CLAIMS

[Claim 1] A C-containing FePt-based sputtering target for forming a magnetic recording film, wherein, in a polished surface of a cross section vertical to a sputtering surface, an average thickness of an Fe-Pt alloy phase is 10 μm or more and 100μm or less, an average length of the Fe-Pt alloy phase is 20 μm or more and 400μm or less, and a C phase is aligned in a specific direction.

[Claim 2] A C-containing FePt-based sputtering target for forming a magnetic recording film according to claim 1, wherein an average length of an Fe-Pt alloy phase in a polished surface of a cross section horizontal to a sputtering surface is 20 μm or more.

[Claim 3] The sputtering target according to claim 1 or 2, wherein a Pt content is 5 mol% or more and 60 mol% or less.

[Claim 4] The sputtering target according to any one of claims 1 to 3, wherein a C content is 10 mol% or more and 70 mol% or less.

[Claim 5] The sputtering target according to any one of claims 1 to 4, wherein the sputtering target contains, as an additive element, one or more types of elements selected from a group consisting of B, Ru, Ag, Au, and Cu in an amount of 0.5 mol% or more and 10 mol% or less.

[Claim 6] The sputtering target according to any one of claims 1 to 5, wherein the sputtering target contains, as an additive material, one or more types of inorganic substance materials selected from a group consisting of oxides, nitrides, carbides, and carbonitrides.

[Claim 7] A method for producing a sputtering target, wherein an Fe-Pt alloy is cut into chips, these chips are pulverized and flattened to obtain an Fe-Pt alloy powder, a flaked graphite powder is thereafter mixed with the obtained Fe-Pt alloy powder, the obtained mixed powder is subject to hot-pressing sintering at a uniaxial pressure, and the obtained sintered compact is machined into a target shape.

[Claim 8] The method for producing a sputtering target according to claim 7, wherein a powder of one or more types of metal elements selected from a group consisting of B, Ru, Ag, Au, and Cu is additionally mixed.

[Claim 9] The method for producing a sputtering target according to claim 7 or claim 8, wherein a powder of one or more types of inorganic substance materials selected from a group consisting of oxides, nitrides, carbides, and carbonitrides is additionally mixed.