

ICS 17.040.20

CCS J 04



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

GB/T 33523.601-2017

**Geometrical product specifications (GPS) -- Surface texture:
Areal -- Part 601: Nominal characteristics of contact (stylus)
instruments**

Issued on: February 28, 2017

Implemented on: September 1, 2017

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

Table of Contents

Foreword

1 Scope

2 normative reference documents

3 terms and definitions

3.1 General terms and definitions

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 601 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 25178-601..2010 "Product Geometry Technical Specification (GPS) Surface Structure Area Law Section 601

Points. the nominal characteristics of the contact (stylus) instrument.

In this part of the normative reference to the international documents have a consistent

correspondence between the following documents.

GB/T 3505-2009 Geometrical Product Specifications (GPS) Surface Structure Contours
Terms and Definitions of Surface Structures

And parameters (ISO 4287..1997, IDT)

--- GB/T 16857.1-2002 Product Geometry Technical Specifications (GPS) Coordinate
measuring machine acceptance inspection and re-inspection of the first

Part. vocabulary (eqvISO 10360-1..2000)

1 Scope

This part of GB/T 33523 specifies the nominal characteristics of the surface area method
contact (stylus) instrument.

This part applies to surface area method contact (stylus) type 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 6062-2009 Geometrical product specifications (GPS) Surface structure Contour
method Metering of contact (stylus) instruments

(ISO 3274..1996, IDT)

ISO 4287 Product Geometry Technical Specifications (GPS) Surface Structure Contours
Terms, Definitions and Parameters of Surface Structures [Geo-

metricalproductspecifications (GPS) -Surfacetexture. Profilemethod-Terms,
definitionsandsur-

facetextureparameters]

ISO 10360-1 Geometrical product specifications (GPS) - Acceptance testing and
re-inspection of coordinate measuring machines - Part 1. Vocabulary

[Geometricalproductspecifications (GPS)
-Acceptanceandverificationtestsforcoordinatemeasur-

ingmachines (CMM) -Part 1. Vocabulary]

ISO /IEC Guide 99..2007 International Metrology Vocabulary Basic and General Concepts
and Terminology [Internationalvocabularyof

metrology-Basicandgeneralconceptsandassociatedterms (VIM)]

3 terms and definitions

GB/T 6062, ISO 4287, ISO 10360-1 and ISO /IEC Guide 99 Definitions and the following terms and definitions apply to this

file.

3.1 General terms and definitions

3.1.1

Instrument coordinate system coordinatesystemoftheinstrument

(X, Y, Z) The right-hand rule of the Cartesian Cartesian Cartesian coordinate system is defined as.

--- (X, Y) is the plane established by the instrument's regional orientation reference;

The Z axis is located in the plane of the stylus trajectory and perpendicular to the (X, Y) plane (see Figure 1).

Note. Normally the X axis is the scanning direction and the Y axis is the step axis.

3.1.2

Measuring ring measurementloop

A closed chain, including all the units connecting the workpiece and the stylus tip, such as a positioning tool, a fastening fixture, a measuring base, a drive