

ICS 17.040.20

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

GB/T 33523.70-2020

**Geometrical product specification (GPS) - Surface texture:
Areal - Part 70: Material measures**

Issued on: December 14, 2020

Implemented on: July 1, 2021

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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Foreword

GB/T 33523 "Geometric Technical Specifications for Products (GPS) Surface Structure Area Law" is divided into the following parts:

- Part 1: Representation of surface structure;
- Part 2: Terms, definitions and surface structure parameters;
- Part 3: Standardized Operation Set;
- Part 6: Classification of surface structure measurement methods;
- Part 70: Physical measurement standards;
- Part 71: Software measurement standards;
- Part 72: XML file format x3p;
- Part 73: Terms and definitions for measuring surface defects of materials;
- Part 600: Metrological characteristics of the area topography measurement method;

- Part 601: Nominal characteristics of contact (stylus) instruments;
- Part 602: Nominal characteristics of non-contact (confocal chromatic aberration probe) instruments;
- Part 603: Nominal characteristics of non-contact (phase-shifting interference microscope) instruments;
- Part 604: Nominal characteristics of non-contact (coherent scanning interference) instruments;
- Part 605: Nominal characteristics of non-contact (point autofocus probe) instruments;
- Part 606: Nominal characteristics of non-contact (zoom) instruments;
- Part 607: Nominal characteristics of non-contact (confocal microscope) instruments;
- Part 701: Calibration and measurement standards for contact (stylus) instruments:

This part is part 70 of GB/T 33523:

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 25178-70:2014 "Geometrical Technical Specifications for Products (GPS) Surface Structure: Area

Law Part 70: Physical Measurement Standards:

Compared with ISO 25178-70:2014, this part has technical differences: The corresponding technical differences and their 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 3274 with GB/T 6062, which is equivalent to the international standard (see Chapter 3);
- * Replace ISO 10012 with GB/T 19022 equivalent to the international standard (see Chapter 9);
- * Replace ISO /IEC 17025 with GB/T 27025 equivalent to the international standard (see Chapter 9);
- * Replace ISO 25178-2 with GB/T 33523:2 which is equivalent to adopting international standards (see Chapter 3 and Chapter 4);
- * Replace ISO 25178-601 with GB/T 33523:601 which is equivalent to the international standard (see Chapter 3);

* Use JJF1001-2011 instead of ISO /IEC Guide99:2007 (see Chapter 3):

This section also made the following editorial changes:

---In accordance with the requirements of GB/T 1:1-2009, in the "Scope" chapter, "This part is applicable to surface structure standards based on the regional method

The chain, chain ring G defines the contour surface structure and the measurement standard for the calibration of the metrological characteristics of the area surface structure measuring instrument: ":

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

Drafting organizations of this section: Tsinghua University, Shandong University, China Machinery Productivity Promotion Center, Harbin Institute of Technology, Shandong Daoxian for Intelligence

Technology Co., Ltd., Huazhong University of Science and Technology, Shandong Institute of Metrology:

1 Scope

This part of GB/T 33523 specifies the physical measurement standards used to periodically verify and adjust the area method surface structure measuring instrument

characteristic:

This section applies to the surface structure standard chain based on the area method, the contour surface structure defined by the link G and the area surface structure measuring instrument

The measurement standard for calibration of metrological characteristics:

2 Normative references

The following documents are indispensable for the application of this document: For dated reference documents, only the dated version applies to this article

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

GB/T 6062 Product Geometrical Technical Specification (GPS) Surface structure contour method Contact (stylus) type instrument nominal characteristics

(GB/T 6062-2009, ISO 3274:1996, IDT)

GB/T 19022 Measurement Management System Requirements for Measurement Process and Measuring Equipment (GB/T 19022-2003, ISO 10012:

2003, IDT)

GB/T 27025 General requirements for the competence of testing and calibration laboratories (GB/T 27025-2019, ISO /IEC 17025:2017,

IDT)

GB/T 33523:2 Product Geometric Technical Specification (GPS) Surface Structure Area Method Part 2: Terms, Definitions and Surface Structure

Parameters (GB/T 33523:2-2017, ISO 25178-2:2012, IDT)

GB/T 33523:601 Product Geometric Technical Specification (GPS) Surface Structure Area Method Part 601: Contact (stylus) type instrument

Nominal characteristics of the detector (GB/T 33523:601-2017, ISO 25178-601:2010, IDT)

JJF1001-2011 General measurement terms and definitions

3 Terms and definitions

The following terms and definitions defined in GB/T 6062, GB/T 33523:2, GB/T 33523:601 and JJF1001 apply to this

file:

3:1

Material measure

Have the assigned value, reproduce in a fixed form when used or provide a special measurement for surface structure measurement with one or more values

Quantity standard:

Note 1: The indicated value of the physical measurement standard is the assigned value:

Note 2: The physical measurement standard can be a measurement standard:

Note 3: Physical measurement standards are sometimes called calibration samples, calibration samples, calibration standards, standard products, physical measurement standards or physical standards:

Note 4: Rewrite JJF1001-2011, definition 6:5:

4 General

Physical measurement standards can generally be used for two different purposes: