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

GB/T 18779.6-2020

**Geometrical product specifications(GPS). Inspection by measurement
of workpieces and measuring equipment - Part 6: Generalized decision
rules for the acceptance and rejection of instruments and workpieces**

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Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Overview	4
5 Judgment rule	5
6 Examples of judgment rules	8
Appendix A (informative appendix) and GPS matrix model relationship	12
Reference	13

Foreword

GB/T 18779 "Geometric Technical Specifications for Products (GPS) Measurement Inspection of Workpieces and Measuring Equipment" is divided into 6 parts:

---Part 1: The rules for determining qualified or unqualified inspections according to specifications;

---Part 2: Guidelines for Evaluation of Uncertainty of GPS Measurement in Measuring Equipment Calibration and Product Inspection;

---Part 3: Guidelines on reaching a consensus on the expression of measurement uncertainty;

---Part 4: The basis for determining the functional limits and specification limits in the rules;

---Part 5: Uncertainty of inspection of indicating measuring instrument;

---Part 6: General rules for acceptance/rejection of instruments and workpieces:

This part is Part 6 of GB/T 18779:

This section was drafted in accordance with the rules given in GB/T 1:1-2009:

This part uses the redrafting method to modify and adopt ISO /T R14253-6:2012 "Geometrical Technical Specifications for Products (GPS) Workpieces and Measurements"

Measurement and inspection of equipment: Part 6: General rules for acceptance/rejection of instruments and workpieces:"

The technical differences between this part and ISO /T R14253-6:2012 and the reasons are as follows:

---Regarding normative reference documents, this section has made adjustments with technical differences to adapt to my country's technical conditions and adjustments:

The situation is collectively reflected in Chapter 2 "Normative Reference Documents", and the specific adjustments are as follows:

- * Replace ISO 14253-1 with GB/T 18779:1 which is equivalent to the international standard;
- * Replace ISO 14978 with GB/T 24634 equivalent to adopting international standards;
- * Replace ISO 17450-2 with GB/T 24637:2 modified to adopt international standards;
- * Use JJF1001 instead of ISO /IEC Guide99;
- * Use JJF1059:1 instead of ISO /IEC Guide98-3;

---Change the six different judgment rules in the results of 6:2:3 judgment rules to eight different judgment rules;

--- In the result of the 6:2:3 determination rule, "that is, loose rejection with infinite width protection band" is changed to "that is, with infinite width protection band:

Loosely accept";

--- Change the result of 6:2:3 determination rules, which may cause a large litigation cost (see 6:2:1) to (see 6:2:2);

---In 6:3 process capability index $C_p=1$, measurement capability index $C_m=4$, six different judgment rules are changed to eight different judgments

Set rules:

This section has made the following editorial changes:

---According to the requirements of GB/T 1:1-2009, in the "Scope" chapter, "This part is applicable to the technical specifications of product geometry

The measurement inspection of parts and measuring equipment is also applicable in industrial applications:"

This part is proposed and managed by the National Standardization Technical Committee for Product Geometric Technical Specifications (SAC/TC240):

Drafting organizations of this section: China Aviation Industry Corporation Beijing Great Wall Metrology and Testing Technology Research Institute, Hexagon Measurement Technology (Qingdao)

Co., Ltd., CMC Productivity Promotion Center, China Institute of Metrology, China Jiliang University:

Introduction

This part of GB/T 18779 is a product geometric technical specification (GPS) standard and a GPS general standard (see

GB/T 20308): It affects the measurement, measurement equipment and calibration link in the GPS standard matrix model link:

The GPS overall plan in GB/T 20308 summarizes the GPS system, and this part is a part of the system: Unless otherwise stated

It is clear that the GPS basic rules given in GB/T 4249 are applicable to this part, and the default rules given in GB/T 18779:1 are applicable in accordance with this part:

Developed specifications:

For detailed information about the relationship between this part of GB/T 18779 and other standards and the GPS matrix model, see Appendix A:

This part is based on the concept of the determination rule GB/T 18779:1, and completes the default rule (a guard band is equal to 100% extended measurement

Strict acceptance of certainty) Expansion of terms outside the scope, allowing communication of other possible rules (outside the default rules) to adapt to different industries

demand:

This part follows the ISO /IEC Guide98-4 guidelines: The judgment rule can determine the position of the judgment limit without affecting the work

Poor; they try to solve the (always present) measurement uncertainty problem, and clearly state how the measurement uncertainty will affect acceptance/rejection

Accept judgment:

The choice of decision rules usually involves designers, measurement personnel and management personnel: The designer can provide relevant size specifications

The measurement personnel can provide information on the accuracy of dimensional measurement, and the management personnel can provide different acceptance/rejection options: Economic consequences

Information:

The choice of judgment rules is only one element of the production work, and other activities will also affect the number of qualified (or unqualified) workpieces, including

Poor regulations, choice of manufacturing process, and choice of measurement process; all these issues are interrelated and need to be considered together:

Both parties (manufacturers and users) need to discuss and agree to the judgment rule, because it affects the economic benefits of the product:

Product Geometric Technical Specification (GPS)

Measurement inspection of workpiece and measuring equipment

Part 6: Instrument and workpiece acceptance/rejection

General rule

1 Scope

This part of GB/T 18779 gives the conditions when the default rules of GB/T 18779:1 may not be economically optimal:

Judgment rules:

Note 1: GB/T 18779:1 provides a default judgment rule: According to this rule, if the measured value characterizes the acceptance of a product, it has a high probability of

Ensure that the corresponding measurement of the product meets the specifications:

Note 2: To change the judgment rule from the default rule to a rule for a specific task, the parties concerned need to reach an agreement:

This section does not deal with how to determine the cost of correct or incorrect judgment ("correct judgment" means accepting qualified products or rejecting unqualified

"Wrong judgment" means accepting unqualified products or rejecting qualified products), because this is a business matter: However, this section gives

The required terminology and requirements are used to communicate and implement specific judgment rules, while giving examples of guiding applications:

Note 3: The determination rules of this section apply to the single measurement characteristic under consideration: Unless otherwise stated, all probability distributions discussed in this section are Gaussian

It is distributed and located in the center, and the cost function is a simple step function: However, the principles of this section can be applied to any probability distribution function or

This function:

This section applies to the measurement and inspection of workpieces and measuring equipment in product geometric technical specifications, as well as industrial applications:

2 Normative references