

**ANALYSIS OF QUALITY CONTROL USING THE STATISTICAL PROCESS
CONTROL (SPC) METHOD AT PENTOL CILOK MITRA IN SIDOARJO
REGENCY**

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ABSTRACT

UMKM Pentol Cilok Mitra in Sidoarjo Regency still faces challenges in maintaining consistent product quality, as indicated by nonconformities in physical quality attributes, including shape uniformity, texture uniformity, and color uniformity. These conditions highlight the need for quality control to evaluate process stability, identify the causes of product defects, and develop improvement recommendations. This study aimed to analyze the quality control of the cilok meatball production process using the Statistical Process Control (SPC) method, identify the factors causing product defects, and propose improvement recommendations. This research employed a quantitative descriptive approach. Data were collected through observation, interviews, documentation, and check sheets. A total of 20 observations were conducted, with 400 meatballs sampled in each observation. Data were analyzed using check sheets, p-control charts, Pareto diagrams, yield analysis, and Ishikawa diagrams. The results showed that out of 8,000 samples, 788 defective products (9.85%) were identified, consisting of 418 shape defects (53.05%), 258 texture defects (32.74%), and 112 color defects (14.21%). The p-control chart indicated that the production process was generally under statistical control, although one observation of the shape attribute exceeded the upper control limit. The Ishikawa analysis revealed that the main causes of defects were related to human, material, method, machine, and environmental factors. Recommended improvements include establishing standard operating procedures (SOPs), standardizing raw materials, using molding tools, improving production supervision, and enhancing the production environment to achieve more consistent product quality.

Keywords: Quality control, Statistical Process Control (SPC), MSMEs, pentol cilok, defective products.