SLOVENSKI STANDARD
SIST EN ISO 25178-602:2010

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Specifikacija geometrijskih veličin izdelka - Tekstura površine: ploskovna - 602. del: Imenske značilnosti brezkontaktnih (fokusirna barvna sonda) instrumentov (ISO 25178-602:2010)

Geometrical product specifications (GPS) - Surface texture: Areal - Part 602: Nominal characteristics of non-contact (confocal chromatic probe) instruments (ISO 25178-602:2010)

Geometrische Produktspezifikation (GPS) - Oberflächenbeschaffenheit: Flächenhaft - Teil 602: Merkmale von berührungslos messenden Geräten (mit chromatisch konfokaler Sonde) (ISO 25178-602:2010)

Spécification géométrique des produits (GPS) - État de surface: surfacique - Partie 602: Caractéristiques nominales des instruments de mesure sans contact (instruments à sonde chromatique confocale) (ISO 25178-602:2010)

Ta slovenski standard je istoveten z: **EN ISO 25178-602:2010**

ICS:

17.040.20	Lastnosti površin	Properties of surfaces

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EUROPEAN STANDARD

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English Version

Geometrical product specifications (GPS) - Surface texture: Areal - Part 602: Nominal characteristics of non-contact (confocal chromatic probe) instruments (ISO 25178-602:2010)

Spécification géométrique des produits (GPS) - État de surface: Surfacique - Partie 602: Caractéristiques nominales des instruments sans contact (à capteur confocal chromatique) (ISO 25178-602:2010)

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Foreword

This document (EN ISO 25178-602:2010) 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of an identical text or by endorsement, at the latest by January 2011, and conflicting national standards shall be withdrawn at the latest by January 2011.

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

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Endorsement notice

The text of ISO 25178-602:2010 has been approved by CEN as a EN ISO 25178-602:2010 without any modification.

INTERNATIONAL STANDARD

ISO 25178-602

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

Part 602: Nominal characteristics of non-contact (confocal chromatic probe) instruments

Spécification géométrique des produits (GPS) — État de surface: Surfacique —
Partie 602: Caractéristiques nominales des instruments sans contact (à capteur confocal chromatique)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 25178-602 was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

ISO 25178 consists of the following parts, under the general title *Geometrical product specifications (GPS) — Surface texture: Areal*:

— *Part 2: Terms, definitions and surface texture parameters*

— *Part 3: Specification operators*

— *Part 6: Classification of methods for measuring surface texture*

— *Part 7: Software measurement standards*

— *Part 601: Nominal characteristics of contact (stylus) instruments*

— *Part 602: Nominal characteristics of non-contact (confocal chromatic probe) instruments*

— *Part 603: Nominal characteristics of non-contact (phase-shifting interferometric microscopy) instruments*

— *Part 701: Calibration and measurement standards for contact (stylus) instruments*

The following parts are under preparation:

— *Part 604: Nominal characteristics of non-contact (coherence scanning interferometry) instruments*

— *Part 605: Nominal characteristics of non-contact (point autofocusing) instruments*

Introduction

This part of ISO 25178 is a geometrical product specification standard and is to be regarded as a general GPS standard (see ISO/TR 14638). It influences chain link 5 of the chain of standards on roughness profile, waviness profile and primary profile and areal surface texture.

For more detailed information on the relationship of this standard to the GPS matrix model, see Annex D.

The confocal chromatic optical principle can be implemented in various set-ups. The configuration described in this document comprises three basic elements: an optoelectronic controller, a linking fibre optic cable and a chromatic objective (sometimes called “optical pen”).

Several techniques are possible to create the axial chromatic dispersion or to extract the height information from the reflected light. In addition to implementations as point sensors, chromatic dispersion may be integrated into line sensors and field sensors. Annex B describes in detail confocal chromatic imaging and its implementation into distance measurement probes.

This type of instrument is mainly designed for areal measurements, but it is also able to perform profile measurements.

This part of ISO 25178 describes the metrological characteristics of an optical profiler using a confocal chromatic probe based on axial chromatic dispersion of white light, designed for the measurement of areal surface texture.

For more detailed information on the chromatic probe instrument technique, see Annex B. Reading this annex before the main body may lead to a better understanding of this part of ISO 25178.

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

Part 602: Nominal characteristics of non-contact (confocal chromatic probe) instruments

1 Scope

This part of ISO 25178 defines the design and metrological characteristics of a particular non-contact instrument for measuring surface texture using a confocal chromatic probe based on axial chromatic dispersion of white light.

2 Normative references

The following referenced documents are indispensable for the application 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 3274:1996, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Nominal characteristics of contact (stylus) instruments*

ISO 4287, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

ISO 10360-1, *Geometrical Product Specifications (GPS) — Acceptance and reverification tests for coordinate measuring machines (CMM) — Part 1: Vocabulary*

ISO/IEC Guide 99:2007, *International vocabulary of metrology — Basic and general concepts and associated terms (VIM)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3274, ISO 4287, ISO 10360-1, ISO/IEC Guide 99 and the following apply.

NOTE Several of the terms given below are common to other types of instruments that use single point sensors and lateral scanning.