

Prapatt Khumpleewong 2010: An Optimization of Injection Moulding Process Conditions for Rubber Products. Master of Engineering (Industrial Production Technology), Major Field: Industrial Production Technology, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Supasit Rodkwan, Ph.D. 83 pages.

An injection moulding is one of the processing methods to obtain the rubber products, which have complicated shape. Nevertheless, the conditions in the injection depend on various parameters such as types of rubber compound, injection temperature, curing time. In general, the determination of factors and their levels relies on the practical skills and trial and error method resulting in unacceptable quality of products. Therefore, in this research, an optimization of process conditions in rubber injection moulding was performed using flow simulation in conjunction with Taguchi method ( $L_93^4$ ). The optimized parameters were then tested with actual injection moulding. Good correlation in flow characteristic was found. This research shows a possibility to successfully seek the optimization using the numerical simulation and statistical method so the domestic rubber product industry can compete with global market in the near future.

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