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# Sampling procedures for inspection by attributes —

Part 10:

Introduction to the ISO 2859 series of standards for sampling for inspection by attributes

Règles d'échantillonnage pour les contrôles par attributs —

Partie 10: Introduction au système d'échantillonnage pour les contrôles par attributs de l'ISO 2859



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## **Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 2859-10 was prepared by Technical Committee ISO/TC 69, *Applications of statistical methods*, Subcommittee SC 5, *Acceptance sampling*.

This first edition of ISO 2859-10 cancels and replaces ISO 2859-0:1995, which has been technically revised.

ISO 2859 consists of the following parts, under the general title Sampling procedures for inspection by attributes:

- Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection
- Part 2: Sampling plans indexed by limiting quality (LQ) for isolated lot inspection
- Part 3: Skip-lot sampling procedures
- Part 4: Procedures for assessment of declared quality levels
- Part 5: System of sequential sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection
- Part 10: Introduction to the ISO 2859 series of attribute sampling standards

This first edition of ISO 2859-10 is significantly different from ISO 2859-0:1995 which it cancels. It contains a brief summary of each part of ISO 2859 whereas the previous edition contained detailed description of the theory behind acceptance sampling by attributes and a detailed discussion of ISO 2859-1. The theory behind these standards has now been placed in ISO/TR 8550-1. In addition, ISO 2859-2, ISO 2859-3, ISO 2859-4 and ISO 2859-5 are listed in this edition; these parts were not present when the first edition was published.

## Introduction

This general introduction to the ISO 2859 acceptance sampling series describes the attribute sampling schemes and plans set forth in ISO 2859-1, ISO 2859-2, ISO 2859-3, ISO 2859-4 and ISO 2859-5. This introduction treats the subject of sampling inspection by attributes in a general way, introducing the essential operating procedures and the ways in which the systems were designed to be used. To understand fully the concepts and their applications, it is necessary to consult ISO 2859-1, ISO 2859-2, ISO 2859-3, ISO 2859-4, ISO 2859-5 and ISO/TR 8550-1.

The individual parts of this series of international standards extend this introductory explanation to more specific applications that are appropriate for the particular standard.

It is emphasized that ISO 2859-1 provides sampling schemes indexed by acceptance quality limit (AQL). The quality measure used can be percent nonconforming or the number of nonconformities per 100 items. ISO 2859-1 was developed primarily for the inspection of a continuing series of lots all originating from the same production or servicing process. In this situation, adequate protection (or the maximum process average percent nonconforming) is maintained by use of the switching rule from normal to tightened inspection should a certain (limiting) number of unacceptable lots be found in a short series of successive lots.

ISO 2859-2 provides sampling plans applicable for use when individual or isolated lots are to be sampled. These sampling plans are in many instances identical to those in ISO 2859-1. All the tables of sampling plans in ISO 2859-2 include information regarding the quality level required to assure a high probability of lot acceptance.

ISO 2859-3 provides skip-lot procedures for use when the process quality is markedly superior to the AQL for a defined long period of delivery or observation. When the quality level is in this state of excellence, it is sometimes more economical to use ISO 2859-3 than to use the reduced sampling procedure of ISO 2859-1. Like ISO 2859-1, ISO 2859-3 is applicable to a continuing series of lots from a single source.

ISO 2859-4 provides a procedure that may be used to verify a quality level that has been declared for some entity. This function is not appropriate for the other parts of the series. The main reason for this is that those procedures have been indexed in terms of quality levels that are relevant solely for the purpose of acceptance sampling, and the various risks have been balanced appropriately. The procedures in ISO 2859-4 have been developed in response to the need for sampling procedures suitable for formal, systematic inspections such as reviews or audits.

ISO 2859-5 provides a method of establishing sequential sampling plans of discriminatory power essentially equivalent to that of corresponding plans of ISO 2859-1.

A complementary system of sampling plans for inspection by variables, also indexed by AQL, is provided by the ISO 3951 series, *Sampling procedures for inspection by variables*.