# Simulation and Analysis of Optimization Process Parameters for Multi-Cavity Injection Molding Parts Warpage by Genetic Algorithm Method

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## Abstract

This study presents the warpage analysis for products through the combination of the genetic algorithm (GA) method and finite element method (FEM) in multi-cavity injection molding parts; it simulated and analyzed the warpage through controlling the conditions of various parameters in primary processes - filling, packing, and cooling. After 50 iterations of calculations. These results demonstrate that the maximum warpage of the products was 0.5052 mm for multi-cavity injection molding parts. In comparison with the orthogonal array, the maximum warpage could be reduced by approximately 7.24%. It is shown that the GA method can obtain the optimum process conditions for warpage deformation in multi-cavity injection molding parts.