عنوان مقاله:

A new approach to determine the friction hill curves ,rolling load and alalysis of permanent failure of work rolls in an actual cold rolling

محل انتشار:

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خلاصه مقاله:

Cold rolling of steel is one of the most important metal forming processes so an accurate control of its parameters during the process is necessary. In this paper, the friction coefficient has been proposed as a function of cold rolling parameters such as forward slip, forward and backward tensilestresses ,strip thickness, static deformation, resistance of strip before and after rolling ,strip velocity before and after rolling and work roll diameters. A cold rolling model for computation of rolling pressure and force with varying friction coefficient and work roll flattening is proposed. the final results obtained from calculations was very close to the experimental results and there has been a good compliance with this method results and other researches and this is the advantage of this model. All the curves and calculations were done in the MATLAB software. Finally the friction hills for, two stands with three passes were plotted and also a model for rolling force was presented and so on, by comparing the results, we investigated the damages and crack propagation for the work rolls during the cold rolling in an actual process in the two stand reversing cold mill

کلمات کلیدی:

cold rolling,friction hill,roll damage

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