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**Specifikacija geometrijskih veličin izdelka - Tekstura površine: ploskovna - 2. del:  
Poimenovanja, definicije in parametri teksture površine (ISO 25178-2:2012)**

Geometrical product specifications (GPS) - Surface texture: Areal - Part 2: Terms, definitions and surface texture parameters (ISO 25178-2:2012)

Geometrische Produktspezifikation (GPS) - Oberflächenbeschaffenheit: Flächenhaft - Teil 2: Begriffe und Oberflächen-Kenngrößen (ISO 25178-2:2012)

Spécification géométrique des produits (GPS) - État de surface: surfacique - Partie 2: Termes, définitions et paramètres d'états de surface (ISO 25178-2:2012)

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**Ta slovenski standard je istoveten z: EN ISO 25178-2:2012**

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**ICS:**

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Areal - Part 2: Terms, definitions and surface texture parameters  
(ISO 25178-2:2012)

Spécification géométrique des produits (GPS) - Etat de surface: Surfacique - Partie 2: Termes, définitions et paramètres d'états de surface (ISO 25178-2:2012)

Geometrische Produktspezifikation (GPS) - Oberflächenbeschaffenheit: Flächenhaft - Teil 2: Begriffe und Oberflächen-Kenngrößen (ISO 25178-2:2012)

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## Foreword

This document (EN ISO 25178-2:2012) 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.

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

Part 2:

**Terms, definitions and surface texture  
parameters**

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*Spécification géométrique des produits (GPS) — État de surface:  
Surfacique —  
Partie 2: Termes, définitions et paramètres d'états de surface*

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## ISO 25178-2:2012(E)

## 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.

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

ISO 25178-2 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*:

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- *Part 2: Terms, definitions and surface texture parameters*
  - *Part 3: Specification operators*
  - *Part 6: Classification of methods for measuring surface texture*
  - *Part 70: Physical measurement standards*
  - *Part 71: Software measurement standards*
  - *Part 601: Nominal characteristics of contact (stylus) instruments*
  - *Part 602: Nominal characteristics of non-contact (confocal chromatic probe) instruments*
  - *Part 604: Nominal characteristics of non-contact (coherence scanning interferometry) instruments*
  - *Part 605: Nominal characteristics of non-contact (point autofocus probe) instruments*
  - *Part 701: Calibration and measurement standards for contact (stylus) instruments*

The following parts are under preparation:

- *Part 1: Indication of surface texture*
- *Part 603: Nominal characteristics of non-contact (phase-shifting interferometric microscopy) instruments*

## Introduction

This part of ISO 25178 is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO/TR 14638). It influences chain link 2 of the chains of standards on areal surface texture.

The ISO/GPS Masterplan given in ISO/TR 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 specifications made in accordance with this document, unless otherwise indicated.

For more detailed information of the relation of this standard to the GPS matrix model, see Annex E.

This part of ISO 25178 develops the terminology, concepts and parameters for areal surface texture.

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

## Part 2: Terms, definitions and surface texture parameters

### 1 Scope

This part of ISO 25178 specifies terms, definitions and parameters for the determination of surface texture by areal methods.

### 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/TS 16610-1:2006, *Geometrical product specifications (GPS) — Filtration — Part 1: Overview and basic concepts*

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ISO 17450-1:2011, *Geometrical product specifications (GPS) — General concepts — Part 1: Model for geometrical specification and verification*

ISO 25178-3:—<sup>1)</sup>, *Geometrical product specifications (GPS) — Surface texture: Areal — Part 3: Specification operators*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17450-1 and ISO/TS 16610-1, and the following apply.

#### 3.1 General terms

##### 3.1.1

**non-ideal surface model  
skin model**

<of a workpiece> model of the physical interface of the workpiece with its environment

[ISO 17450-1:2011, 3.2.2]

1) To be published.

**ISO 25178-2:2012(E)****3.1.1.1****mechanical surface**

boundary of the erosion, by a spherical ball of radius  $r$ , of the locus of the centre of an ideal tactile sphere, also with radius  $r$ , rolled over the skin model of a workpiece

[ISO 14406:2010, 3.1.1]

**3.1.1.2****electromagnetic surface**

surface obtained by the electromagnetic interaction with the skin model of a workpiece

[ISO 14406:2010, 3.1.2]

**3.1.2****specification coordinate system**

system of coordinates in which surface texture parameters are specified

NOTE If the nominal surface is a plane (or portion of a plane), it is common (practice) to use a rectangular coordinate system in which the axes form a right-handed Cartesian set, the X-axis and the Y-axis also lying on the nominal surface, and the Z-axis being in an outward direction (from the material to the surrounding medium). This convention is adopted throughout the rest of this part of ISO 25178.

**3.1.3****primary surface**

surface portion obtained when a surface portion is represented as a specified primary mathematical model with specified nesting index

[ISO/TS 16610-1:2006, 3.3]

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NOTE In this part of ISO 25178, an S-filter is used to derive the primary surface.

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**3.1.3.1****primary extracted surface**

finite set of data points sampled from the primary surface

[ISO 14406:2010, 3.7]

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**3.1.4****surface filter**

filtration operator applied to a surface

NOTE In practice, the filter operator will apply to a primary extracted surface.

