

ABSTRACT OF THE DISCLOSURE

SUBSTRATE FOR PERPENDICULAR MAGNETIC RECORDING MEDIA AND PERPENDICULAR MAGNETIC RECORDING MEDIA USING SAME

Substrates for perpendicular magnetic recording media, and perpendicular magnetic recording media using such substrates, are disclosed. By setting the substrate inclination angle, or a parameter related to substrate shape relating to this angle, within an appropriate range, magnetic recording media can be obtained with excellent read signal quality and signal quality stability, regardless of the final substrate machining method. In a substrate for donut-shape magnetic recording media, comprising a main surface, an inner circumferential surface extending along the inside of the main surface, and an outer circumferential surface extending along the outside of the main surface, when the shape of the main surface is defined by a function $Z(x,y)$ of x-y coordinates, the root mean square inclination angle ($\theta_{s\Delta q}$), defined as the inverse tangent ($\tan^{-1}(s\Delta q)$) of the root means square inclination ($s\Delta q$) which is the root mean square over the entire main surface of the micro-region surface inclination ($\Delta\rho$) of the main surface, expressed by the following equation, is 5° or less

Equation 1

$$\Delta\rho = \left[\left(\frac{\partial Z(x,y)}{\partial x} \right)^2 + \left(\frac{\partial Z(x,y)}{\partial y} \right)^2 \right]^{1/2}$$

Selected Drawing: Fig. 1