

MANUFACTURING METHOD FOR MAGNETIC RECORDING MEDIUM

ABSTRACT

The present invention relates to a manufacturing method for a magnetic recording medium, and provides a manufacturing method for obtaining a protective layer which has both good corrosion resistance and good lubricant adhesiveness. The present invention is a manufacturing method for a magnetic recording medium which includes a magnetic layer, a lower protective layer, an upper protective layer and a lubricating layer on a substrate, and in which the total film thickness of the lower protective layer and the upper protective layer is 2.5 nm or less, this method sequentially including: 1) a step of depositing the lower protective layer; 2) a step of performing oxygen plasma treatment on the lower protective layer; 3) a step of depositing the upper protective layer; and 4) a step of performing nitrogen plasma treatment on the upper protective layer. It is preferable that the lower protective layer and the upper protective layer are formed of a carbon-based material, and it is further more preferable that the lower protective layer and the upper protective layer are formed of diamond-like carbon. Moreover, it is preferable that the contact angle of the lower protective layer with respect to water in the atmosphere is 25° or less.

FIG. 1

100 SUBSTRATE PREPARATION STEP

110 MAGNETIC LAYER FORMATION STEP

121 LOWER PROTECTIVE LAYER DEPOSITION STEP

122 OXYGEN PLASMA TREATMENT STEP

MAGNETIC RECORDING MEDIUM A

123 UPPER PROTECTIVE LAYER DEPOSITION STEP

124 NITROGEN PLASMA TREATMENT STEP

120 PROTECTIVE LAYER FORMATION STEP

MAGNETIC RECORDING MEDIUM B

130 LUBRICATING LAYER FORMATION STEP

MAGNETIC RECORDING MEDIUM C

140 SURFACE CLEANING STEP

150 MAGNETIC HEAD FLOATING TEST STEP