

NI-BASED TARGET MATERIAL EXCELLENT IN SPUTTERING PROPERTY

ABSTRACT

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A problem of the present invention is to provide a Ni-based alloy sputtering target material that is capable of obtaining a strong pass-through-flux and has a low magnetic permeability and a high use efficiency. In order to solve such a problem, there is provided a Ni-based sputtering target material including a $(\text{Ni}_X\text{-Fe}_Y\text{-Co}_Z)\text{-M}$ alloy, wherein: X, Y, and Z represent the ratios of the content of Ni, the content of Fe, and the content of Co to the total content of Ni, Fe, and Co, respectively; the alloy includes as M elements, 2 to 20 at.% in total of one or more M1 elements selected from W, Mo, Ta, Cr, V, and Nb, and 0 to 10 at.% in total of one or more M2 elements selected from Al, Ga, In, Si, Ge, Sn, Zr, Ti, Hf, B, Cu, P, C, and Ru, and the balance of Ni, Fe, Co and unavoidable impurities; assuming that $X + Y + Z = 100$ is satisfied, $20 \leq X \leq 98$, $0 \leq Y \leq 50$, and $0 \leq Z \leq 60$ are satisfied; and the alloy includes a microstructure that contains a Ni-M phase as a matrix phase, wherein an Fe phase and/or a Co phase are dispersed in the matrix phase.