[CLAIMS]

[Claim 1]

A manufacturing method of glass blank for magnetic disk including a pair of principal surfaces, the method comprising the step of

forming a glass blank by performing press forming to molten glass or softened glass with a pair of dies each having a planar press forming surface,

wherein temperature condition is equalized around the pair of principal surfaces of the glass blank during the pressing in the forming step,

wherein the planar press forming surfaces of the pair of dies are disposed such that normal directions of the surfaces become substantially horizontal, and such that the surfaces become parallel to each other, and the molten glass or the softened glass is sandwiched between the planar press forming surfaces of the pair of dies in the forming step, and

wherein, when pressing the molten glass or the softened glass with the dies, contacts of the dies to the molten glass or the softened glass begin substantially simultaneously.

[Claim 2]

A manufacturing method of glass blank for magnetic disk including a pair of principal surfaces, the method comprising the step of

forming a glass blank by performing press forming to molten glass or softened glass with a pair of dies each having a planar press forming surface,

wherein temperatures of the press forming surfaces of the pair of dies are equalized,

wherein the planar press forming surfaces of the pair of dies are disposed such that normal directions of the surfaces become substantially horizontal, and such that the surfaces become parallel to each other, and the molten glass or the softened glass is sandwiched between the planar press forming surfaces of the pair of dies in the forming step, and

wherein, when pressing the molten glass or the softened glass with the dies, contacts of the dies to the molten glass or the softened glass begin substantially simultaneously.

[Claim 3]

A manufacturing method of glass blank for magnetic disk including a pair of principal surfaces, the method comprising the step of

forming a disk-shaped glass blank by pressing a lump of molten glass or softened glass with a pair of dies,

wherein the lump is pressed in the forming of the glass blank from the start of the pressing until temperature of the lump drops to a strain point in such a way that temperatures of portions of press forming surfaces of the pair of dies are equalized, the portions contacting the lump,

wherein the planar press forming surfaces of the pair of dies are disposed such that normal directions of the surfaces become substantially horizontal, and such that the surfaces become parallel to each other, and the molten glass or the softened glass is sandwiched between the planar press forming surfaces of the pair of dies in the forming step, and

wherein, when pressing the molten glass or the softened glass with the dies, contacts of the dies to the molten glass or the softened glass begin substantially simultaneously.

[Claim 4]

The manufacturing method of glass blank for magnetic disk according to claim 1 or 3, wherein temperatures of the press forming surfaces during the pressing of the glass blank are equalized in the forming step.

[Claim 5]

The manufacturing method of glass blank for magnetic disk according to any one of claims 1 to 4, wherein temperatures of the pair of dies immediately before the pressing are equalized in the forming step.

[Claim 6]

The manufacturing method of glass blank for magnetic disk according to any one of claims 1 to 5 , wherein the glass blank is formed in the forming step so that the formed glass blank has a section thickness that is decreased from the outer circumference side to the central side.

[Claim 7]

The manufacturing method of glass blank for magnetic disk according to any one of claims 1 to 6, wherein temperature difference between the press forming surfaces of the pair of dies is 5 degrees Celsius or less.

[Claim 8]

The manufacturing method of glass blank for magnetic disk according to any one of claims 1 to 7, wherein the coefficient of thermal expansion of glass of the glass blank ranges from 30×10^{-7} (K^{-1}) to 100×10^{-7} (K^{-1}).

[Claim 9]

The manufacturing method of glass substrate for magnetic disk, the method comprising the step of polishing the principal surfaces of the glass blank for magnetic disk manufactured by the manufacturing method of glass blank for magnetic disk according to any one of claims 1 to 8,

wherein the step of polishing is performed without having performed a step of grinding the principal surfaces of the glass blank for magnetic disk.

[Claim 10]

The manufacturing method of glass substrate for magnetic disk according to claim 9, wherein the thickness of the glass blank for magnetic disk is greater than the thickness of the glass substrate for magnetic disk by 10 μm to 50 μm.

[Claim 11]

The manufacturing method of glass substrate for magnetic disk, the method comprising the steps of

grinding the principal surfaces of the glass blank for magnetic disk manufactured by the manufacturing method of glass blank for magnetic disk according to any one of claims 1 to 8, and polishing the principal surfaces of the glass blank for magnetic disk.