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

GB/T 16307-2026

Replacing GB/T 16307-1996

**Sequential sampling plans for inspection by variables for
percent nonconforming (known standard deviation)**

计量截尾序贯抽样检验程序及抽样表（适用于标准差已知的情形）

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document replaces GB/T 16307-1996 "Measurement Procedures and Sampling Tables for Truncated Sequential Sampling Inspection (Applicable to Cases Where Standard Deviation is Known)".

Compared with GB/T 16307-1996, the main technical changes in the revised standard (including structural adjustments and editorial modifications) are as follows.

---The scope of this document has been changed; the phrase "the sampling plan is indexed by producer risk quality and user risk quality" has been modified.

The definition that "sampling plans are indexed by producer risk points and user risk points" expands the scope of application, making these plans not only applicable to...

It is applicable to acceptance sampling, and also to the testing of more general simple proportional statistics hypotheses (see Chapter 1, 1.1 of the 1996 edition);

---Added a sampling plan that satisfies the condition that "measurement error is negligible relative to the standard deviation of the production process" (see Chapter 1);

---Added a note stating "The sampling inspection procedures in this document are not applicable to batches where nonconforming items have been pre-screened" (see [link]).

Chapter 1);

---Change "Comprehensive bilateral regulatory limits" to "Joint control" and "Separate bilateral regulatory limits" to "Separate control" (see Chapter 3).

(Versions 3.1.14 and 3.1.15 from the 1996 edition)

---The note regarding the applicability of sequential schemes for testing the relationship between batch size and truncated sample size has been deleted (see 1.1 in the 1996 edition);

---The terms "unit product", "sample unit", "quality characteristics", "measuring quality characteristics", "measuring sampling inspection", and "sequential sampling inspection" have been removed.

"Verification", "Single-sided specification limit", "Two-sided specification limit" (see 1.1 of the 1996 edition);

--- Added terms such as "sampling inspection", "acceptance sampling", "acceptance sampling inspection", "metrological acceptance sampling inspection", "quality level", and

"non-conforming".

"Unit", "Measurement", "User Risk and Quality", "Producer Risk and Quality", "Sequential Acceptance Sampling Inspection", "Sequential Sampling Plan", "Operation" "Characteristic curves", "Producer risk points", and "User risk points" (see Chapter 3);

---The principles of sequential sampling inspection schemes for measurement have been added (see Chapter 5);

---The sequential sampling procedure has been removed (see Chapter 5 of the 1996 edition);

---Changed the selection options for sampling plans, adding "Choice between measurement and counting" and "Choice between sequential sampling plan and single sampling plan".

The "choice" was changed to "producer risk points and user risk points", "QPR and QCR priority values", and "preparatory operations" (see section 6).

Chapter 4 (1996 edition);

---Added content on "Choosing Between Numerical and Graphical Methods" (see 7.4);

---The values of parameters h_A , h_R , and g were changed and recalculated to provide a solution that fully meets the requirements (see Chapter 9).

Table 1 (1996 edition).

This document adopts ISO 39511:2018 "Measurement - Truncation-tailed sequential sampling inspection procedures and sampling tables (for applications with known standard deviations)".

situation)".

The following minimal editorial changes have been made to this document.

---The upper limit of acceptance for a cumulative sample size of 3 (170.7) in Table 3 is modified to 170.8, and the lower limit for a cumulative sample size of 4 is modified accordingly.

The lower bound acceptance value of 111.6 has been revised to 111.5, and the lower bound acceptance value of 150.5 for a cumulative sample size of 6 has been revised to 150.4.

The lower limit of acceptance when the cumulative sample size is 8, which was 189.4, has been revised to 189.3. The original text was printed incorrectly.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Statistical Methods Application (SAC/TC21).

Introduction

In modern production processes, companies often expect their products to have a defect rate of one in a million, representing a high-quality level. In this situation...

Under these circumstances, using conventional acceptance sampling schemes (such as those provided in GB/T 2828.1) often requires extremely large sample sizes. If...

Using a metrological acceptance sampling plan (such as the one provided by ISO 3951-1), the sample size can be significantly reduced. However, especially in...

Even with extremely high requirements for the quality of the received products, the required sample size is still very large. Therefore, it is necessary to adopt a standard with the smallest possible sample size.

Sequential sampling is the only statistical sampling method that satisfies this need. This is because, among samples with similar statistical properties...

Among the possible sampling schemes, the sequential sampling scheme requires the smallest average sample size.

The main advantage of sequential sampling is that it reduces the average sample size. The average sample size is the minimum acceptable size for a given batch or process quality level.

The average of all possible sample sizes in a sampling plan. Compared to a single-sample plan with the same operational characteristics, sequential sampling...

The average sample size for the cases is smaller.

Other factors to consider include.

a) Complexity

Compared to the simple rules of a single sampling scheme, the rules of a sequential sampling scheme are slightly more complex.

b) Variability of the test quantity for a specific batch, the implementation of a sequential sampling plan can be challenging because the actual number of units to be inspected is unknown in advance.

For example, the arrangement of inspection procedures, etc.

c) Cost of sampling products If the cost of sampling products at different times is high, then the benefit of a reduced average sample size from a sequential sampling scheme may be negated.