

Die Design for Flashless Forging of a Polymer Insulator Fitting

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Abstract : In the conventional hot forging of Tongue, which is a fitting for polymer insulator, the material wasted to flash accounts for 20-30% of workpiece. In order to reduce the cost of forged products, this waste material must be minimized. In this study, a flashless forging die is designed and simulated using the finite element method (FEM). A solution to avoid overloading the die with a simple preform is also presented. Moreover, since in flashless forging, burr is formed on the edge of workpiece, a controlled flash forging method is proposed to solve this problem. The simulation results have been validated by experiments; achieving close agreement between simulated and experimental data. It was shown that numerical modeling is helpful in reducing cost and time in the manufacturing process.

Keywords : burr formation, die design, finite element method, flashless forging

Conference Title : ICMFRFE 2022 : International Conference on Metal Forming, Rolling, Forging and Extrusion

Conference Location : Ottawa, Canada

Conference Dates : July 12-13, 2022