

عنوان مقاله:

An Upper Bound Analysis of Sandwich Sheet Rolling Process

محل انتشار:

فصلنامه مکانیک جامد، دوره 9، شماره 3 (سال: 1396)

تعداد صفحات اصل مقاله: 11

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خلاصه مقاله:

In this research, flat rolling process of bonded sandwich sheets is investigated by the method of upper bound. A kinematically admissible velocity field is developed for a single layer sheet and is extended into the rolling of the symmetrical sandwich sheets. The internal, shear and frictional power terms are derived and they are used in the upper bound model. Through the analysis, the rolling torque, the roll separating force and the thickness of each layer at the exit of deformation are determined. The validity of the proposed analytical method is discussed by comparing the theoretical predictions with the experimental data found in the literature and by the finite element method. It is shown that the accuracy of the newly developed analytical model is good.

کلمات کلیدی:

Flat rolling, Sandwich sheet, Upper bound method

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