CLAIMS

1. A method ~~for~~ of manufacturing an annular glass plate that has an outer circumferential edge surface, an inner circumferential edge surface, and a thickness not larger than 0.6 mm, the method comprising:

processing for manufacturing ~~an~~ the annular glass plate by irradiating each of the outer circumferential edge surface and the inner circumferential edge surface of an annular glass blank with a laser beam to melt the outer circumferential edge surface and the inner circumferential edge surface and form molten surfaces, such that the molten surfaces in the outer circumferential edge surface and the inner circumferential edge surface each have an arithmetic average surface roughness Ra not larger than 0.1 μm and the surface roughness of the molten surface in the inner circumferential edge surface is larger than the surface roughness of the molten surface in the outer circumferential edge surface.

2. The method ~~for~~ of manufacturing an annular glass plate according to claim 1,

wherein the irradiation of the laser beam to each of the outer circumferential edge surface and the inner circumferential edge surface is performed separately, and

a power density of the laser beam emitted to the inner circumferential edge surface is not higher than 80% of a power density of the laser beam emitted to the outer circumferential edge surface.

3. The method ~~for~~ of manufacturing an annular glass plate according to claim 1 or 2,

wherein the inner circumferential edge surface and the outer circumferential edge surface of the annular glass blank are irradiated with the laser beam such that the inner circumferential edge surface and the outer

circumferential edge surface of the annular glass plate do not bulge relative to both main surfaces of the annular glass plate.

4. A method ~~for~~ of manufacturing a glass substrate for a magnetic disk, comprising:

manufacturing ~~a glass substrate for a magnetic disk by performing~~the annular glass plate using the method of manufacturing an annular glass plate according to any one of claims 1 to 3, and

performing polishing processing at least on main surfaces of the annular glass plate ~~manufactured using the method for manufacturing an annular glass plate according to any one of claims 1 to 3~~.

5. The method ~~for~~ of manufacturing a glass substrate for a magnetic disk according to claim 4,

wherein edge surface polishing is not performed using a polishing brush on the inner circumferential edge surface and the outer circumferential edge surface of the annular glass plate after performing irradiation with the laser beam and before polishing the main surfaces.

6. A method ~~for~~ of manufacturing a magnetic disk, comprising:

manufacturing the glass substrate for a magnetic disk using the method of manufacturing a glass substrate for a magnetic disk according to claim 4 or 5, and

performing forming magnetic films on the main surfaces of the glass substrate for a magnetic disk manufactured ~~using the method for manufacturing a glass substrate for a magnetic disk according to claim 4 or 5~~.

7. An annular glass plate that has an outer circumferential edge surface, an inner circumferential edge surface, and a thickness not larger than 0.6 mm,

wherein the outer circumferential edge surface and the inner

circumferential edge surface are constituted by molten surfaces,

the molten surfaces in the outer circumferential edge surface and the inner circumferential edge surface each have an arithmetic average surface roughness Ra not larger than 0.1 μm and the surface roughness of the molten surface in the inner circumferential edge surface is larger than the surface roughness of the molten surface in the outer circumferential edge surface, and

the molten surfaces in the inner circumferential edge surface and the outer circumferential edge surface do not bulge relative to both main surfaces of the annular glass plate.

8. A glass substrate for a magnetic disk, which has an outer circumferential edge surface, an inner circumferential edge surface, and a thickness not larger than 0.6 mm,

wherein the outer circumferential edge surface and the inner circumferential edge surface are constituted by molten surfaces,

the molten surfaces in the outer circumferential edge surface and the inner circumferential edge surface each have an arithmetic average surface roughness Ra not larger than 0.1 μm and the surface roughness of the molten surface in the inner circumferential edge surface is larger than the surface roughness of the molten surface in the outer circumferential edge surface,

the molten surfaces in the inner circumferential edge surface and the outer circumferential edge surface do not bulge relative to both main surfaces of the glass substrate for a magnetic disk, and

the main surfaces have an arithmetic average surface roughness Ra not larger than 0.3 nm.

9. A magnetic disk comprising:

the glass substrate for a magnetic disk according to claim 8 and magnetic films formed on the main surfaces of the glass substrate for a magnetic disk.

10. A method of manufacturing a glass substrate for a magnetic disk comprising:

performing polishing processing at least on main surfaces of the annular glass plate according to claim 7.

11. A method of manufacturing a magnetic disk comprising:

performing forming magnetic films on the main surfaces of the glass substrate for a magnetic disk according to claim 8.