

2012

Characterization by Non Destructive Testing Methods (NDT) of Nanomaterial Elaborated by Mechanical Alloying

YOUNES Abderrahmane, ZERGOUG Mourad

Abstract : Mechanical alloying is one of powder metallurgical process. It consists to use the mechanical energy for reduce the grain size of material, realize a mixture to a scale grain and produce alloy. The procedure is based by successive welds and fractures caused by mechanical shock. So that, the end product being in the form of nanometers powder grain. The elaboration of nanomaterial by mechanical alloying improves the magnetic, physicochemical and mechanical properties of these materials. The present study treats experimental viewpoint the elaboration of material nanostructured form the basis of iron, cobalt by mechanical alloying (mechanical milling), the time of milling is the important parameters in this study, subsequently, and we have used the non destructive testing for the characterization of the nanomaterial

Keywords : Mechanical Alloying, Mechanical milling, NDT, Fe-Co, Size of Crystallite, nanostructure, Magnetic control, hysteresis loops, Eddy Current, MEB, DRX