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Irish Standard  
I.S. EN ISO 25178-6:2010

# Geometrical product specifications (GPS) - Surface texture: Areal - Part 6: Classification of methods for measuring surface texture (ISO 25178-6:2010)

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English Version

**Geometrical product specifications (GPS) - Surface texture:  
Areal - Part 6: Classification of methods for measuring surface  
texture (ISO 25178-6:2010)**

Spécification géométrique des produits (GPS) - État de  
surface: Surfacing - Partie 6: Classification des méthodes  
de mesurage de l'état de surface (ISO 25178-6:2010)

Geometrische Produktspezifikation (GPS) -  
Oberflächenbeschaffenheit: Flächenhaft - Teil 6:  
Klassifizierung von Methoden zur Messung der  
Oberflächenbeschaffenheit (ISO 25178-6:2010)

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## **Foreword**

This document (EN ISO 25178-6:2010) 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of an identical text or by endorsement, at the latest by August 2010, and conflicting national standards shall be withdrawn at the latest by August 2010.

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

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

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

*Partie 6: Classification des méthodes de mesurage de l'état de surface*



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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 25178-6 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 (GPS) standard and is to be regarded as a general GPS standard (see ISO/TR 14638<sup>[2]</sup>). It influences the chain link 5 of the chain of standards on roughness profile, waviness profile, primary profile and areal surface texture.

This part of ISO 25178 describes a classification system for methods used primarily for the measurement of surface texture. The classification system provides a context for the development of other parts of ISO 25178 that describe characteristics and measurement standards for some of the individual methods. Such a classification is also intended to aid in choosing and understanding various types of methods and in determining which standards apply to their application. The classification system is aimed to be as general as possible. However, instruments may exist that do not clearly fit within any single method class.

**I.S. EN ISO 25178-6:2010**

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

## Part 6: Classification of methods for measuring surface texture

### 1 Scope

This part of ISO 25178 describes a classification system for methods used primarily for the measurement of surface texture. It defines three classes of methods, illustrates the relationships between the classes, and briefly describes specific 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 4287:1997, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

ISO 25178-2:—<sup>1)</sup>, *Geometrical product specifications (GPS) — Surface texture: Areal — Part 2: Terms, definitions and surface texture parameters*

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

### 3 Terms and definitions

#### 3.1 General terms

For the purposes of this document, the terms and definitions given in ISO 4287, ISO 25178-2, ISO/IEC Guide 99 and the following apply.

##### 3.1.1

##### **measurement coordinate system**

system of coordinates in which surface texture parameters are measured

NOTE 1 If the nominal surface is a plane (or portion of a plane), it is usual to use a rectangular coordinate system in which the axes form a right-handed Cartesian set, the X-axis being the direction of tracing co-linear with the mean line 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). The rectangular coordinate system is adopted in this part of ISO 25178 except for 3.2.1, Note 3, and 3.3.3, where a cylindrical coordinate system is described.

NOTE 2 See also *specification coordinate system* [ISO 25178-2:—].

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