

HOT-PRESSED MAGNETS FORMED FROM ANISOTROPIC POWDERSAbstract:

A method is provided for forming a high magnetic energy product, magnetically-anisotropic, hot-pressed rare earth-iron-boron alloy permanent magnet without the requirement for magnetic alignment during pressing or additional hot-working steps. The method of this invention includes providing a quantity of magnetically-anisotropic rare earth-iron-boron alloy particles and hot-pressing the particles so as to form a substantially magnetically-anisotropic permanent magnet. The hot-pressed permanent magnet of this invention can be made in a greater variety of shapes as compared to conventional hot-worked magnetically-anisotropic permanent magnets. As a result, the magnetic properties and shape of the permanent magnet of this invention can be tailored to meet the particular needs of a given application.

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