

Magnetic Recording Medium, Process for Producing same, and Magnetic Recording
Reproducing Apparatus Using the Magnetic Recording Medium

ABSTRACT

A perpendicular magnetic recording medium is provided, which has a soft magnetic layer, an under layer, an intermediate layer and a perpendicular magnetic recording layer, and is characterized in that the perpendicular magnetic recording layer is comprised of at least one magnetic layer, which magnetic layer or at least one of which magnetic layers comprises cobalt-based ferromagnetic crystal grains and grain boundaries comprised of an oxide, wherein the ferromagnetic crystal grains further comprise ruthenium. The perpendicular magnetic recording medium has ferromagnetic crystal grains with extremely small grain size and exhibiting enhanced discretion, as well as good perpendicular orientation in the perpendicular magnetic recording layer, and thus, the medium is capable of recording and reproducing information with high density.