

Determination of the Friction Coefficient of AL5754 Alloy by Ring Compression Test: Experimental and Numerical Survey

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Abstract : One of the important factors that alter different process and geometrical parameters on metal forming processes is friction between contacting surfaces. Some important factors that effected directly by friction are: stress, strain, required load, wear of surfaces and then geometrical parameters. In order to control friction effects permanent lubrication is necessary. In this article, the friction coefficient is elicited by the most effective method, ring compression tests. The tests were done by both finite element method and practical tests. Different friction curves that extracted by finite element simulations and has good conformity with published results, used for obtaining final friction coefficient. In this study Mos2 is used as the lubricant and Al5754 alloy used as the specimens material.

Keywords : experiment, FEM, friction coefficient, ring compression

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