GB/T2829-2002

Sampling procedures and tables for periodic inspection by attributes (Apply to inspection of process stability)

周期检验计数抽样程序及表（适用于对过程稳定性的检验）

General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China

Translated by Chemlinked

Date of Publication: 2002-06-13
Date of Implementation: 2003-01-01

Disclaimer

This is an unofficial document provided by ChemLinked (chemlinked.com), a division of REACH24HConsulting Group, as an informational service to assist non-Chinese companies.

This document should only be used as a reference and in case of any discrepancy between the English and Chinese versions the original Chinese version shall prevail.

Nondisclosure:
For ChemLinked Standard Members & e-book buyers: You may not disclose this document to anyone else without the written permission of ChemLinked.

For ChemLinked Corporate Members: You may circulate the copy of this document electronically or by printed copy with your colleagues in the same company which is registered in ChemLinked.com.

Besides, you are not allowed to disclose this document to anyone else without the written permission of ChemLinked.

For further clarification and questions, please contact us:
chemical@chemlinked.com

GB/T 2829-2002

ICS 03.120.30
A 41

National Standard of the People's Republic of China

GB/T 2829-2002

Replacing GB/T 2829-1987

Sampling procedures and tables for periodic inspection by attributes (Apply to inspection of process stability)

Issued on 2002-06-13 **Implemented on 2003-01-01**

Issued by **General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China**

Foreword

This standard is a revision of and replaces GB/T 2829-1987 *Sampling procedures and tables for periodic inspection by attributes (Apply to inspection of stability for productive process).*

Compared with GB/T 2829-1987, the changes of major technical contents in this standard mainly include:

———the standard title has been modified to "*Sampling procedures and tables for periodic inspection by attributes (Apply to inspection of process stability)"*.

———the standard text has been redrafted in accordance with the requirements of GB/T 1.1.

———the sample sequence table (Table 1) has been added for ease of indexing the sample sizes of the double and multiple (with five stages) sampling plans that correspond to the single sampling plan.

———the average sample size curve charts have been compressed in length on the premise of not affecting the precision.

———necessary changes to some terms and operation procedures have been made in this revision.

This standard was proposed by and is under the jurisdiction of National Technical Committee of Standardization for Application of Statistical Methods.

The major drafting units of this standard are: Ordnance Engineering College, China National Institute of Standardization, Academy of Mathematics and Systems Science (AMSS) in the Chinese Academy of Sciences (CAS), China Ordnance Standardization Research Institute and Lingyun Industrial Co., Ltd.

The main drafters of this standard are: Zhang Yuzhu, Ma Yilin, Liu Wen, Zhu Huiming, Cao Shimin and Chang Zhicheng, *etc*.

This standard was first published in 1982 and subsequently revised in 1987.

Sampling procedures and tables for periodic inspection by attributes

(Apply to inspection of process stability)

1 Scope

This standard specifies the single, double and multiple (with five stages) sampling plans and procedures with rejectable quality level (expressed in percent nonconforming or nonconformities per hundred items) as quality index. It is applicable to the inspection of process stability.

2 Normative References

The following referenced documents contain provisions which, through reference in this text, constitute provisions of this standard. For dated references, subsequent amendments (excluding the corrigendum) to or revisions of any of these publications shall not apply to this standard. However, all parties are subject to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. For undated references, the latest edition of the publication referred to applies to this standard.

GB/T 3358.1-1993 Terms for statistics - Part I: Terms for general statistics

GB/T 3358.2-1993 Terms for statistics - Part II: Terms for statistical quality control

GB/T 2828[1)] Sampling procedures for inspection by attributes - Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection (idt ISO 2859-1)

3 Terms, Definitions and Symbols

3.1 Terms and definitions

For the purposes of this standard, the terms and definitions given in GB/T 3358 and the following apply.

3.1.1 Item

A basic unit divided for the need of implementing sampling inspection.

For example, a single article, a pair, a set, a component, or a definite length, area, volume or weight of a product. It may or may not be the same as the item specified for purchase, sales, production or shipment.

3.1.2 Inspection lot (lot)

A definite amount of some product or service collected together under certain conditions.

Note: “Lot” in this standard refers in particular to all items manufactured for production approval inspection, or all items manufactured within a specified period in the process of lot production after passing the production approval inspection.

3.1.3 Lot size

Number of items in a lot.

