

Conceptual design and computational analysis of traditional boat passenger seat

Abstract

Today, there are various optimisation methods that have been studied by many researchers in order to find the appropriate combination of processing parameters setting in the injection moulding process. From the previous literatures, the optimisation works have been proven will improve the moulded part quality. In this study, the application of optimisation work to improve warpage of front panel housing has been explored. By selecting cooling time, coolant temperature, packing pressure and melt temperature as the variable parameters, design of experiment (DOE) have been constructed by using the rotatable central composite design (CCD) approach. Response Surface Methodology (RSM) was performed in order to define the optimal processing parameters setting which will optimise the warpage condition. Based on the results, melt temperature is the most significant factor contribute to the warpage condition and warpage have optimised by 47.1% after optimisation. The findings show that the application of optimisation work offers the best quality of moulded part produced.