

ABSTRACT**NICKEL-BASED ALLOY SPUTTERING TARGET AND
NICKEL-BASED ALLOY LAYER**

5 Provided is a nickel-based alloy sputtering target and a nickel-based alloy layer. The nickel-based alloy sputtering target contains nickel and a refining metal of rhenium. The total amount of the refining metal is in a range of 5 at% to 15 at% based on the total atoms of the nickel-based alloy sputtering target. With appropriate amount of rhenium, a microstructure of the nickel-based alloy sputtering target consists of a single face-centered cubic structure, and thus 10 is beneficial to refine its average grain size to less than 100 μm and to uniform the grain sizes with a normalized uniformity less than 20%. The nickel-based alloy layer formed from the nickel-based alloy sputtering target is suitable as a seed layer of the perpendicular magnetic recording media to promote their 15 recording densities.

FIG. 1