

Thesis Title	Production planning of plastic lenses for multiple products and production rates
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Abstract

This thesis presents the production planning methods in order to reduce processing time for plastic lense manufacturing production. The study specifically focuses on the post-curing stage and the anti-reflection coating which each process has multiple parallel machines. The production in past-curing lenses is separated by the different production rates while the plastic lenses in the anti-reflection coating are separated into batches according to the diameter of lenses. There are a variety of products and customer orders. Thus the production planning in each process is complex. Current planner relies on the experience to work for the production planning which the effect is high processing time of the post-curing stage and the anti-reflection coating. Therefore, the objective of this thesis is to find optimal production planning to reduce processing time. Then, the mathematical model for the optimal production planning is developed for the post-curing stage and the anti-reflection coating. In addition, the model is applied to the example data sets and solved by using Microsoft Excel Solver. The results reveal that the post-curing stage is decreased by 12.99 percent and the anti-reflection coating is decreased by 21.74 percent.

Keywords: Production planning / Lens / Mathematical model