CLAIMS

1. A sintered sputtering target having a composition by atomic ratio represented by the formula: $(Fe_{100-X}\text{-}Pt_X)_{100-A}C_A$ (wherein A and X satisfy $20 \leq A \leq 50$ and $35 \leq X \leq 55$, respectively), wherein C particles are finely dispersed in a matrix alloy, and an oxygen content is 300 wt ppm or less.

2. A sintered sputtering target having a composition by atomic ratio represented by the formula: $(Fe_{100-X-Y}\text{-}Pt_X\text{-}M_Y)_{100-A}C_A$ (wherein M is a metal element other than Fe and Pt, and A, X and Y satisfy $20 \leq A \leq 50$, $35 \leq X \leq 55$ and $0.5 \leq Y \leq 15$, respectively), wherein C particles are finely dispersed in a matrix alloy, and an oxygen content is 300 wt ppm or less.

3. The sputtering target according to claim 2, wherein the metal element M is either Cu or Ag.

4. A method of manufacturing an Fe-Pt-C based sputtering target, the method comprising: mixing metal powders of an Fe powder and a Pt powder and a C powder; heat-treating the mixed powder at temperature 750°C or more and 1100°C or less under an inert gas atmosphere or a vacuum atmosphere; preparing the resulting powder as a part of a raw powder; further adjusting the raw powder to give a composition by atomic ratio represented by the formula: $(Fe_{100-X}\text{-}Pt_X)_{100-A}C_A$ (wherein A and X satisfy $20 \leq A \leq 50$ and $35 \leq X \leq 55$, respectively); and then performing sintering.

5. ~~(Amended)~~ A method of manufacturing an Fe-Pt-C based sputtering target, the method comprising: mixing an Fe powder, a Pt powder and a metal powder of M in the following formula and a C powder; heat-treating the mixed powder at temperature 750°C or more and 1100°C or less under an inert gas atmosphere or a vacuum atmosphere; preparing the resulting powder as a part of a raw powder; further adjusting the raw powder to give a composition by atomic ratio represented by the formula: $(Fe_{100-X-Y}\text{-}Pt_X\text{-}M_Y)_{100-A}C_A$ (wherein M is a metal element other than Fe and Pt, and A, X and Y satisfy $20 \leq A \leq 50$, $35 \leq X \leq 55$ and $0.5 \leq Y \leq 15$, respectively); and then performing sintering.

6. The method of manufacturing a sputtering target according to claim 4 or 5, wherein the metal element M is either Cu or Ag.

7. The method of manufacturing a sputtering target according to any one of claims 4 to 6, the method comprising: filling a mold with the heat-treated powder; performing molding and sintering by uniaxial pressing at a pressure of 20 to 50 MPa; and further performing molding and sintering by hot isostatic pressing at a pressure of 100 to 200 MPa.