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

GB/T 6378.7-2024

**Sampling procedures for inspection by variables - Part 7:
Procedures for assessment of declared quality levels for
percent nonconforming
(English Translation)**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is part 7 of GB/T 6378 "Measurement sampling inspection procedures". GB/T 6378 has been published in the following parts.

--- Part 1: Single sampling for batch inspection of a single quality characteristic and a single AQL indexed by acceptance quality limit (AQL) plan;

--- Part 3: Secondary sampling plan for batch inspection based on acceptance quality limit (AQL);

--- Part 4: Procedure for assessing the claimed quality level of the mean;

--- Part 7: Procedure for assessing the claimed quality level for the nonconforming rate.

This document is modified to adopt ISO 3951-4:2011 "Sampling procedures for measurement of quantities - Part 4: Procedures for assessment of claimed quality level".

The technical differences between this document and ISO 3951-4:2011 and their reasons are as follows.

--- Added the term 3.1.3 "claimed quality level" because it is a very important term in this document (see 3.1.3).

The following editorial changes were made to this document.

--- In order to coordinate with the existing standards, the name of the standard is changed to "Metric Sampling Inspection Procedures Part 7: Claimed Quality of Nonconforming Product Rates" "Quality Level Assessment Procedure";

--- Changed the first sentence of the first paragraph of the introduction, changing "The scope of this document differs from parts 1, 2 and 3 of the ISO 3951 series" to "This document the scope of the parts is different from GB/T 6378.1-2008, ISO 3951-2:2013, GB/T 6378.3-2024, because 6378 is Part 2 of the column has not yet been released;

--- Added the last description of GB/T 6378.4-2018 in the fourth paragraph of the introduction, "GB/T 6378.4-2018 can be used in the evaluation the claimed quality of a certain verification population is verified during the review and audit, but the mean value of the quality characteristic is used as the quality indicator for retrieval";

--- Added the explanation of the situation of passing the inspection at the end of the introduction. "The situation of passing the inspection does not mean that the overall inspection qualified";

--- Added the source of the terms mass ratio and limit mass ratio (see 3.1.1 and 3.1.2), because these two terms are in GB/T 2828.4-Defined in 2008;

---Changed the formula in 3.2.1 symbol $B(nu, nu)$, changing the formula " $B(nu, nu) = \frac{\Gamma(nu)\Gamma(nu)}{\Gamma(nu)}$ " to " $B(nu, nu) = \frac{\Gamma(nu)}{\Gamma(2nu)}$ ", the original formula is wrong;

--- Deleted "When the process standard deviation is known, see B.2 for an example of a one-sided specification limit." in 7.2.2 and moved it to the last line of 7.3.2 paragraph, the original text is placed in the wrong place;

---Changed " $\hat{p}_y=0.0218$ " in 7.2.6. The original " $\hat{p}_y=0.0477$ " is wrong;

---Deleted the third line " $\Phi=3.1000-3.1169$ " in 7.3.5 0.00310×33 ", the original text was edited incorrectly, with one extra line written;

--- Changed the symbols in Appendix B.2, changing " $n\Phi$, $k\Phi$ " to " $n\sigma$, $k\sigma$ ", the original text was edited incorrectly.

Introduction

The scope of this document is different from GB/T 6378.1-2008, ISO 3951-2:2013, GB/T 6378.3-2024, ISO 3951-5.

2006. The system of acceptance sampling procedures specified in the aforementioned standards is applicable to the Bilateral agreement. Acceptance sampling procedures are used only as a rule to decide whether to accept a lot after inspecting a sample of the lot. Therefore, these procedures do not clearly address any formal claims of quality levels.

In acceptance sampling, it is considered that there is no clear boundary between the quality levels of acceptable batches and unacceptable batches.

2008, ISO 3951-2:2013, GB/T 6378.3-2024, ISO 3951-5:2006, a certain acceptance quality limit agreed by both parties the AQL is the worst process average quality level that can be tolerated when submitting a series of consecutive batches.

The plan is designed to encourage manufacturers to produce products with a process average quality that is better than the selected AQL.

Small enough that the protection provided by a sampling plan targeting individual lots is likely to be greater than that provided by a sampling plan targeting individual lots.

It should be smaller (under the same conditions, the risk of missing a sample will be greater with a sampling plan with a lower sample size).

GB/T 6378 "Measurement Sampling Inspection Procedure" series of standards are basic general standards for measurement sampling inspection, which are divided into the following Seven parts.

--- Part 1: Single sampling for batch inspection of a single quality characteristic and a single AQL indexed by acceptance quality limit (AQL) Scheme (GB/T 6378.1-2008). It is intended to specify the acceptance sampling system for the measurement single sampling inspection plan, which is based on the acceptance of quality the purpose of the method given in this part of ISO 14001 is to ensure that the actual quality level is better than the acceptance quality limit.

The batch is accepted with a high probability, while ensuring that the batches with actual quality levels worse than the acceptance quality limit are accepted with a low probability.

--- Part 2: General rules for a single sampling plan for batch inspection of independent quality characteristics indexed by acceptance quality limit (AQL) it is intended to give a more general technical treatment of lot-by-lot variable sampling for independent quality characteristics.

--- Part 3: Secondary sampling plan for batch inspection based on acceptance quality limit (AQL) (GB/T 6378.3-2024).

In the acceptance sampling system that specifies the measurement secondary sampling inspection plan, the secondary sampling inspection plan in this part is Supplement to GB/T 6378.1.

--- Part 4: Procedure for assessing the claimed quality level of the mean (GB/T 6378.4-2018). Aims to specify the procedure for assessing the claimed quality level of the mean.

The average value of a certain quality characteristic of a body is a quantitative sampling inspection procedure for quality indicators, which is applicable to various forms of quality verification.

This part is the GB/T 6378 series of documents for the assessment procedures of claimed quality levels.

--- Part 5: Sequential sampling plan for metrological inspection based on acceptance quality limit (AQL). Sequential sampling inspection in this part the plan is a supplement to GB/T 6378.1.

--- Part 6: Sampling plan for isolated batch inspection based on limit quality LQ. This sampling system is used for isolated batches (isolated series Batch, isolated batch or single batch) inspection, the transfer rules of GB/T 6378.1 do not apply here. The sampling plan provided in this part as a supplement to GB/T 6378.1 and compatible with GB/T 6378.1.

A supplement to GB/T 6378.4, which together with GB/T 6378.4 constitutes the GB/T 6378 series of documents for claiming quality levels.

Assessment procedures.

The procedures in GB/T 6378.1-2008, ISO 3951-2:2013, GB/T 6378.3-2024, ISO 3951-5:2006 are applicable to the verification Acceptance sampling is not suitable for verifying the claimed quality of a verification population during reviews and audits. The main reason for this is that these standards are based on acceptance sampling.

The quality limit is used for retrieval, which is only related to the actual purpose of acceptance sampling, so the two types of risks are balanced. GB/T 6378.4-2018 is available it is used to verify the claimed quality of a certain verification population during review and audit, but the mean value of the quality characteristic is used as the quality indicator for retrieval.