

Documents

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Application of statistical process control tools to improve product quality in manufacturing processes

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Abstract

Quality control and improvement at the process level is a vital activity for the achievement of defect-free products in various manufacturing processes. This study employs statistical process control (SPC) tools such as control charts and process capability ratio for quality control and improvement. The control charts employed are \bar{x} , R and the cumulative-sum (CUSUM). The process capability ratio used is the so called process capability index (PCI). These tools have been implemented with the aid of Minitab® statistical software. In this study, the manufacturing process of gelatin capsules is investigated in terms of quality of the capsules, which are produced and shipped for use by various drug companies. As a result of implementation of SPC tools, an expected reduction in the number of defective capsules by 29% relative to the stage before implementation was achieved. © (2012) Trans Tech Publications, Switzerland.

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