Abstract:

One of the solid-state welding processes is Friction stir welding (FSW) which is widely used in modern welding industries due to its ability to weld similar and dissimilar materials with high quality.Copper and AA7075 aluminum are combined materials applications used for airframe (Basic structure of an airplane) models. In this connection, FSW is the best suitable process to join the above said dissimilar materials. In this present research, it is proposed to conduct an investigation on the parameters of the FSW process such as tool profile, feed of the tool, and depth of cut of the tool. The dissimilar joints will implement under various tests such as tensile test, impact test, hardness test, macrostructure, to identify the quality of the dissimilar weld. By doing this research. The optimized parameter can be identified for the good quality of FSW dissimilar joints.

Keywords: AA7075, Copper, Friction stir welding, Tensile Test, Impact Test and Rockwell hardness Test