

Research on the carburizing process of the sintered and superficial densified steels

Cercetări privind procesul de carburare a oțelurilor sinterizate și densificate superficial

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Abstract

The paper presents experimental research on the carburizing process in CH₄ atmosphere of the steels with 0.15%C and 0.25%C which were sintered and superficial densified by plastic deformation using a planetary ball mill. It was studied the effects of porosity decreasing by superficial densification on the thickness and C (%) content of the superficial carburized layers. Compared with undensified sintered steels, the thickness of the carburized layers, in the case of superficial densified steels, was reduced by 73% (0.15%C steels) respectively with 68% (0.25%C steels). The C (%) content also increased with 45% (0.15 %C steels) respectively with 25% (0.25 %C steels).

Keywords

Sintered steels, porosity, shot peening, carburizing