WHAT IS CLAIMED IS:

1. A method for producing a glass substrate for a magnetic recording medium, the glass substrate comprising:

a pair of main surfaces;

an outer peripheral surface; and

an inner peripheral surface,

wherein the outer peripheral surface comprises an outer peripheral side surface portion and an outer peripheral chamfered portion,

the method comprises a main surface polishing process, in which a main surface of the glass substrate for a magnetic recording medium retained in a carrier using a double side polishing apparatus is polished, and

in an outer peripheral surface of a glass substrate for a magnetic recording medium to be polished in the main surface polishing process,

when a surface roughness Ra is measured at a total of 24 measurement points, provided at intervals of 15 degrees in central angle of the glass substrate for a magnetic recording medium,

a maximum value of the surface roughness Ra of the outer peripheral side surface portion is 0.5 μm or less, and

a standard deviation of the surface roughness Ra of the outer peripheral side surface portion is 0.2 μm or less.

2. The method for producing a glass substrate for a magnetic recording medium according to claim 1,

wherein in the glass substrate for a magnetic recording medium to be polished in the main surface polishing process,

a difference in the surface roughness Ra of the outer peripheral side surface portion between adjacent measurement points on the outer peripheral surface is 0.3 μm or less.

3. A glass substrate for a magnetic recording medium comprising:

a pair of main surfaces;

an outer peripheral surface; and

an inner peripheral surface,

wherein the outer peripheral surface comprises an outer peripheral side surface portion and an outer peripheral chamfered portion,

the glass substrate is obtained through a main surface polishing process in which a main surface of the glass substrate for a magnetic recording medium retained in a carrier is polished using a double side polishing apparatus, and

in an outer peripheral surface of the glass substrate for a magnetic recording medium,

when a surface roughness Ra is measured at a total of 24 measurement points, provided at intervals of 15 degrees in central angle of the glass substrate for a magnetic recording medium,

a maximum value of the surface roughness Ra of the outer peripheral side surface portion is 0.5 μm or less, and

a standard deviation of the surface roughness Ra of the outer peripheral side surface portion is 0.2 μm or less.

4. The glass substrate for a magnetic recording medium according to claim 3,

wherein a difference in the surface roughness Ra of the outer peripheral side surface portion between adjacent measurement points on the outer peripheral surface is 0.3 μm or less.

5. The glass substrate for a magnetic recording medium according to claim 3 or 4,

wherein a maximum value of a surface roughness Ra of the outer peripheral chamfered portion is 0.5 μm or less,

a standard deviation of the surface roughness Ra of the outer peripheral chamfered portion is 0.2 μm or less, and

a difference in the surface roughness Ra of the outer peripheral chamfered portion between adjacent measurement points on the outer peripheral surface is 0.3 μm or less.

6. The glass substrate for a magnetic recording medium according to any one of claims 3 to 5,

wherein the inner peripheral surface comprises an inner peripheral side surface portion and an inner peripheral chamfered portion,

in the inner peripheral surface, when a surface roughness Ra is measured at a total of 24 measurement points, provided at intervals of 15 degrees in central angle of the glass substrate for a magnetic recording medium,

a maximum value of a surface roughness Ra of both the inner peripheral side surface portion and the inner peripheral chamfered portion is 0.5 μm or less,

a standard deviation of the surface roughness Ra of both the inner peripheral side surface portion and the inner peripheral chamfered portion is 0.2 μm or less, and

a difference in the surface roughness Ra of both the inner peripheral side surface portion and the inner peripheral chamfered portion between adjacent measurement points on the inner peripheral surface is 0.3 μm or less.

7. The glass substrate for a magnetic recording medium according to any one of claims 3 to 6,

wherein, when a multilayer film having a magnetic layer is formed on a surface of the glass substrate for a magnetic recording medium, a rate of occurrence of film peel-off on the multilayer film is 0.7 % or less.

