World Academy of Science, Engineering and Technology
International Journal of Mechanical and Mechatronics Engineering
Vol:8, No:10, 2014

Hot Forging Process Simulation of Outer Tie Rod to Reduce Forming Load

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Abstract : The current trend in car market is increase of parts of automobile and weight in vehicle. It comes from improvement of vehicle performance. Outer tie rod is a part of component of steering system and it is lighter than the others. But, weight lightening is still required for improvement of car mileage. So, we have presented a model of aluminized outer tie rod, but the process of fabrication has to be checked to manufacture the product. Therefore, we have anticipated forming load, die stress and abrasion to use the program of forging interpretation in the part of hot forging process of outer tie rod in this study. Also, we have implemented the experiments design to use the table of orthogonal arrays to reduce the forming load.

Keywords : forming load, hot forging, orthogonal array, outer tie rod (OTR), multi–step forging
Conference Title : ICMEM 2014 : International Conference on Mechanical Engineering and Mechatronics
Conference Location : Barcelona, Spain
Conference Dates : October 27-28, 2014