World Academy of Science, Engineering and Technology
International Journal of Mechanical and Industrial Engineering
Vol:10, No:10, 2016

The Simulation and Experimental Investigation to Study the Strain Distribution Pattern during the Closed Die Forging Process

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Abstract : Closed die forging is a very complex process, and measurement of actual forces for real material is difficult and time consuming. Hence, the modelling technique has taken the advantage of carrying out the experimentation with the proper model material which needs lesser forces and relatively low temperature. The results of experiments on the model material then may be correlated with the actual material by using the theory of similarity. There are several methods available to resolve the complexity involved in the closed die forging process. Finite Element Method (FEM) and Finite Difference Method (FDM) are relatively difficult as compared to the slab method. The slab method is very popular and very widely used by the people working on shop floor because it is relatively easy to apply and reasonably accurate for most of the common forging load requirement computations.

Keywords : experimentation, forging, process modeling, strain distribution
Conference Title : ICAME 2016 : International Conference on Automotive and Mechanical Engineering
Conference Location : New York, United States
Conference Dates : October 10-11, 2016