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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 8051-2008

Replacing GB/T 8051-2002

Sequential sampling plans for inspection by attributes

计数序贯抽样检验方案

(English Translation)

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Foreword

This standard is identical with ISO 8422:2006 "Sequential sampling inspection plan." this standard replaces GB/T 8051-2002. This standard compared with GB/T 8051-2002, there are major changes in the technical content.

--- Production quality and consumer's risk to the quality of risk priority number and extended.

--- The consumer's risk quality of both tests and the percentage of nonconforming product failure number per hundred separate from the primary table and

Table A. 1 increased the average sample size sequential sampling scheme.

--- Canceled GB/T 8051-2002 regarding continuous batch sequential sampling of Appendix A, which will, as part of the revised GB/T 6378.5 release.

--- Remove the GB/T 8051-2002 Mathematics and strong relationship with the standard use little Appendices B and C.

--- Newly added to Appendix A is informative appendix, which gives the statistical characteristics Sequential sampling inspection scheme.

--- The ISO 8422:2006 of 6.1. "6.1 General methods and can be specified in 6.2" to "6.2 can be used

6.3 General methods and regulations. "

--- Expanded table Chapter 8. Numerical example.

Appendix A of this standard is an informative annex.

The standard proposed by China National Institute of Standardization.

Application of this standard by the National Standardization Technical Committee on statistical methods.

This standard was drafted. People's Liberation Army Ordnance Engineering College, China National Institute of Standardization, Academy of Mathematics and Systems Science Research Institute, Suzhou University, Fuzhou Chun Lun Tea Limited.

Introduction

In contemporary production process, often to achieve a desired rate of defective parts per million (10⁻⁶) of the high level of quality. In this case, the the usual sampling programs, such as GB/T 2828.1 provided, often require a very large sample size. Faced with this problem, users will Use a higher probability of miscarriage of justice acceptance sampling plan, or in extreme cases, complete abandonment of acceptance sampling procedures. However, in many cases, still it requires acceptance of high-quality products using standardized statistical methods. Then you should sample size as small as possible statistical sampling methods used. Sequential pumping Sample program is only a statistical sampling method to meet this need, because having similar statistical properties of all possible sampling plan, the sequence Consistent sampling plan has the smallest average sample size.

The main advantage of sequential sampling program is to reduce the average sample size. The average sample size in a given lot or process quality level under which Sampling plan all possible sample volume weighted average. Under the premise of equivalent operating characteristics, such as secondary and multiple sampling program as Sequential sampling plan is smaller than the average sample size of a sampling program. Using sequential sampling plan to use two or more times than the sampling plan, section the average cost of the province more. For very good quality batch, sequential sampling plan to save up to 85%, by comparison, subsample party Text only save 37% multiple sampling scheme can only save 75%. On the other hand, when the use of the secondary, or multiple sequential sampling plan for a Granted some specific quality, the actual inspection unit product number may exceed the sample size of a shape corresponding to 0 sampling scheme. Secondary and multiple Sampling plan, the upper limit of the actual inspection unit product number is about 1.25 like 0. Classical sequential sampling plan, there is no upper limit, the actual test Unit product can exceed an amount corresponding to a sample of programs like 0, even with large quantities of N are equal. The standard sequential sampling plan, it introduces a truncated rule, the upper limit of the actual inspection of the unit value of the

number of products like t .

Other factors to consider include.

a) simplicity

Compared with the simple rules of a sampling program, the rules of sequential sampling program slightly more complex.

b) the amount of variability in test Specific batch, since the actual inspection unit product number previously unknown organization sequential sampling program implementation will be some Difficult, for example, test operation flow arrangements.

c) take samples of products costs If a sample of the product higher costs at different times, the average benefit sequential sampling scheme reduces the amount of sample will be sampled Offset by increased costs.

Duration d) test

If the test of time longer a single product, and a plurality of products can be tested simultaneously, sequential sampling plan than the corresponding single sampling Long time required for the program.

e) Intra-assay variability of quality If the batch is composed of two or more different sources of sub-batches of composition, and there may be substantive differences between the quality of sub-batches, the sequential sampling party Extracting a representative sample of cases is more difficult than the corresponding single sampling plan.

Second, the advantages and disadvantages between multiple sampling program and a sequential sampling plan. Weigh the advantages of small sample size and the average Said disadvantage can draw the following conclusions. sequential sampling plan is suitable only for the cost of testing a single sample products relatively expensive scenario.

Once, twice, many times and sequential sampling program type selection should be determined prior to the beginning of the batch tests. During a number of tests, not allowed Transfer from one type to another type, because the operating characteristic if the actual inspection results influence the choice of the acceptance criteria, the sampling plan it may be dramatic changes.

Despite the sequential sampling plan than the corresponding single sampling program on average more economic sense, but to one specific batch of test, may There will be long-term cumulative number of unqualified hovering between acceptance number and rejection number, a large amount of time until the test in order to make the determination of acceptance or rejection situation. When using the graphical method, the above-described situation corresponds to the stepped curve in the indefinite domain random wandering. This scenario is most likely to occur in batches or too GB/T 8051-2008/ISO 8422:2006 to avoid the above situation, you should be set before you start sampling the cumulative sample size

of a censored value like t , when the cumulative sample size reaches like t , if Reception of the batch has not yet been determined, the test is terminated, and the rejection number and receive data with Censored Censored batch to determine whether or not the reception.

Despite the truncated sequential sampling plan will lead to changes in operating characteristics, but this standard to determine the operating characteristics of the sequential sampling plan considerations A censored. Censoring this standard provides guidelines are an integral part of the sampling program.

GB/T 2828.5 also provides a Sequential sampling inspection plan, but the design principles that have programs of this nature are not standard with. GB/T 2828.5 The sequential sampling plan is GB/T 2828.1 count supplementary acceptance sampling system. Therefore, they apply even Continued testing of batches, batch series to be long enough to allow the use of GB/T 2828 system transition rule. When using GB/T 2828.5 Sequential when the sampling plan, the application of the transfer rules mean only higher consumer protection (relying tightened sampling inspection rules or pause).

However, in some cases, require tighter control of production and consumers at risk. For example, when the sampling program was used to assess the production process when quality or to test the hypothesis, as is the case. In these cases, a single sampling plan GB/T 2828.5 sampling plan should not be Selection. This standard provides a sampling plan to meet this specific demand.

GB/T 8051-2008/ISO 8422:2006 Sequential sampling inspection plan

1 Scope

This standard provides for the separation of individual product Sequential sampling inspection programs and procedures.

The standard production's risk and consumer's risk point point searching program used. These programs not only apply to acceptance sampling purposes, but also for on simple assumptions ratio statistical test.

The purpose of this standard is to provide the test results of the sequential evaluation process, the use of this procedure may be applied by the parties to the production of poor quality batches rejected by Economic and psychological pressure to provide a high quality batch probability of acceptance. At the same time, the probability of receiving inferior to a ceiling in batches Consumer protection.

This standard provides the sampling plan can be used (but not limited to) the following test.

---Final product;

--- Parts and raw materials;

---operating;