عنوان مقاله:

Friction Effect on the Required Load in Twin Parallel Channel Angular Extrusion

محل انتشار:

نهمین کنفرانس و نمایشگاه بین المللی مهندسی مواد و متالورژی ایران و چهاردهمین همایش ملی مشترک انجمن مهندسی متالورژی و مواد ایران و انجمن ریخته گری ایران (سال: 1399)

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خلاصه مقاله:

Twin Parallel Channel Angular Extrusion (TPCAE) is a simple method which is suitable to deform bulk materials into extremely large strains in order to achieve ultra-fine grained (UFG) structures. In the present paper, it is tried to more investigate the effect of different frictional conditions on the load changes in TPCAE method. Simulation of the process was carried out using DEFORM 3D to investigate the load needed for deformation of the material during the process. Effectiveness of TPCAE is more noticeable at higher friction factors in a way that critical load for buckling of the punch increases for more than two times, while the load needed to perform the process increases less than two .times. Hence, punch stability and its resistance to buckling increases

کلمات کلیدی:

TPCAE, conventional ECAE, load prediction, friction factor