3.1.4 Sample unit

Item drawn from a lot for the purpose of inspection.

[1)] being under revision (as a revision of GB/T 2828-1987 *Sampling procedures and tables for lot-by-lot inspection by attributes (Apply to inspection of successive lots or batches)*, identical to ISO 2859-1:1999.

3.1.5 Sample

All of the sample units.

3.1.6 Sample size

Number of sample units contained in the sample.

3.1.7 Nonconformity

Departure from a specified requirement for a quality characteristic of an item. Nonconformity will generally be classified according to the importance of item quality expressed in a quality characteristic or to the degree of seriousness about the departure of a quality characteristic such as: class A, class B and class C.

3.1.8 Nonconformity of class A

Departure from a specified requirement for a critical quality characteristic of an item, or critical departure from a specified requirement for a quality characteristic of an item.

3.1.9 Nonconformity of class B

Departure from a specified requirement for a major quality characteristic of an item, or major departure from a specified requirement for a quality characteristic of an item.

3.1.10 Nonconformity of class C

Departure from a specified requirement for a minor quality characteristic of an item, or minor departure from a specified requirement for a quality characteristic of an item.

3.1.11 Nonconforming item

Item with one or more nonconformities. It will generally be classified by the type of nonconformity such as: Class A, Class B and Class C.

3.1.12 Nonconforming item of class A

An item which contains one or more nonconformities of class A and may also contain nonconformities of class B and/or class C.

3.1.13 Nonconforming item of class B

An item which contains one or more nonconformities of class B and may also contain nonconformities of class C, but contains no nonconformity of class A.

3.1.14 Nonconforming item of class C

An item which contains one or more nonconformities of class C, but contains no nonconformity of class A and class B.

3.1.15 Percent nonconforming

One hundred times the total number of nonconforming items in a lot divided by the lot size, viz:

$$\text{Percent nonconforming} = {}^{(\text{total number of nonconforming items in a lot})}/_{\text{lot size}}) \times 100$$

3.1.16 Nonconformities per 100 items

One hundred times the total number of nonconformities found in all items in a lot divided by the lot size, viz:

$$\text{Nonconformities per 100 items} = \left(\text{total number of nonconformities found in all items in a lot}\right)/\text{lot size} \times 100$$

3.1.17 Lot quality

Quality of individual lots submitted for inspection (in percent nonconforming or nonconformities per 100 items).

3.1.18 Rejectable quality level

The lower limit value for the quality of a lot considered not acceptable in the sampling inspection.

3.1.19 Inspection

Activity such as measuring, examining or testing one or more characteristics of a product or process, and comparing the results with specified requirements in order to establish whether conformity is achieved for the product or process.

3.1.20 Inspection by attributes

Inspection whereby either an item is determined as conforming or nonconforming according to a set of or a technical requirement(s) specified in the product technical standard, or the number of nonconformities in an item is counted.

3.1.21 Lot-by-lot inspection

Inspection of each lot in a series of lots.

3.1.22 Periodic inspection

Inspection of samples drawn from one or several lots considered acceptable on lot-by-lot inspection for the purpose of determining whether the stability of the productive process within a specified period (specified either by time or by the number of items manufactured) conforms to specified requirements or not.

3.1.23 Production approval inspection

Periodic and lot-by-lot inspections carried out to determine whether or not products conforming to specified quality requirements can be manufactured in lots on a production line.

3.1.24 Lot production inspection

Periodic and lot-by-lot inspections carried out to determine whether or not the manufacture of products conforming to specified quality requirements in lots can be continually maintained on a production line after passing the production approval inspection.

3.1.25 Acceptance number

A maximum number of allowable nonconformities or nonconforming items in the sample of a lot considered acceptable under acceptance sampling by attributes.

3.1.26 Rejection number

A minimum number of non-allowable nonconformities or nonconforming items in the sample of a lot considered not acceptable under acceptance sampling by attributes.

3.1.27 Acceptance and rejection numbers

A combination of an acceptance number and a rejection number or a series of acceptance and

rejection numbers

3.1.28 Sampling plan

A specific plan that gives the sample size and associated acceptance criteria.

3.1.29 Sampling procedure

The process of using the sampling plan to decide whether a lot is acceptable or not.

3.1.30 Single sampling plan

A sampling plan consisting of a combination of sample size and acceptance and rejection numbers [A_c, R_e].

