Influence of B content substituting for Al on the magnetic properties of $Nd_{60}Fe_{30}Al_{10-x}B_x$

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Abstract: The $Nd_{60}Fe_{30}Al_{10-x}B_x$ (x = 0, 2, 4, 6, 8 and 10) alloys were prepared by copper mold casting using arc-melting. Investigation shows that with increasing B content magnetization and remanence decrease while coercivity and Curie temperature increase. The hard magnetic properties are achieved not only in the amorphous state but also in partly crystallizing state. ?? 2002 Elsevier Science B.V. All rights reserved.

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References:

1. Inoue, A., Zhang, T., Takeuchi, A., (1997) IEEE Trans. Magn., 33, p. 3814
2. Inoue, A., (1997) Mater. Sci. Eng. A, 226-228, p. 357
3. Inoue, A., Zhang, T., Takeuchi, A., (1997) Sci. Rep. RITU A, 44, p. 261
4. Dan, N.H., Phuc, N.X., Ky, V.H., Hong, N.M., Chau, N., Luong, N.H., Huu, C.X., Tung, L.D., (2001) Materials Research Society Spring Meeting, , SA, USA, April 16-20, submitted for publication

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