

Neutron activation analysis of minor elements in deoxidized steel samples

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Abstract The capabilities of the nuclear method Neutron Activation Analysis (NAA) for the determination of minor and trace constituents of deoxidized steels have been investigated. The steel samples involved in the deoxidation stage of the steelmaking process in LD converter and steel standards were obtained from the Iron and Steel Works of Galati. Application of NAA technique followed by gamma spectrometry, has led to the identification of the following minor and trace elements in the iron matrix of the steel samples: Mn, Al, V, Cu, As, W, Cr, Ni, Mo, Co, Zr, Sb, Na, K, La, Ce, Sc, Sm, Zn, Ta, Te, Au, Hf, Se, Ga, Ba, Ir, Yb and Tb. A qualitative discussion is made regarding the transfer of some elements from raw materials to final steels.

Keywords: neutron activation, minor elements, environmental samples, metallurgical samples.