WHAT IS CLAIMED IS:

1. A method for producing a glass substrate for a magnetic recording medium, the glass substrate comprising:

a pair of main surfaces;

an outer peripheral surface; and

an inner peripheral surface,

wherein the outer peripheral surface comprises an outer peripheral side surface portion and an outer peripheral chamfered portion,

the method comprises a main surface polishing process, in which a main surface of the glass substrate for a magnetic recording medium retained in a carrier using a double side polishing apparatus is polished, and

in an outer peripheral surface of a glass substrate for a magnetic recording medium to be polished in the main surface polishing process,

when a surface roughness Ra is measured at a total of 24 measurement points, provided at intervals of 15 degrees in central angle of the glass substrate for a magnetic recording medium, with a cut-off value at 64 μm,

wherein a maximum value of the surface roughness Ra of the outer peripheral side surface portion is 0.5 μm or less,

a standard deviation of the surface roughness Ra of the outer peripheral side surface portion is 0.2 μm or less, and

a difference in the surface roughness Ra of the outer peripheral chamfered portion between adjacent measurement points on the outer peripheral surface is 0.3 μm or less.

2. The method for producing a glass substrate for a magnetic recording medium according to claim 1,

wherein, after the main surface polishing process, when a thickness of the glass substrate for a magnetic recording medium is measured on each of an outer peripheral portion and an inner peripheral portion at a total of eight measurement points provided at angular intervals of a central angle of 90 degrees within each main surface of the glass substrate, a difference between a maximum thickness value and a minimum thickness value is obtained as a parallelism a, and a value of the parallelism a is 0.3 μm or less.

3. A glass substrate for a magnetic recording medium, comprising:

a pair of main surfaces;

an outer peripheral surface; and

an inner peripheral surface,

wherein the outer peripheral surface comprises an outer peripheral side surface portion and an outer peripheral chamfered portion,

the glass substrate is obtained through a main surface polishing process in which a main surface of the glass substrate for a magnetic recording medium retained in a carrier is polished using a double side polishing apparatus, and

in an outer peripheral surface of the glass substrate for a magnetic recording medium,

when a surface roughness Ra is measured at a total of 24 measurement points, provided at intervals of 15 degrees in central angle of the glass substrate for a magnetic recording medium, with a cut-off value at 64 μm,

wherein a maximum value of the surface roughness Ra of the outer peripheral side surface portion is 0.5 μm or less,

a standard deviation of the surface roughness Ra of the outer peripheral side surface portion is 0.2 μm or less, and

a difference in the surface roughness Ra of the outer peripheral chamfered portion between adjacent measurement points on the outer peripheral surface is 0.3 μm or less.

4. The glass substrate for a magnetic recording medium according to claim 3,

wherein when a thickness of the glass substrate for a magnetic recording medium is measured on each of an outer peripheral portion and an inner peripheral portion at a total of eight measurement points provided at angular intervals of a central angle of 90 degrees within each main surface of the glass substrate, a difference between a maximum thickness value and a minimum thickness value is obtained as a parallelism a, and a value of the parallelism a is 0.3 μm or less.

5. The glass substrate for a magnetic recording medium according to claim 3 or 4,

wherein a maximum value of a surface roughness Ra of the outer peripheral chamfered portion is 0.5 μm or less,

a standard deviation of the surface roughness Ra of the outer peripheral chamfered portion is 0.2 μm or less, and

a difference in the surface roughness Ra of the outer peripheral chamfered portion between adjacent measurement points on the outer peripheral surface is 0.3 μm or less.

6. The glass substrate for a magnetic recording medium according to any one of claims 3 to 5,

wherein the inner peripheral surface comprises an inner peripheral side surface portion and an inner peripheral chamfered portion,

in the inner peripheral surface, when a surface roughness Ra is measured at a total of 24 measurement points, provided at intervals of 15 degrees in central angle of the glass substrate for a magnetic recording medium,

a maximum value of a surface roughness Ra of both the inner peripheral side surface portion and the inner peripheral chamfered portion is 0.5 μm or less,

a standard deviation of the surface roughness Ra of both the inner peripheral side surface portion and the inner peripheral chamfered portion is 0.2 μm or less, and

a difference in the surface roughness Ra of both the inner peripheral side surface portion and the inner peripheral chamfered portion between adjacent measurement points on the inner peripheral surface is 0.3 μm or less.