

ABSTRAK

PT. Federal Izumi Manufacturing merupakan perusahaan yang bergerak dibidang otomotif yang memproduksi piston dan non piston. Permasalahan yang terjadi pada perusahaan PT. Federal Izumi Manufacturing terdapat nilai rata – rata persentase *defect* yang melebihi batas standar perusahaan sebesar 5% sedangkan batas *defect* maksimum ditetapkan perusahaan sebesar 1%. Mengidentifikasi jenis cacat dominan, mengidentifikasi faktor terbesar penyebab jenis cacat dominan dan membuat usulan perbaikan. Pada penelitian ini menggunakan metode DMAIC (*Define, Measure, Analyze, Improve and Control*) pada proses produksi *piston gasoline type x* terdapat berapa jenis *defect* yaitu *monoiri, misrun, coating* rontok. Adapun jenis *defect* yang terjadi berdasarkan diagram pareto yaitu jenis *defect monoiri* dengan persentase 56%, *misrun* 28% dan *coating* rontok 16%, serta faktor penyebab diketahui menggunakan diagram *fishbone* terdapat 5 faktor yaitu material, manusia, metode, mesin dan lingkungan. Berdasarkan hasil identifikasi FMEA dan perhitungan RPN tertinggi, diketahui bahwa *defect monoiri* yang terjadi pada faktor penyebab material dengan nilai RPN sebesar 175. Untuk usulan perbaikan yaitu melakukan *monitoring* dan membuat *form monitoring* untuk memudahkan pembersihan material secara berskala, dan untuk memudahkan saat pembersihan material yang lebih terjadwal.

Kata kunci : *defect, DMAIC, piston*



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ABSTRACT

PT. Federal Izumi Manufacturing is a company engaged in the automotive sector that produces pistons and non-pistons. Problems that occur in the company PT. Federal Izumi Manufacturing has an average defect percentage that exceeds the company's standard limit of 5% while the maximum defect limit is set by the company at 1%. Identify the dominant type of defect, identify the biggest factors causing the dominant type of defect and make suggestions for improvement. In this study using the DMAIC method (Define, Measure, Analyze, Improve and Control) in the production process of the type x gasoline piston, there are several types of defects, namely monoiri, misrun, coating loss. The types of defects that occur are based on the Pareto diagram, namely the type of defect monoiri with a percentage of 56%, misrun 28% and coating loss 16%, and the causal factors are known using a fishbone diagram, there are 5 factors, namely material, people, methods, machines and environment. Based on the results of the identification of FMEA and the calculation of the highest RPN, it is known that the monoirritic defects that occur in material causal factors with an RPN value of 175. Proposed improvements include monitoring and creating a monitoring form to facilitate cleaning of materials on a scale, and to facilitate cleaning of materials that are more scheduled.

Keyword : defect, DMAIC, Piston

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