

Strength of the weld line and warpage defects on the molded parts in injection molding process

Abstract

Strength at weld the line location and warpage problem in injection molding plastic component were not new problems in injection molding industries. Many researchers had emerged with several improvement techniques to reduce these problems that been applied to a verity of customer products that injected with various types of polymers. This paper reviewed the improvement techniques previously studied to maximize strength at weld line location and minimize warpage or deflections of the molded parts. From the review, it can be seen that by using mechanical and thermal assistance during injection molding process, and the optimization of machine parameters for stated problems can be improved. However, there was lack on the multi objectives optimization which should be apply to ensure the weld line and warpage were improved together to get the best quality products.

Keywords

Injection molding; Optimization; Warpage; Weld line strength