

ANALISIS PENGENDALIAN KUALITAS PRODUK GLUE POT MENGGUNAKAN METODE SIX SIGMA

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Abstrak

PT Yogya Presisi Tehnikatama Industri merupakan perusahaan manufaktur komponen presisi yang menghadapi permasalahan dalam kualitas produksi, khususnya pada produk Glue. Penelitian ini bertujuan untuk menganalisis kualitas produk glue pot menggunakan metode Six Sigma dengan pendekatan DMAIC (Define, Measure, Analyze, Improve) dan metode Failure Mode and Effect Analysis (FMEA). Berdasarkan hasil pengamatan terhadap 8.000 unit selama 20 hari, ditemukan tingkat kecacatan sebesar 0,06%, dengan jenis cacat dominan adalah permukaan samping tidak rata. Hasil perhitungan DPMO sebesar 42.083,33 dengan nilai sigma sebesar 3,37 menunjukkan bahwa proses produksi masih berada di level menengah. Analisis fishbone dan FMEA menunjukkan bahwa faktor manusia (pengamplasan tidak merata) dan faktor mesin (pisau tumpul dan tidak presisi) merupakan penyebab utama kecacatan. Rekomendasi perbaikan dilakukan menggunakan pendekatan 5W+1H, di antaranya pelatihan ulang operator, penggunaan alat bantu pengamplasan, serta perawatan dan kalibrasi rutin mesin. Penelitian ini menyimpulkan bahwa penerapan Six Sigma dan FMEA dapat membantu perusahaan dalam mengidentifikasi akar masalah dan menyusun langkah perbaikan yang tepat guna meningkatkan kualitas dan efisiensi produksi Glue Pot..

Kata kunci: Six Sigma, FMEA, Kualitas, DMAIC, RPN, 5W+1H

ANALYSIS OF GLUE POT PRODUCT QUALITY CONTROL USING THE SIX SIGMA METHOD

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Abstract

PT Yogya Presisi Tehnikatama Industri is a precision component manufacturing company that faces problems in production quality, especially in Glue products. This study aims to analyze the quality of glue pot products using the Six Sigma method with the DMAIC (Define, Measure, Analyze, Improve) approach and the Failure Mode and Effect Analysis (FMEA) method. Based on the results of observations of 8,000 units for 20 days, a defect rate of 0.06% was found, with the dominant type of defect being uneven side surfaces. The results of the DPMO calculation of 42,083.33 with a sigma value of 3.37 indicate that the production process is still at a medium level. Fishbone and FMEA analysis show that human factors (uneven sanding) and machine factors (blunt and imprecise knives) are the main causes of defects. Recommendations for improvement are made using the 5W + 1H approach, including operator retraining, the use of sanding aids, and routine machine maintenance and calibration. This study concludes that the application of Six Sigma and FMEA can help companies identify root causes and develop appropriate corrective actions to improve the quality and efficiency of Glue Pot production.

Keywords: *Six Sigma, FMEA, Quality, DMAIC, RPN, 5W+1H*

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