

Sustainable design of open molds with QFD and TRIZ combination

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Abstrak

The planning activity relative to physical items, environment, and services that adapts to optimize social, economic, and ecological impact is the target of sustainable design. Quality Function Deployment (QFD) achieves product design by choosing and defining factors that can be qualitatively argued. The aim of design is to match needs in new and innovative ways. In this perspective, the QFD aims to evaluate the quality of a design process. TRIZ is a design methodology that aims at defining and overcoming some critical issues that can affect the development of a product, by means of potential innovative solutions. In this paper, QFD and TRIZ analysis were adopted in order to validate a design method for direct open molds by means of a new strategy: hybrid manufacturing can reduce production time, use of material, and energy and waste consumption, employing subtractive and additive techniques efficiently combined.