**3.1.4.1****S-filter**

surface filter which removes small scale lateral components from the surface resulting in the primary surface

**3.1.4.2****L-filter**

surface filter which removes large scale lateral components from the primary surface or S-F surface

**3.1.4.3****F-operation**

operation which removes form from the primary surface

NOTE 1 Some F-operations (such as association operations) have a very different action to that of filtration. Though their action can limit the larger lateral scales of a surface this action is very fuzzy hence the fuzzy line for the action of the F-operation in Figure 1.

NOTE 2 Many L-filters are sensitive to form and require an F-operation first as a prefilter before being applied.

**3.1.5****S-F surface**

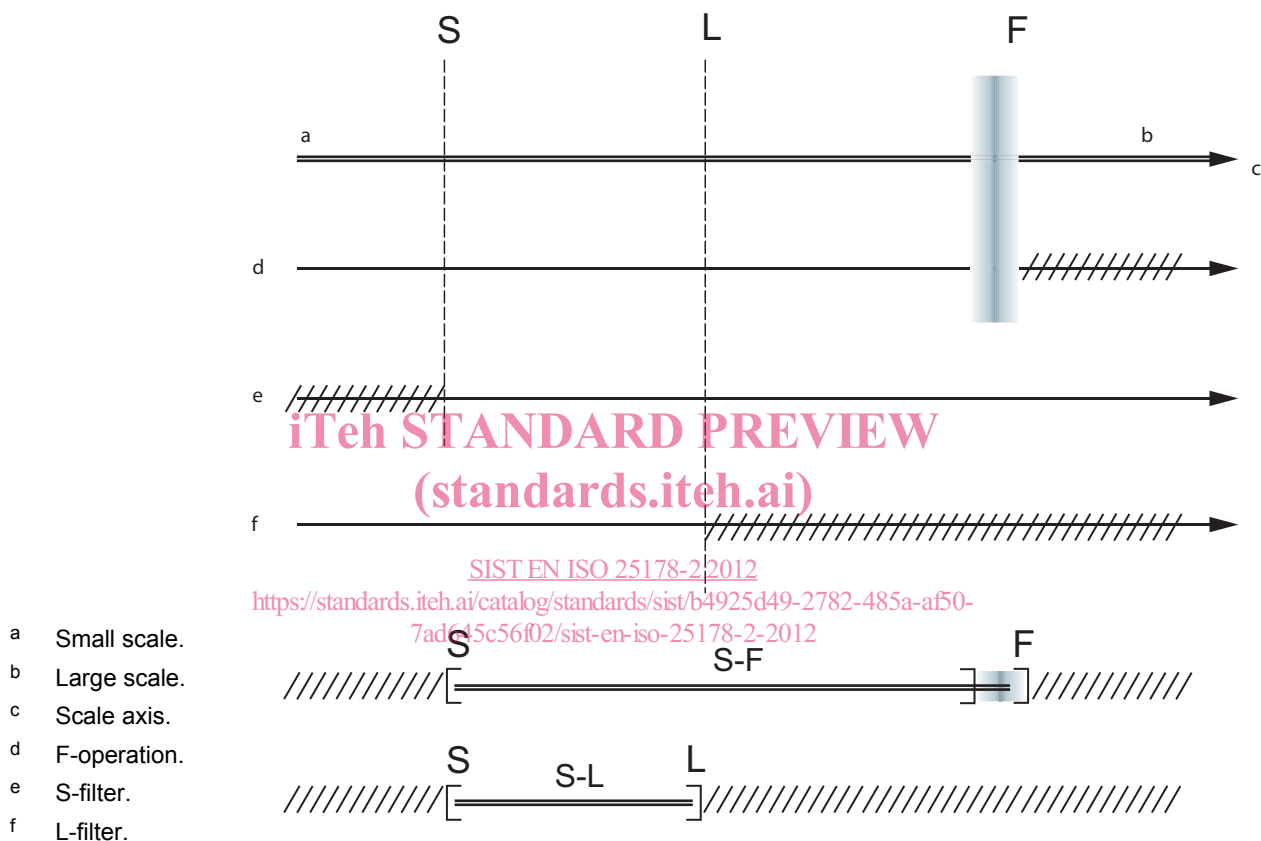
surface derived from the primary surface by removing the form using an F-operation

NOTE Figure 1 illustrates the relationship between the S-F surface and the S-filter and F-operation.

**3.1.6****S-L surface**

surface derived from the S-F surface by removing the large scale components using an L-filter

NOTE Figure 1 illustrates the relationship between the S-L surface and the S-filter and L-filter.



**Figure 1 — Relationships between the S-filter, L-filter, F-operation and S-F and S-L surfaces**

**3.1.7****scale-limited surface**

S-F surface or a S-L surface

**3.1.8****reference surface**

surface associated to the scale-limited surface according to a criterion

NOTE 1 The result is used as a reference surface for surface texture parameters.

NOTE 2 Examples of reference surfaces include plane, cylinder and sphere.

**3.1.9****evaluation area**

portion of the scale-limited surface for specifying the area under evaluation

NOTE See ISO 25178-3 for more information.