عنوان مقاله:

Prediction and analyze of microstructure of DP steels produced by controlled rolling process using neural network

محل انتشار:

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خلاصه مقاله:

In this study, the effect of controlled rolling parameters: reheat temperature, finishing temperature, finishing pass strain, interval time between final pass and quenching, quenching temperature and cooling rate on microstructure: ferrite grain size, martensite volume fraction and martensite hardness of dual phase (DP) steels with niobium were investigated. Microstructure parameters have been correlated with the rolling parameters and are brought out in the form of regression equations and 3D diagrams. The validity of the equations was checked by selecting random experiments in the range of variation of available data. Results show that the equations can predict the properties within the range of variation of the variables. Also, a neural network model was used to predict mechanical. The results of this investigation show that there is a good agreement between experimental and predicted values.

کلمات کلیدی:

microstructure; dual phase steels; controlled rolling; neural network

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