

Full Density Co-W Magnetic Sputter Targets

ABSTRACT OF THE DISCLOSURE

A sputter target is provided with a first elemental phase of a first material, the first material being either cobalt or tungsten, a first intermetallic phase including the first material and a second material, the second material being either tungsten or cobalt and different from the first material, the first material in a greater atomic percentage than the second material, and a second intermetallic phase including the second material and the first material, the second material in a greater atomic percentage than the first material. The sputter target includes 20-80 at.% cobalt, and has a density greater than 99% of a theoretical maximum density thereof. The sputter target is fabricated by selecting a cobalt powder and a tungsten powder having the same particle size distribution, blending the cobalt powder and the tungsten powder to form a blended powder, canning the blended powder, hot pressing the blended powder to form a solid, and machining the solid to form a sputter target.

Figure 4