عنوان مقاله:

Investigation the effect of coulomb and shear friction laws on workpiece temperature in isothermal closed die forging process of alloy AA7075

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خلاصه مقاله:

In bulk metal forming processes, the coulomb friction law and the shear friction law are used traditionally. In this study, isothermal closed die forging process of alloy AA7075 was simulated using finite volume method to investigate the effect of friction conditions on workpiece temperature. The results show that at different condition of shear friction coefficients, throughout the process, the model has approximately the same workpiece temperature value. It is also concluded that at different condition of friction coefficient until 94% of the process, the coulomb friction model represents a larger workpiece temperature; afterwards the shear friction model represents the larger values increasingly.

کلمات کلیدی:

Finite volume simulation - Isothermal forging - Coulomb friction law -Constant shear friction law -Workpiece temperature