

# Experimental investigation of the polymer material (HDPE) behavior welded by FSW

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**Abstract :** This work contributes in the knowledge of the process of friction stir welding, and its use for the first time in a polymer material, it is the high-density polyethylene material widely used in gas transport and other applications. Welding and friction stir is a rapid and a controlled process to achieve strong and sustainable mechanical connection plates welded on. Simple Tensile tests were conducted in order to characterize the parameters of HDPE welded and not welded. We found that the FSW can be used in the welding of this material.

**Keywords :** HDPE, welding, FSW