

ABSTRAK

Judul : Usulan Perbaikan untuk Menurunkan Cacat Kemasan Produk Wafello Chocoblast 135 gram dengan Metode *Failure Mode and Effect Analysis* (FMEA) dan *Critical To Quality* (CTQ) di PT. XYZ

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Program Studi : Teknik Industri

PT. XYZ merupakan perusahaan yang bergerak di bidang industri makanan, yang menghasilkan berbagai produk makanan ringan salah satunya adalah Wafer Wafello Chocoblast 135 gram. Proses produksi Wafer meliputi proses *pre-treatment* (penimbangan bahan baku dan pencampuran *formula ingredient* pada saat proses *mixing*), proses *grinding* (pencampuran *ingredient cream*), proses *baking* (pemanggangan adonan), proses *arch cooling* (pendinginan), proses *cream spreading* (pengolesan *cream*), proses *stacking* (pembentukan Wafer), proses *cutting* (pemotong Wafer), dan proses *packaging* (pengemasan). Permasalahan yang dihadapi perusahaan adalah tingginya persentase produk cacat kemasan yang berada di luar batas yang telah ditetapkan oleh perusahaan yaitu sebesar 0,15 %. Penelitian ini bertujuan untuk menentukan jenis dan faktor-faktor penyebab cacat kemasan serta memberikan usulan perbaikan untuk mengurangi cacat kemasan. Hasil perhitungan menggunakan Diagram Pareto menunjukkan bahwa 3 faktor terbesar untuk produk cacat kemasan adalah cacat nginjek sebesar 27,41 %, cacat melipat sebesar 20,63 %, dan cacat jebol sebesar 17,37 %. Oleh karena itu berdasarkan hasil perhitungan tersebut maka penelitian ini berfokus pada penurunan cacat kemasan nginjek yang memiliki persentase cacat terbanyak. Dengan menggunakan Diagram *Fishbone* dapat diidentifikasi faktor-faktor penyebab terjadinya cacat nginjek. Selanjutnya, dengan menggunakan *Critical To Quality* (CTQ) diperoleh 3 faktor terbesar / dominan penyebab cacat nginjek. Kemudian berdasarkan metode *Failure Mode And Effect Analysis* (FMEA) diperoleh faktor penyebab yang paling potensial yaitu susunan Wafer miring dengan nilai RPN (*Risk Priority Number*) sebesar 448 sehingga menjadi prioritas utama untuk dilakukan perbaikan. Penyebab susunan Wafer miring adalah ukuran *guide jalur finger* yang tidak sesuai, sehingga diberikan usulan berupa *gauge* (penanda) ukuran *guide jalur finger*.

Kata kunci : Cacat kemasan, Wafer, *Critical To Quality* (CTQ), *Failure Mode And Effects Analysis* (FMEA), *Risk Priority Number*.

ABSTRACT

Title : *Proposed Improvements to Reduce Packaging Defects of Wafello Chocoblast 135 grams Products with Failure Mode and Effect Analysis (FMEA) and Critical To Quality (CTQ) Methods at PT. XYZ*

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PT XYZ is a company engaged in the food industry, which produces various snack products, one of which is Wafer Wafello Chocoblast 135 grams. The Wafer production process includes the pre-treatment process (weighing raw materials and mixing ingredient formulas during the mixing process), grinding process (mixing cream ingredients), baking process (baking dough), arch cooling process (cooling), cream spreading process (smearing cream), stacking process (Wafer formation), cutting process (Wafer cutter), and packaging process (packaging). The problem faced by the company is the high percentage of defective packaging products that are outside the limit set by the company, which is 0.15%. This study aims to determine the types and factors that cause packaging defects and provide suggestions for improvements to reduce packaging defects. The results of calculations using Pareto Diagrams show that the 3 biggest factors for packaging defects are injecting defects at 27.41%, folding defects at 20.63%, and dropping defects at 17.37%. Therefore, based on the results of these calculations, this research focuses on reducing packaging defects that have the highest percentage of defects. By using Fishbone Diagram, the factors causing the defect can be identified. Furthermore, by using Critical To Quality (CTQ), the 3 largest/dominant factors that cause injecting defects are obtained. Then based on the Failure Mode And Effect Analysis (FMEA) method, the most potential causal factor is the tilted Wafer arrangement with an RPN (Risk Priority Number) value of 448 so that it becomes the top priority for improvement. The cause of the skewed Wafer arrangement is the inappropriate size of the finger path guide, so a proposal is given in the form of a gauge (marker) for the size of the finger path guide.

Keywords: *Packaging defects, Wafers, Critical To Quality (CTQ), Failure Mode And Effects Analysis (FMEA), Risk Priority Number.*