Designing Acceptable Sampling Plan with Process Loss-for Products where the Characteristic is the Location of Hole-Center

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Abstract

In the field of quality control, acceptance sampling plan is a widely used method. Acceptance sampling plan provides a decision rule for lot sentencing to both vendors and buyers. Traditionally, most acceptance sampling plans focus on the percentage of defective products instead of considering the process loss,
which doesn't distinguish among the products that fall within the specification limits. However, the quality between products that fall within the specification limits may be very different. So how to design an acceptance
sampling plan with process loss consideration is necessary. In this paper, we consider the process where the characteristic is the location of hole-center. We developed a variables sampling plan based on process yield index LG to deal with lot sentencing. The required sample sizes n and the critical acceptance value c
with various combination of acceptance quality level for various α, β are tabulated.

Keyword：Acceptance Sampling Plan; Lot Sentencing; Process Loss; Critical Acceptance Value