

# DETERMINING OF PRODUCTION FACTORS FOR PLASTIC BOX USING TAGUCHI

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## ABSTRACT

Currently, plastic vacuum thermoforming is a well known technique used in packaging industry. A main problem of this technique is about the thickness of material after processing. Previous researches indicate that there are several factors affecting the thickness including, temperature at 200, 210 and 220°C, heating time at 20, 25 and 30 seconds and vacuum time at 30, 24 and 36 seconds. An objective of this research is to determine major factors and their optimal settings affecting the thickness of polyvinyl chloride (PVC) at 0.4 millimeters. This study employs Taguchi at 95% confidence level. The optimal conditions for the vacuum thermoforming machine to make the thickness of plastic cup at 0.3 millimeters are the temperature at 210°C, the heating time of 25 seconds and vacuum time of 36 seconds.

**KEYWORDS:** Vacuum Thermoforming, Taguchi Method, Polyvinyl Chloride (PVC)