

## عنوان مقاله:

Finite Element Simulation of C.V. Joint Forging of Prid Using Arbitrary Lagrangian-Eulerian Method

## محل انتشار:

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## خلاصه مقاله:

One of the most important parts of power transmission in automobiles is C.V. joint, which consists of four components where exterior bowl is one of them. Due to its complexity, and importance in automobile and existence of high stresses, forging process is the only cost effective method of production. Hence, the best method of production of this part is forging process. The exterior part of C.V. joint is produced through two subsequent stages. First, forward extrusion is applied followed by backward extrusion. In this research hot forward and backward extrusion of C.V. joint of PRAID with pre-heating while heat loss has taken into account, were simulated using finite element method. The Arbitrary Lagrangian-Eulerian method was employed to improve element distortions. Dies were considered as solid and elastic to investigate the thermal interactions of dies and the work piece. Deformation behavior, die contact pressure and punch force have been discussed by using the numerical results. Force diagrams during forging process according to die displacement and related results are discussed. Numerical results are compared with theoretical results for validation, meanwhile the comparison results are in good agreement.

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1192232>

