Influence of Initial Carbon Concentration on Nitride Layers

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The properties of plasma nitride layer are determined except technological parameters by chemical compositon and structure of steel. Experiments were carried out on ARMOX 500T steel. Firstly, the samples of steel were carburized and isothermal hardened. After quenching the course of microhardness was measured from surface to the core of material. Samples were cutted off on metallographic saw and subsequently grinded from the surface to the core of material. All depths of grinded surface from surface to the core were exactly defined. The chemical composition was verified in each prepared samples. Samples with changeable content of carbon were nitrided by plasma nitriding technology. All properties of plasma nitriding layers were evaluated.

Keywords: Diffusion, Plasma nitriding, Armor steel

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