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

**GB/T 33523.701-2017**

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**Geometrical product specifications (GPS) -- Surface texture:  
Areal -- Part 701: Calibration and measurement standards for  
contact (stylus) instruments**

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### Foreword

GB/T 33523 "Geometrical Product Specifications (GPS) surface structure area method" is divided into the following parts.

- Part 2. terms, definitions and surface structure parameters;
- Part 3. Standardized operational set;
- Part 6. Classification of surface structure measurement methods;
- Part 7. Software measurement standards;
- Part 601. Nominal characteristics of contact (stylus) instruments;
- Part 602. Nominal characteristics of non - contact (confocal color difference probe) instruments;
- Part 603. Nominal characteristics of non - contact (phase - shift interference microscopy) instruments;
- Part 604. Nominal characteristics of non - contact (coherent scanning interference) instruments;
- Part 605. Nominal characteristics of non - contact (point auto - focus) instruments;
- Part 701. Calibration and measurement of contact (stylus) instruments.

This part is part 701 of GB/T 33523.

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

This part is equivalent to ISO 25178-701..2010 "Product Geometry Technical Specification (GPS) Surface Structure Area Act Section 701

Points. contact (stylus) instrument calibration and measurement standards.

In this part of the normative reference to the international documents have a consistent correspondence between the following documents.

--- GB/T 6062-2009 Geometrical product specifications (GPS) Surface structure Contour

method Contact (stylus)

Volume characteristics (ISO 3274..1996, IDT)

GB/T 18618-2009 Geometrical Product Specifications (GPS) Surface Structure Contour Method Graphic Parameters (ISO 12085.

1997, IDT)

GB/T 18779.2-2004 Geometrical product specifications (GPS) - Measurement of workpiece and measuring equipment - Part 2.

Guidance on the assessment of uncertainty in GPS measurement and ISO testing (ISO /T S14253-2..1999, IDT)

GB/T 19067.2-2004 Geometrical product specifications (GPS) - Surface texture contouring method - Part 2.

. Software measurement standard (ISO 5436-2..2001, IDT)

Geometrical product specifications (GPS) - Flatness - Part 1. Glossary and parameters (ISO /

TS12781-1..2003, IDT)

Geometrical product specifications (GPS) - Straightness - Part 1. Glossary and parameters (ISO /

TS12780-1..2003, IDT)

Geometrical product specifications (GPS) Roundness - Part 1. Glossary and parameters (ISO /

TS12181-1..2003)

GB/T 33523.601-2017 Geometrical product specifications (GPS) - Surface area method - Part 601. Contact

(ISO 25178-601..2010, IDT)

## 1 Scope

This part of GB/T 33523 specifies a regional method for surface contact (stylus) instruments.

--- the characteristics of the physical gage used as a measuring standard;

The method of assessing the residual error;

Calibration methods for calibration, acceptance and periodic verification.

This part applies to the physical measurement standard used to calibrate or verify the

regional method surface contact (stylus) instrument.

## 2 normative reference documents

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

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

GB/T 19067.1-2003 Geometrical product specifications (GPS) - Surface texture contouring - Measurement standards - Part 1.

Physical measurement standard (ISO 5436-1..2000, IDT)

GB/T 19600-2004 Geometrical Product Specifications (GPS) Surface Structure Contour Method Contact (stylus)

Quasi (ISO 12179..2000, IDT)

ISO 3274 Geometrical product specifications (GPS) Surface structure Profile method Metering characteristics of contact (stylus) instruments (Geo-

metricalProductSpecifications (GPS) -Surfacetexture.

Profilmethod-Nominalcharacteristicsof

contact (stylus) instruments)

ISO 5436-2 Geometrical product specifications (GPS) - Surface texture contouring - Measurement standards - Part 2. Software measurement

Standard (GeometricalProductSpecifications (GPS) -Surfacetexture. Profilmethod; Measurementstand-

ards-Part 2. Softwaremeasurementstandards)

ISO 12085 Product Geometry Technical Specification (GPS) Surface Structure Contour Method Graphic Parameters (GeometricalProduct

Specifications (GPS) -Surfacetexture. Profilmethod-Motifparameters)

ISO /T S12181-1 Geometrical product specifications (GPS) Roundness - Part 1. Glossary and parameters (GeometricalProduct

Specifications (GPS) -Roundness-Part 1. Vocabularyandparametersofroundness

ISO /T S12780-1 Geometrical product specifications (GPS) Straightness - Part 1. Glossary and parameters (Geometrical

ProductSpecifications (GPS) -Straightness-Part 1. Vocabularyandparametersofstraightness)

ISO /T S12781-1 Geometrical product specifications (GPS) Flatness - Part 1. Glossary and parameters (Geometrical

ProductSpecifications (GPS) -Flatness-Part 1. Vocabularyandparametersofflatness)

ISO /T S14253-2 Geometrical product specifications (GPS) - Measurement of workpieces and measuring equipment - Part 2. Measuring equipment

GeometricalProductSpecifications (GPS) -Inspec- tion for GPS measurement in calibration and product inspection (GeometricalProductSpecifications (GPS)

tionbymeasurement ofworkpiecesandmeasuringequipment-Part 2.

Guidetotheestimationofun-

certaintyinGPSmeasurement, incalibrationofmeasuringequipmentandinproductverification