CLAIMS

1. A magnetic-disk substrate comprising a pair of main surfaces,

wherein an outer circumference of the substrate has a roundness of 1.3 μm or less,

a first reference circle is obtained with a least squares method from a first outline corresponding to a shape of a lap around the outer circumference of the substrate, and the number of peaks of the first outline that project outward in a radial direction from the first reference circle is defined as a first peak count value, and

a second reference circle is obtained with a least squares method from a second outline obtained by performing low-pass filtering using a period in which a number of peaks per lap is 150 as a cut-off value on the first outline, and the number of peaks of the second outline that project outward in a radial direction from the second reference circle is defined as a second peak count value, and

a ratio of the second peak count value to the first peak count value is 0.2 or less.

2. A magnetic-disk substrate comprising a pair of main surfaces,

wherein an outer circumference of the substrate has a roundness of 1.3 μm or less,

a first reference circle is obtained with a least squares method from a first outline corresponding to a shape of a lap around the outer circumference of the substrate, and the number of peaks of the first outline that project outward in a radial direction from the first reference circle is defined as a first peak count value,

a second reference circle is obtained with a least squares method from a second outline obtained by performing low-pass filtering using a period in which a number of peaks per lap is 150 as a cut-off value on the first outline, and the number of peaks of the second outline that project outward in a radial direction from the second reference circle is defined as a second peak count value,

a ratio of the second peak count value to the first peak count value is 0.2 or less, and

a surface roughness of an outer circumferential edge surface is set such that an arithmetic mean roughness Ra is 0.02 μm or less.

3. The magnetic-disk substrate according to claim 1 or 2,

wherein a side wall surface and a pair of chamfered surfaces are formed at an

outer circumferential side edge surface of the magnetic-disk substrate, each of the pair of chamfered surfaces being located between each of the pair of main surfaces and the side wall,

an arithmetic mean roughness Ra of the main surfaces is 0.15 nm or less, and

the side wall surface or each of the chamfered surfaces have a surface roughness of 0.02 μm or less at arithmetic mean roughness Ra.

4. A magnetic disk comprising:

the magnetic-disk substrate according to claim 1 or 2, and

a magnetic layer formed on each of main surfaces of the magnetic-disk substrate.

5. A method for manufacturing a magnetic-disk substrate comprising

main surface polishing processing for polishing main surfaces of a disk-shaped substrate while the disk-shaped substrate is held with a carrier,

wherein an outer circumference of the disk-shaped substrate has a roundness of 1.3 μm or less,

a first reference circle is obtained with a least squares method from a first outline corresponding to a shape of a lap around the outer circumference of the disk-shaped substrate, and the number of peaks of the first outline that project outward in a radial direction from the first reference circle is defined as a first peak count value,

a second reference circle is obtained with a least squares method from a second outline obtained by performing low-pass filtering using a period in which a number of peaks per lap is 150 as a cut-off value on the first outline, and the number of peaks of the second outline that project outward in a radial direction from the second reference circle is defined as a second peak count value, and

a ratio of the second peak count value to the first peak count value is 0.2 or less.

6. The method for manufacturing a magnetic-disk substrate according to claim 5, wherein microparticles of colloidal silica are used in the main surface polishing processing.

7. The method for manufacturing a magnetic-disk substrate according to claim 5, wherein the main surface polishing processing is performed such that the surface roughness of each of the pair of main surfaces is 0.15 nm or less at the

arithmetic mean roughness Ra.

8. A method for manufacturing a disk-shaped substrate comprising

edge surface polishing processing for polishing an outer circumferential edge surface of a disk-shaped substrate using a polishing brush,

wherein in the edge surface polishing processing, the outer circumferential edge surface is polished such that

an outer circumference of the disk-shaped substrate has a roundness of 1.3 μm or less,

a first reference circle is obtained with a least squares method from a first outline corresponding to a shape of a lap around the outer circumference of the disk-shaped substrate, and the number of peaks of the first outline that project outward in a radial direction from the first reference circle is defined as a first peak count value,

a second reference circle is obtained with a least squares method from a second outline obtained by performing low-pass filtering using a period in which a number of peaks per lap is 150 as a cut-off value on the first outline, and the number of peaks of the second outline that project outward in a radial direction from the second reference circle is defined as a second peak count value, and

a ratio of the second peak count value to the first peak count value is 0.2 or less.

9. The method for manufacturing a disk-shaped substrate according to claim 8, wherein the edge surface polishing processing is performed such that:

a side wall surface and a pair of chamfered surfaces are formed at an outer circumferential side edge surface of the magnetic-disk substrate, each of the pair of chamfered surfaces being located between the side wall and each of a pair of main surfaces, and

the side wall surface or each of the chamfered surfaces have a surface roughness of 0.02 μm or less at arithmetic mean roughness Ra.