

Hf-Co-B Alloys as Permanent Magnet Materials

Disclosure Number

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Technology Summary

The invention provides a new, strong, anisotropic permanent magnet material. The material has a high Curie temperature of 500 °C, making application temperatures up to about 300 °C feasible. The material does not contain rare-earth elements and is competitive with current non-rare-earth magnet options. At room temperature, the permanent magnet properties are better than ferrite magnets and are comparable to or exceed those of most grades of AlNiCo magnets. The energy product (the figure of merit for permanent magnets) of the as-prepared material reaches approximately half that of comparable rare-earth magnet materials.

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