grains $(A)/(B)$ is more than 1 and 2.5 or less.

CLAIMS

1. A double-side polishing composition used in a method for producing a polished object, wherein the double-side polishing composition comprises abrasive grains having an average primary particle diameter of 40 nm or more and a nitrogen-containing water-soluble polymer, wherein the method comprises:

a double-side polishing step in which an object to be polished is subjected to double-side polishing using a double-side polishing composition including first abrasive grains having an average primary particle diameter of 40 nm or more and a nitrogen-containing water-soluble polymer to obtain a double-side polished object; and

a single-side polishing step in which the double-side polished object is subjected to single-side polishing using a single-side polishing composition including second abrasive grains having an average primary particle diameter of 40 nm or less and a water-soluble polymer,

wherein a ratio of an average primary particle diameter (A) of the first abrasive grains with respect to an average primary particle diameter (B) of the second abrasive grains $(A)/(B)$ is more than 1 and 2.5 or less.

2. A single-side polishing composition used in a method for producing a polished object, wherein the single-side polishing composition comprises abrasive grains having an average primary particle diameter of 40 nm or less and a water-soluble polymer, wherein the method comprises:

a double-side polishing step in which an object to be polished is subjected to double-side polishing using a

double-side polishing composition including first abrasive grains having an average primary particle diameter of 40 nm or more and a nitrogen-containing water-soluble polymer to obtain a double-side polished object; and

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a single-side polishing step in which the double-side polished object is subjected to single-side polishing using a single-side polishing composition including second abrasive grains having an average primary particle diameter of 40 nm or less and a water-soluble polymer,

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wherein a ratio of an average primary particle diameter (A) of the first abrasive grains with respect to an average primary particle diameter (B) of the second abrasive grains (A)/(B) is more than 1 and 2.5 or less.

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3. A polishing composition kit comprising:

first abrasive grains having an average primary particle diameter of 40 nm or more, used in double-side polishing;

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a nitrogen-containing water-soluble polymer used in double-side polishing;

second abrasive grains having an average primary particle diameter of 40 nm or less, used in single-side polishing; and

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a water-soluble polymer used in single-side polishing,

wherein a ratio of an average primary particle diameter (A) of the first abrasive grains with respect to an average primary particle diameter (B) of the second abrasive grains (A)/(B) is more than 1 and 2.5 or less.

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