

ABSTRACT

An FePtC-based thin film containing a large amount of carbon is formed singly without using a plurality of targets.

An FePt-C-based sputtering target contains Fe, Pt, and C
5 and has a structure in which an FePt-based alloy phase and a C
phase containing unavoidable impurities are mutually dispersed,
the FePt-based alloy phase containing Pt in an amount of 40
at% or more and 60 at% or less with the balance being Fe and
unavoidable impurities. The content of C is 21 at% or more and
10 70 at% or less based on the total amount of the target.

The FePt-C-based sputtering target can be produced by,
for example: adding C powder containing unavoidable impurities
to FePt-based alloy powder containing Pt in an amount of 40
at% or more and 60 at% or less with the balance being Fe and
15 unavoidable impurities; mixing the C powder and the FePt-based
alloy powder in an atmosphere containing oxygen to produce a
powder mixture; and then molding the produced powder mixture
while the powder mixture is heated under pressure.