Australian Standard™

Sampling procedures for inspection by attributes

Part 0: Introduction to the ISO 2859 attribute sampling system

Standards Australia

This Australian Standard was prepared by Committee QR-008, Quality Systems. It was approved on behalf of the Council of Standards Australia on 26 May 2003 and published on 28 July 2003.

The following are represented on Committee QR-008:

Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Information Industry Association
Australian Institute of Petroleum
Australian Organisation for Quality
Bureau of Steel Manufacturers of Australia
Certification Bodies (Australia)
Commonwealth Department of Transport and Regional Services
Department of Agriculture, Fisheries and Forestry (Commonwealth)
Department of Defence (Australia)
Department of Industry Science and Resources (Commonwealth)
Federal Chamber of Automotive Industries
Institute of Materials Engineering Australasia
Institution of Engineers Australia
Main Roads Department, Queensland
Master Builders Australia
Quality Society of Australasia
Royal Australian Chemical Institute

Additional interests participating in the preparation of this Standard:

Australian Quality Council
CSIRO Mathematical and Information Services
Macquarie University
National Association of Testing Authorities, Australia
Queensland University of Technology

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 03246.

Australian Standard™

Sampling procedures for inspection by attributes

Part 0: Introduction to the ISO 2859 attribute sampling system

Originated as AS 1399—1973.
Previous edition AS 1399—1990.
Revised and redesignated as AS 1199.0—2003.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 5392 2

PREFACE

This Standard was prepared by the Standards Australia Committee QR-008, Quality Systems.

This Standard is identical with, and has been reproduced from ISO 2859-0:1995, *Sampling procedures for inspection by attributes*, Part 0: *Introduction to the ISO 2859 attribute sampling system.*

The objective of this Standard is to explain the terms used in acceptance sampling, describe the various schemes and plans, give practical advice on sampling inspection and discuss some of the theoretical aspects.

As this Standard is reproduced from an international Standard, the following applies:

(a) Its number appears on the cover and title page while the international Standard number appears only on the cover.

(b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
2859	Sampling procedures for inspection by attributes	1199	Sampling procedures for inspection by attributes
2859-1	Part 1: Sampling schemes indexed by acceptable quality limit (AQL) for lot-by-lot inspection	1199.1	Part 1: Sampling schemes indexed by acceptable quality limit (AQL) for lot-by-lot inspection
2859-2	Part 2: Sampling plans indexed by limiting quality (LQ) for isolated lot inspection	1199.2	Part 2: Sampling plans indexed by limiting quality (LQ) for isolated lot inspection
2859-3	Part 3: Skip-lot sampling procedures	1199.3	Part 3: Skip-lot sampling procedures

Only International Standard referenced documents identical to Australian Standards have been listed.

The International Organization for Standardization's Committee TC 69 is currently in the process of updating the ISO 2859 series to bring the older documents into line with Parts 1 and 4. Where any inconsistency arises between the sections of this series of Standards, the more recently published document will apply.

CONTENTS

INTRODUCTION

This general introduction to sampling inspection describes the attribute sampling schemes set forth in parts 1 to 3 of ISO 2859 and in ISO 8422. This introduction treats the subject of sampling inspection by attributes in a general way; it introduces the essential operating procedures and the ways the schemes were designed to be used. To understand fully the concepts and their applications, it would be helpful to consult ISO 2859-1, ISO 2859-2, ISO 2859-3, ISO 8422 and ISO/TR 8550.

The individual parts of these International Standards extend this introductory explanation to more specific uses of the procedures which are appropriate for the particular part or standard.

It is emphasized that ISO 2859-1 provides sampling schemes indexed by 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 source, as in this situation adequate protection (of the maximum process average percent nonconforming) is possible by use of the switching rules (i.e. 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 arranged 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. It is recommended that ISO 2859-2 rather than ISO 2859-1 be used for individual or isolated lots.

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 8422 provides a method of establishing sequential sampling plans of discriminatory power essentially equivalent to that of individual plans of ISO 2859-1 and ISO 2859-2.

A complementary system of sampling plans for inspection by variables, also indexed by AQL, is provided by ISO 3951:1989, *Sampling procedures and charts for inspection by variables for percent nonconforming* and by ISO 8423:1991, *Sequential sampling plans for inspection by variables for percent nonconforming (known standard deviation)*.

NOTE 1 Use of the masculine gender in this part of ISO 2859 is not meant to exclude the feminine gender where applied to persons. Similarly, use of the singular does not exclude the plural (and vice versa) when the sense allows.

AUSTRALIAN STANDARD

Sampling procedures for inspection by attributes —

Part 0:
Introduction to the ISO 2859 attribute sampling system

Section 1: General

1.1 Scope

This part of ISO 2859 explains the terms used in acceptance sampling, describes the various schemes and plans, gives practical advice on sampling inspection and discusses some of the theoretical aspects.

Section 2 gives general information on methods of acceptance sampling inspection with particular reference to the sampling procedures and tables for inspection by attributes given in parts 1, 2 and 3 of ISO 2859 and in ISO 8422.

Section 3 extends the introduction to acceptance sampling given in Section 2 and amplifies the introductory text and instructions contained in ISO 2859-1, by giving detailed comments and examples to assist in using the method of sampling inspection that constitutes the ISO 2859-1 sampling system.

1.2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 2859. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 2859 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2859-1:1989, *Sampling procedures for inspection by attributes — Part 1: Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection.*

ISO 2859-2:1985, *Sampling procedures for inspection by attributes — Part 2: Sampling plans indexed by limiting quality (LQ) for isolated lot inspection.*

ISO 2859-3:1991, *Sampling procedures for inspection by attributes — Part 3: Skip-lot sampling procedures.*

ISO 8422:1991, *Sequential sampling plans for inspection by attributes.*

ISO/TR 8550:1994, *Guide for the selection of an acceptance sampling system, scheme or plan for inspection of discrete items in lots.*

1.3 Definitions

For the purposes of this part of ISO 2859, the definitions given in ISO 2859-1 and ISO 2859-3 apply.