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

GB/T 17989.3-2020

Control charts - Part 3: Acceptance control charts

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Foreword

The plan of GB/T 17989 "Control Chart" is divided into the following 9 parts.

- Part 1. General guidelines;
- Part 2. Conventional control chart;
- Part 3. Acceptance control chart;
- Part 4. Cumulative and control charts;
- Part 5. Special control charts;
- Part 6. Exponentially weighted moving average control chart;
- Part 7. Multiple control charts;
- Part 8. Short cycle and small batch control methods;
- Part 9. Autocorrelation process control chart.

This part is Part 3 of GB/T 17989.

This section is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the redrafting method to modify and adopt ISO 7870-3..2012 "Control Chart Part 3. Acceptance Control Chart".

The technical differences between this section and ISO 7870-3..2012 and their causes are as follows.

--- Regarding the normative references, this section has made adjustments with technical differences to adapt to China's technical conditions and the situation of adjustment.

The situation is reflected in Chapter 2 "Regulatory Reference Documents", and the specific adjustments are as follows.

* Replace ISO 3534-1 with GB/T 3358.1 equivalent to the international standard;

* Replace ISO 3534-2 with GB/T 3358.2 equivalent to the international standard;

* Added reference to GB/T 17989.1;

--- Add the term 3.2 "Rejection process", and move the note from 3.1 to 3.2, and modify Note 2 to "Note 2. Acceptable process area and rejection

The process is shown in Figure 1 ";

--- Change "zalphasigmaX zbetasigmaX = RPL-APL" in 8.1.1 to "zalphasigmaX zbetasigmaX = RPLU-APLU, zalphasigmaX zbetasigmaX = APLL

-RPLL ";

--- The "ACLL = APLL" in 8.1.1

zalpha

zalpha zbeta

÷ APLL-RPLL () "to" ACLL = APLL-

zalpha

zalpha zbeta

÷ APLL-RPLL () ";

--- Modify "= 10.191 0.5 x 10.304-10.191 () = 10.245" in Example 1 to "= 10.191 0.5 x 10.304-10.191 () = 10.248 ";

--- Modify "= 9.809-0.5 x 9.809-9.696 () = 9.755" in Example 1 to "= 9.809-0.5 x 9.809-9.696 () =

9.753 ".

This part was proposed and managed by the National Technical Committee for Standardization of Statistical Methods (SAC/TC21).

This section was drafted. Huzhou Mingfeng Enterprise Management Consulting Co., Ltd., Xiamen Yupinxuan Architectural Design Co., Ltd., Qingdao University, China

Standardization Research Institute, Huzhou Hongtuo Enterprise Information Service Co., Ltd.

Introduction

The acceptance control chart combines the control chart idea with the acceptance sampling and is a tool used to determine whether the process is accepted. Acceptance of the decision process

The foundation can be defined in terms of.

a) whether the percentage of the specified items of products or services from the process meet the specification requirements;

b) Whether the process has exceeded an allowed process level domain.

The difference from most acceptance sampling methods is the emphasis on process acceptability rather than product disposal decisions.

The difference from conventional control charts is that the concept of receivable processes is introduced in process control. The process usually does not require a single

Standard process level, as long as the variation within the subgroup is in a controlled state and is far less than the tolerable fluctuation range, it can be within any control limit.

What level or process level field is running, the process is still acceptable at this time. Therefore, it is assumed that some non-random causes will lead to a process level

Drifts are relatively small enough that it is not economical to control them too strictly for reception only.

However, the use of acceptance control charts does not preclude its purpose to identify and eliminate non-random causes for continuous improvement.

Acceptance control charts need to check the inherent stability of the process. Therefore, use conventional control charts (range or standard deviation control charts) to monitor variables,

To confirm that the inherent variation within the subgroup remains stable. Confirmation of the statistical distribution of process level variables will also provide some additional control information. A preliminary routine control chart study of the process was performed to verify the validity of the acceptance control chart.

Control Charts

Part 3. Acceptance control chart

1 Scope

This section of GB/T 17989 provides guidelines for the use of acceptance control charts and specifies the determination of sample size, action limits, and decision criteria for subgroups.

The general procedure.

This section applies to the following situations.

a) the intra-group variance of the subgroup is in a controlled state and the variance

estimation is valid;

b) High level process capability has been reached.

When the process variables studied follow a normal distribution, the acceptance control chart is usually used, and it can also be applied in the case of non-normal distribution. This section

The examples show the advantages of this method in different situations, and provide detailed information for determining the subgroup sample size, limit of action, and decision criteria.

Fine content.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 3358.1 Statistical vocabulary and symbols. Part 1. General statistical terms and terms used for probability (GB/T 3358.1-

2009, ISO 3534-1..2006, IDT)

GB/T 3358.2 Statistics Vocabulary and Symbols Part 2. Applied Statistics (GB/T 3358.2-2009, ISO 3534-2..2006,

IDT)

GB/T 17989.1 Control Chart Part 1. General Guidelines (GB/T 17989.1-2020, ISO 7870-1..2014, MOD)

3 terms and definitions

The following terms and definitions defined in GB/T 3358.1, GB/T 3358.2 and GB/T 17989.1 apply to this document.

3.1

Acceptable process

Processes within the receivable process area represented by a conventional control chart with a centerline.

3.2

Rejectable process