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STN	**Geometrické špecifikácie výrobkov (GPS) Charakter povrchu: Plocha Časť 605: Konštrukcia a vlastnosti bezdotykových prístrojov (bodový snímač autofokusu) (ISO 25178-605: 2025)**	**STN EN ISO 25178-605** 01 4454

Geometrical product specifications (GPS) - Surface texture: Areal - Part 605: Design and characteristics of non-contact (point autofocus probe) instruments (ISO 25178-605:2025)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/25

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English Version

Geometrical product specifications (GPS) - Surface texture: Areal - Part 605: Design and characteristics of non-contact (point autofocus probe) instruments (ISO 25178-605:2025)

Spécification géométrique des produits (GPS) - État de surface: Surfacique - Partie 605: Conception et caractéristiques des instruments sans contact (capteur autofocus à point) (ISO 25178-605:2025)

Geometrische Produktspezifikation (GPS) - Oberflächenbeschaffenheit: Flächenhaft - Teil 605: Aufbau und Merkmale von berührungslos messenden Geräten (Punkt-Autofokus-Sensor) (ISO 25178-605:2025)

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 25178-605:2025) has been prepared by Technical Committee ISO/TC 213 "Dimensional and geometrical product specifications and verification" in collaboration with Technical Committee CEN/TC 290 “Dimensional and geometrical product specification and verification” the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2025, and conflicting national standards shall be withdrawn at the latest by August 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 25178-605:2014.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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Endorsement notice

The text of ISO 25178-605:2025 has been approved by CEN as EN ISO 25178-605:2025 without any modification.

International Standard

ISO 25178-605

Second edition
2025-02

Geometrical product specifications (GPS) — Surface texture: Areal —

Part 605: Design and characteristics of non-contact (point autofocus probe) instruments

Spécification géométrique des produits (GPS) — État de surface: Surfacique —

Partie 605: Conception et caractéristiques des instruments sans contact (capteur autofocus à point)

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 290, *Dimensional and geometrical product specification and verification,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 25178-605:2014), which has been technically revised.

The main changes are as follows:

— removal of the terms and definitions now specified in ISO 25178-600;

— revision of all terms and definitions for clarity and consistency with other ISO standards documents;

— addition of Clause 4 for instrument requirements, which summarizes normative features and characteristics;

— addition of Clause 5 on metrological characteristics;

— addition of Clause 6 on design features, which clarifies the types of instruments relevant to this document;

— addition of an information flow concept diagram in Clause 4;

— revision of Annex A describing the principles of instruments addressed by this document;

— addition of Annex B on metrological characteristics and influence quantities; replacement of the normative table of influence quantities with an informative description of common error sources and how these relate the metrological characteristics in ISO 25178-600.

A list of all parts in the ISO 25178 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO 14638). It influences chain link F of the chains of standards on profile and areal surface texture.

The ISO GPS matrix model given in ISO 14638 gives an overview of the ISO GPS system of which this document is a part. The fundamental rules of ISO GPS given in ISO 8015 apply to this document and the default decision rules given in ISO 14253-1 apply to the specifications made in accordance with this document, unless otherwise indicated.

For more detailed information on the relation of this document to other standards and the GPS matrix model, see Annex C.

This document includes terms and definitions relevant to the point autofocus probe (PAP) instruments for the measurement of areal surface topography. Annex A briefly summarizes PAP instruments and methods to clarify the definitions and to provide a foundation for Annex B, which describes common sources of uncertainty and their relation to the metrological characteristics of PAP.

NOTE Portions of this document, particularly the informative sections, describe patented systems and methods. This information is provided only to assist users in understanding the operating principles of PAP instruments. This document is not intended to establish priority for any intellectual property, nor does it imply a license to proprietary technologies described herein.

International Standard **ISO 25178-605:2025(en)**

Geometrical product specifications (GPS) — Surface texture: Areal —

Part 605: Design and characteristics of non-contact (point autofocus probe) instruments

1 Scope

This document specifies the design and metrological characteristics of point autofocus probe (PAP) instruments for the areal measurement of surface topography. Because surface profiles can be extracted from areal surface topography data, the methods described in this document are also applicable to profiling measurements.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 25178-600:2019, *Geometrical product specifications (GPS) — Surface texture: Areal — Part 600: Metrological characteristics for areal topography measuring methods*