

Article Abstract

Title:	Minimization of sink mark defects in injection molding process – Taguchi approach
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Abstract:	Optimal setting up of injection molding process variables plays a very important role in controlling the quality of the injection molded products. It is all the most important to control attribute defects like sink marks. Sink marks are basically a “designed in” problem and hence it is to be attended during designs stages. Owing to certain conditions and constraints, sometimes, it is rather ignored during design stages and it is expected to be handled by molders with only instruction to ‘do the best’. Handling of numerous processing variables to control defects is a mammoth task that costs time, effort and money. This paper presents a simple and efficient way to study the influence of injection molding variables on sink marks using Taguchi approach. Using the Taguchi approach, optimal parameter settings and the respective sink depth were arrived. The sink depth based on the validation trials was compared with the predicted sink depth and they are found to be in good agreement. The results demonstrate the ability of this approach to predict sink depth for various combination of processing variables with in the design space.
Keywords:	Sink mark, plastic injection molding, Taguchi optimization, process optimization, attribute defects in injection molding