ABSTRAK

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Judul : **Usulan Pengendalian Kualitas Produk Kemasan Botol dengan Metode *Statistical Quality Control* (SQC) dan *Failure Mode and Effect Analysis* (FMEA) di PT XYZ**

PT. XYZ merupakan perusahaan yang bergerak di industri air mineral gelas (250 ml), botol (600 ml), botol (1500 ml), serta galon dengan kualitas produk yang menyasar pasar luar negeri. Persoalan yang tengah dihadapi oleh PT. XYZ detik ini, yaitu jumlah produk yang tidak berdasar pada standar, khususnya produk kemasan botol 600 mililiter. Pengkajian yang dilaksanakan memperjelas adanya kecacatan pada tiga jenis produk. Ketiga produk tersebut memiliki dua klasifikasi cacat, yaitu tanpa cap (35,13%) dan cap terlipat (22,43%). Berdasar pada penilaian yang dilaksanakan menggunakan metode FMEA dan menentukan nilai RPN yang bisa direkognisi faktor pemicu kegagalan terbesar dari masing-masing kecacatan. Adapun faktor pemicu, yaitu faktor mesin: pengaturan mesin kurang tepat; manusia: operator tidak paham instruksi dan mekanisme pengerjaan; faktor material: *incoming material* yang tak baik; serta adanya faktor metode: kurangnya sistematis selama pengaplikasian. Pasca tahu segala penyebab kegagalan dari masing-masing kecacatan, maka tindakan berikutnya adalah mengoreksi untuk meminimalkan jumlah produk yang tidak sesuai SOP, seperti faktor mesin: memeriksa mesin terlebih dahulu sebelum menggunakannya; faktor material: mengaplikasikan batasan mutu, terutama pada *incoming material* serta faktor metode: menyusun ketentuan pengerjaan (SOP) berdasar pada metode kerja.

Kata kunci: *Statistical Quality Control, Seven Tools, Failure Mode and Effect Analysis, RPN*

ABSTRACT

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Title : **The Proposed Quality Control for Bottled Products using *Statistical Quality Control* (SQC) and *Failure Mode and Effect Analysis* (FMEA) methods at PT XYZ**

PT. XYZ is a company engaged in the glass mineral water industry (250 ml), bottles (600 ml), bottles (1500 ml), and gallons with quality products targeting foreign markets. The problems that are being faced by PT. XYZ nowadays are the number of products that are not based on standards, especially 600 milliliter bottle packaging products. The assessments that had been conducted, confirmed the presence of defects in three types of products. The three products have two defect classifications; they are without a stamp (35.13%) and a folded stamp (22.43%). Based on the assessments conducted using the FMEA method and determining the RPN value that can be recognized as the biggest failure trigger factor for each defect. As for the trigger factors, namely engine factors: inappropriate engine settings; human: operators do not understand instructions and working mechanisms; material factor: incoming materials are not good; as well as the method factor: lack of systematic during application. After knowing all the causes of failure of each defect, the next step is correcting it to minimize the number of products that do not comply with the SOP, such as machine factors: check the machine first before using it; material factors: apply quality limits, especially on incoming materials as well as method factors: formulate working conditions (SOP) based on work methods.

Keywords: *Statistical Quality Control, Seven Tools, Failure Mode and Effect Analysis, RPN*