l'influence du traitement thermique sur la corrosion des aciers X60 et X70 en milieu marin

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Abstract : The aim of this work is to increase the corrosion resistance by structural change (grain size or crystalline phase) due to heat treatment at 750 °C and of X60 and X70 steels. The microstructures electrochemical properties of X60 and X70 pipeline steel were researched. Thermal treatments of X60 and X70 steels ware carried out to study the behavior of this latter against to corrosion. X-ray diffraction patterns show that the intensities of ferrite and austenite peak vary according to the annealing temperature, thus increasing of the intensity of ferrite peaks and growth of grains size of ferrite at 750 °C and decrease of peak intensity of austenite. Generally these changes led to the change of the resistance to corrosion, we note that obtained results without heat treatment showed an activation of studied steels surface in considered corrosive solution (saline medium), with heat treatment corrosion performances are ameliorated in each way that the corrosion resistance are significantly increased.

Keywords : microstructure; electrochemical proprieties, corrosion resistance; X60 X70 pipeline steel.