

CLAIMS

1. A glass substrate for an information recording medium to be used for an information recording medium ~~which has a magnetic thin film layer formed on~~
5 ~~a main surface of the glass substrate and in which a recording density of a~~
~~magnetic recording surface is equal to or greater than 600 Gbit per square inch,~~

wherein an average value of SiOH/Si of a main surface of the glass substrate after being subjected to an alkali treatment in which the glass substrate for an information recording medium is immersed in a sodium
10 hydroxide solution at pH 11 at 40°C for 30 minutes is 0.20 to 0.50 inclusive.

2. The glass substrate for an information recording medium according to claim 1,

wherein the average value of SiOH/Si of the main surface of the glass
15 substrate after the alkali treatment is performed is 0.20 to 0.45 inclusive.

3. The glass substrate for an information recording medium according to claim 1 or claim 2,

wherein a rate of change of an average value of SiOH/Si of the main
20 surface of the glass substrate after the alkali treatment with respect to an average value of SiOH/Si of the main surface of the glass substrate before the alkali treatment is 20% or less.

4. The glass substrate for an information recording medium according to any of claims 1 to 3,

wherein a recording density of the magnetic recording media is equal to or greater than 600 Gbit per square inch.

45. A method for manufacturing a glass substrate for an information
30 recording medium according to any one of claims 1 to ~~3~~ 4, comprising:

a polishing step of polishing main surfaces of a circular glass member;

a treatment bringing the polished circular glass member into contact with hydrogen-rich water of 0.1 to ~~1.4~~ 1.5 ppm for 1 to 10 minutes, an alkaline solution at pH 10.0 to 11.0 for 5 to 20 minutes and an organic acid of 0.05 to 0.5% for 5 to 20 minutes in the stated order after the polishing step; and
a final cleaning step.

56. A method for manufacturing a glass substrate for an information recording medium according to any one of claims 1 to ~~3~~ 4, comprising:

a polishing step of polishing main surfaces of a circular glass member;

a treatment bringing the polished circular glass member into contact with an alkaline solution at pH 10.0 to 11.0 for 5 to 20 minutes and an organic acid of 0.05 to 0.5% for 5 to 20 minutes in the stated order after the polishing step; and

a final cleaning step.

67. A method for manufacturing a glass substrate for an information recording medium according to any one of claims 1 to ~~3~~ 4, comprising:

a polishing step of polishing main surfaces of a circular glass member;

a treatment of bringing the polished circular glass member into contact with hydrogen-rich water of 1.5 ppm for 3 minutes and an alkaline solution at pH 10.0 to 11.0 for 5 to 20 minutes in the stated order after the polishing step; and

a final cleaning step.

8. A magnetic recording medium comprising at least a magnetic recording layer formed on the main surface of the glass substrate according to any of claims 1 to 4.

9. A method for manufacturing a magnetic recording medium comprising

the step of forming at least a magnetic recording layer on the main surface of the glass substrate according to any of claims 1 to 4.