

ABSTRAK

Persaingan di industri manufaktur *paving block* mendorong setiap perusahaan untuk meningkatkan kualitas produk guna memenuhi permintaan pelanggan. UD. Jasa Ilham sebagai salah satu produksi *paving block* menghadapi tantangan berupa tingginya tingkat kecacatan produk, yang berdampak pada efisiensi produksi dan citra perusahaan. Penelitian ini bertujuan untuk mengevaluasi dan mengendalikan kualitas produk *paving block* dengan menggunakan metode *Six Sigma* dan Kaizen guna mencapai proses produksi yang stabil dan bebas cacat. Penelitian ini dilakukan dengan pendekatan kuantitatif menggunakan metode *Six Sigma* dalam tahapan DMAIC (*Define, Measure, Analyze, Improve, dan Control*) serta integrasi prinsip-prinsip Kaizen. Data cacat produk diambil selama periode Januari hingga Maret 2025 dengan jumlah produksi sebanyak 15810 unit per bulan. Rata-rata tingkat cacat selama tiga bulan tersebut mencapai 3,7% hingga 4,5%, melebihi batas toleransi standar perusahaan sebesar 1,2%. Jenis cacat yang dominan meliputi retak, patah, gupil, dan tidak kering. Jenis cacat terbanyak adalah retak (700 unit), patah (571 unit), gupil (270 unit), dan gerivis/tidak kering (377 unit). Hasil analisis menunjukkan bahwa proses produksi berada di bawah standar kualitas dengan nilai rata-rata sigma 2,47 dan *Defects Per Million Opportunities* sebesar ± 308.538 atau pada 2 sigma. Penyebab utama cacat produk berasal dari faktor manusia, material, dan mesin. Diagram *fishbone* dan diagram Pareto digunakan untuk memprioritaskan sumber masalah, sedangkan Kaizen digunakan untuk merancang tindakan perbaikan berkelanjutan seperti pelatihan operator, penambahan standar kerja, serta perbaikan metode penyimpanan dan pengeringan.

Kata Kunci: *Pengendalian Kualitas, Six Sigma, Kaizen, Paving Block, DMAIC, DPMO.*

ABSTRACT

Competition in the paving block manufacturing industry encourages every company to improve product quality to meet customer demand. UD. Jasa Ilham as one of the paving block production faces challenges in the form of high levels of product defects, which have an impact on production efficiency and company image. This study aims to evaluate and control the quality of paving block products using the Six Sigma and Kaizen methods in order to achieve a stable and defect-free production process. This study was conducted with a quantitative approach using the Six Sigma method in the DMAIC (Define, Measure, Analyze, Improve, and Control) stages and the integration of Kaizen principles. Product defect data was collected during the period from January to March 2025 with a production volume of 15,810 units per month. The average defect rate during the three months reached 3.7% to 4.5%, exceeding the company's standard tolerance limit of 1.2%. The dominant types of defects include cracks, breaks, chipping, and not drying. The most common types of defects are cracks (700 units), breaks (571 units), chipping (270 units), and chipping/not drying (377 units). The results of the analysis show that the production process is below quality standards with an average sigma value of 2.47 and a Defects Per Million Opportunities of $\pm 30,933$. The main causes of product defects come from human, material, and machine factors. Fishbone diagrams and Pareto diagrams are used to prioritize the source of the problem, while Kaizen is used to design continuous improvement actions such as operator training, adding work standards, and improving storage and drying methods.

Keywords: Quality Control, Six Sigma, Kaizen, Paving Block, Defective Products, DMAIC, DPMO.

