

MAGNETIC PULSE-ASSISTED
CASTING OF METAL ALLOYS &
METAL ALLOYS PRODUCED
THEREBY

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Abstract of the Disclosure

A method of forming a cast metal alloy comprises providing a molten ferromagnetic metal alloy; utilizing AC or DC electrical power to generate a pulsed or oscillating magnetic field within the interior space of a casting mold via
10 a magnetic core assembly surrounding the casting mold; filling the casting mold with the molten metal alloy; applying the pulsed or oscillating magnetic field to the molten metal alloy during solidification to mix a molten portion of the solidifying body; and continuing applying the pulsed or oscillating magnetic field to the solidifying body until complete solidification is achieved. The method has
15 particular utility in the formation of cast ferromagnetic alloys for use as high PTF sputtering targets having improved microstructural features.

(FIG. 1)