عنوان مقاله:

Dimensional Simulation of Rod Rolling in Crossing First to Fourth Stand of No-Twist Mill by the Use of FEM

محل انتشار:

کنفرانس دو سالانه بین المللی مکانیک جامدات تجربی (سال: 1394)

تعداد صفحات اصل مقاله: 2

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خلاصه مقاله:

Predicting the dimensions of metal parts produced by the caliber rolling process is considered an important factor in the design of calibers; and since the geometry of the output metal product is strongly affected by parameters such as roller diameter, roller material, temperature of metal, strain rate, etc., in this paper, the rolling process of the no-twist mill in the reinforcing rod rolling line of Isfahan steel company is simulated three-dimensionally by using the Finite Element Method and the ABAQUS/Explicit v.6.11 software. Extracting the geometry of the final products of the rolling line for the first mono-block stand through the fourth stand is one of the achievements of this research. Comparing the simulation results with the experimental data of the smelting plant shows a good agreement between the finite element model results and the empirical values. Thus, the finite element method can be considered as a valuable and accurate technique for predicting the dimensions of metal products produced by the caliber rolling process Untwisted.

کلمات کلیدی:

Finite Element Method, no-twist mills, hot rolling