

# Optimization of Injection Moulding Processing Parameters for LDPE/RH Composites Tensile Strength through Full Factorial Experiment

## Abstract

Optimal process setting implementation critically influences productivity, quality, and cost of production in the injection moulding industry. Precedently, trial and error method were the most common method for the production engineers to identify the optimal process parameter setting. Inappropriate injection moulding parameter settings can lead to poor production and quality. This paper presents a statistical technique on the optimization of injection moulding process parameters through Design of Experiments method. In this study, an understanding of the injection moulding process and consequently its optimization is carried out by Design of Experiment method based on three parameters (melt temperature, packing pressure, and cooling time) which influence the tensile strength of rice husk reinforced low density polyethylene composites. Statistical results and analysis are used to provide better interpretation of the experiment. The models are form from analysis of variance and the model passed the tests for normality and independence assumptions.