3.1.31 Double sampling plan

A sampling plan consisting of a combination of first and second sample sizes n_1 and n_2 and acceptance and rejection numbers [A_1, A_2, R_1, R_2].

3.1.32 Multiple sampling plan with five stages

A sampling plan consisting of a combination of sample size series n_1, n_2, n_3, n_4, n_5 and acceptance and rejection numbers [A_1, A_2, A_3, A_4, A_5, R_1, R_2, R_3, R_4, R_5].

3.1.33 Discrimination level

A level of ability to discriminate the nonconformity with specified requirements for the stability of productive process.

3.1.34 Probability of acceptance

Probability of a lot or process with a given quality level being considered as acceptable when using a defined sampling plan.

3.1.35 Average sample size

The estimated average number of samples to be inspected per lot when a decision regarding acceptance or rejection is made using a certain sampling plan.

3.1.36 Operating characteristic curve (OC curve)

A curve indicating the function relationship between the probability of lot acceptance and the lot quality level for a given sampling plan.

3.1.37 Average sample size curve (ASN curve)

A curve indicating the function relationship between the average sample size and the lot quality level for a given sampling plan.

3.2 Symbols

N: Lot size

n: Sample size

Note: Subscripts 1, 2, *etc*., shall be added respectively when it is necessary to distinguish between the sizes of the first and the second samples, *etc*. For example, n_5 denotes the size of the fifth sample.

A_c: Acceptance number

R_e: Rejection number

Note: Subscripts c or e shall be modified respectively to 1, 2, *etc*., when it is necessary to distinguish between the first and the second acceptance or rejection numbers, *etc*. For example, A_2 denotes the second acceptance number; R_3 denotes the third rejection number.

[A_c, R_e]: Acceptance and rejection numbers for single sampling plan

[A_1, A_2, R_1, R_2]: Acceptance and rejection numbers for double sampling plan

[A_1, A_2, A_3, A_4, A_5, R_1, R_2, R_3, R_4, R_5]: Acceptance and rejection numbers for multiple sampling plan with five stages

p: Lot quality

P_a: Probability of lot acceptance

DL: Discrimination level

RQL: Rejectable quality level

ASN: Average sample size

4 Inspection Procedures

The inspection procedures specified in this standard are as follows:

a) Specifying the inspection period;

b) Selection of test items and formation of test groups;

c) Specifying test methods and quality characteristics;

d) Specifying classes of nonconformity;

e) Specifying rejectable quality level;

f) Specifying discrimination level;

g) Selection of types of sampling plans;

h) Obtaining a sampling plan;

i) Drawing samples;

j) Inspection of samples;

k) Decision regarding passing or failing periodic inspection;

l) Disposal after periodic inspection

5 Implementation of Inspection

5.1 Specifying the inspection period

An appropriate inspection period, usually being one month, two months, three months, half a year or even one or two years, shall be specified in the product technical standard or product purchase contract according to the approximate duration for a stable productive process of the product as well as to the test time and test cost.

Specifying different inspection periods for different test groups are allowed in the same product technical standard or product order contract.

It is also allowed to specify the inspection period according to the number of products manufactured.

CHEMLINKED
by REACH24H Consulting Group

Subscribe to CHEMLINKED Now

Special
negotiable

Chemical Regulatory Intelligence, Market Entry Strategy and Digital Compliance Toolkit

Membership	Information		Knowledge			Database					Training		Free Consulation Hours
	News	Newsletter	Reports	Chempedia	Expert Articles	Regulatory Database	Chem-Lists	English Translations	Inventory Toolbox	Q&A Center	Webinars	Discount of Offline Events	
Free	Free Ones Only	√	x	√	x	x	x	x	Limited	x	Free Ones Only	x	x
Free Trial (14days)	√	√	x	√	3 Latest Ones	Download Disabled	x	x	Limited	x	Free Ones Only	x	x
Standard	√	√	√	√	√	√	√	√	√	√	√	√	x
Corporate	√	√	√	√	√	√	√	√	√	√	√	√	3
Special	Customized												

CHEMLINKED.COM

14F, #3 Bldg., Haichuang Technology Center, No. 1288 Wenyi West Road, Hangzhou, China
Tel: +86 571 8609 4444 / Fax: +86 571 8700 7566 / E-mail: contact@chemlinked.com
Visit our website for more information about China Chemical News & Regulation updates