

A Quality Control of the Injection Molding Process Using EWMA Predictor  
and Minimum-Variance Controller,

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Abstract

In this study, EWMA (exponentially weighted moving average) predictor and minimum-variance controller were applied to improve the product quality in the injection molding process. To simplify the process model and reduce the system loads, design of experiments (DOE) technique was adopted to analyze the important factors which have the significant effects on the product quality and their relative correlations. The results of this research not only can steadily control the manufacturing process and reduce the product loss and maintenance time for un-warning malfunction, but can also increase the efficiency of the equipment and the process.

Keyword : predictor; Minimum-Variance controller;  
Design of experiments; Injection molding