DESCRIPTION

METHOD FOR PRODUCTION OF HARD DISK SUBSTRATE AND HARD DISK SUBSTRATE

TECHNICAL FIELD

The present invention relates to a method for production of a hard disk substrate as well as a hard disk substrate.

BACKGROUND ART

Hard disk substrates are manufactured by a method including electroless NiP plating applied to a machined aluminum or aluminum alloy substrate to form a plating film as a base of a magnetic film (see Patent Document 1).

Herein, for higher-density recording by hard disk devices, it is required to minimize the floating height of a recording/reproducing head from the surface of a hard disk substrate. To this end, following the formation of a plating film by electroless NiP plating, polishing is performed to smooth the surface of the plating film using free abrasive grains.

Patent Document 1: JP Patent Publication (Kokai) No. 03-236476 A (1991)

SUMMARY

In a first aspect, there is provided a method for production of a hard disk substrate including an electroless NiP plating film, comprising the steps of:

a first plating step of immersing a substrate in first electroless NiP plating bath containing an additive having a smoothing effect to form a lower layer of the electroless NiP plating film on a surface of the substrate, the lower layer having average surface roughness smaller than an average surface roughness of the surface; and

a second plating step of immersing the substrate on which the lower layer of the electroless NiP plating film is formed in the first plating step in second electroless NiP plating bath to form an upper layer of the electroless NiP plating

film, the upper layer having corrosion resistance against the acid solution.

In a second aspect, there is provided a hard disk substrate produced by the method for production as defined above.

DISCLOSURE OF THE INVENTION

PROBLEM TO BE SOLVED BY THE INVENTION

Since the surface of the plating film by electroless NiP plating is very rough, heave burden is imposed on the polishing process. Further, since the removal thickness with polishing is large, the plating film also has to be made thick. Therefore, productivity deteriorates and environmental burden increases.

From such a viewpoint, it has been desired to smooth the surface of a plating film formed by electroless NiP plating as flat as possible to reduce the burden on the polishing process. For instance, when a plating film is formed on a printed board or the like, a brighter such as an organic sulfur compound is added to electroless plating bath, thus forming a plating film having a smooth surface.