



NSAI
Standards

Irish Standard
I.S. EN ISO 25178-1:2016

Geometrical product specifications (GPS) - Surface texture: Areal - Part 1: Indication of surface texture (ISO 25178-1:2016)

I.S. EN ISO 25178-1:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN ISO 25178-1:2016

Published:

2016-04-20

*This document was published
under the authority of the NSAI
and comes into effect on:*

2016-05-08

ICS number:

17.040.30

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN ISO 25178-1:2016 is the adopted Irish version of the European Document EN ISO 25178-1:2016, Geometrical product specifications (GPS) - Surface texture: Areal - Part 1: Indication of surface texture (ISO 25178-1:2016)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 25178-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2016

ICS 17.040.30

English Version

**Geometrical product specifications (GPS) - Surface texture:
Areal - Part 1: Indication of surface texture (ISO 25178-
1:2016)**

Spécification géométrique des produits (GPS) - État de
surface: Surfacing - Partie 1: Indication des états de
surface (ISO 25178-1:2016)

Geometrische Produktspezifikation (GPS) -
Oberflächenbeschaffenheit: Flächenhaft - Teil 1:
Eintragung von Oberflächenbeschaffenheit (ISO
25178-1:2016)

This European Standard was approved by CEN on 3 October 2015.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN ISO 25178-1:2016 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 25178-1:2016) 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 October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 25178-1:2016 has been approved by CEN as EN ISO 25178-1:2016 without any modification.

This page is intentionally left blank

INTERNATIONAL STANDARD

**ISO
25178-1**

First edition
2016-04-15

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

Part 1: Indication of surface texture

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

Partie 1: Indication des états de surface



Reference number
ISO 25178-1:2016(E)

© ISO 2016

ISO 25178-1:2016(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	iv
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Graphical symbols for the indication of areal surface texture	1
5 Composition of complete graphical symbol for areal surface texture	3
5.1 General.....	3
5.2 Positions of surface texture requirements.....	3
6 Indication of areal surface parameters	4
6.1 Definition of the tolerance.....	4
6.2 Definition of the parameter.....	5
6.3 Indication of manufacturing method or related information.....	5
6.4 Indication of surface lay.....	5
6.5 Indication of machining allowance.....	7
6.6 Position on drawings and other technical product documentation.....	7
6.7 Proportions and dimensions of graphical symbols.....	7
6.8 Orientation of the evaluation area.....	7
7 Coordinate system	7
8 Digital product definition data	8
Annex A (normative) Proportions and dimensions of graphical symbols	9
Annex B (normative) Indications for unambiguous surface texture specifications	11
Annex C (informative) Examples of indications of areal surface texture requirements	15
Annex D (informative) Recommended procedures for indication of intersection planes	19
Annex E (informative) ISO special specification elements for areal surface texture	22
Annex F (informative) Relation to the GPS matrix model	24
Bibliography	25

ISO 25178-1:2016(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.

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 documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. www.iso.org/patents

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement. The committee responsible for this document is ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

This document 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 1: Indication of surface texture*
- *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 72: XML file format x3p*
- *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 604: Nominal characteristics of non-contact (coherence scanning interferometry) instruments*
- *Part 605: Nominal characteristics of non-contact (point autofocus probe) instruments*
- *Part 606: Nominal characteristics of non-contact (focus variation) instruments*
- *Part 701: Calibration and measurement standards for contact (stylus) instruments*

The following parts are planned:

- *Part 4: Comparison rules*

- *Part 5: Verification operators*
- *Part 600: Metrological characteristics for areal-topography measuring methods* ¹⁾
- *Part 607: Nominal characteristics of non-contact (confocal microscopy) instruments*
- *Part 700: Calibration and verification of metrological characteristics of areal-topography measuring instruments*

¹⁾ Part 600 is intended to contain provisions that are in common with the other 600-level parts of ISO 25178. Once Part 600 has been submitted as a Final Draft International Standard, provisions of the other 600-level parts that are then redundant with provisions of Part 600 will be removed from them.

ISO 25178-1:2016(E)

Introduction

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

The ISO GPS Masterplan 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. The default decision rules given in ISO 14253-1 apply to specifications made in accordance with this document, unless otherwise stated.

For more detailed information of the relation of this standard to the GPS matrix model, see [Annex F](#).

This part of ISO 25178 covers the indication of areal surface texture

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

Part 1: Indication of surface texture

1 Scope

This part of ISO 25178 specifies the rules for indication of areal surface texture in technical product documentation (e.g. drawings, specifications, contracts, reports) by means of graphical symbols.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1101:2012, *Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

ISO 1302:2002, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation*

ISO 3098-2, *Technical product documentation — Lettering — Part 2: Latin alphabet, numerals and marks*

ISO 14406, *Geometrical product specifications (GPS) — Extraction*

ISO 16792, *Technical product documentation — Digital product definition data practices*

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

ISO 25178-3:2012, *Geometrical product specifications (GPS) — Surface texture: Areal — Part 3: Specification operators*

ISO 81714-1, *Design of graphical symbols for use in the technical documentation of products — Part 1: Basic rules*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 1101, ISO 1302, ISO 14406, ISO 16792, ISO 25178-2 and ISO 25178-3 apply.

4 Graphical symbols for the indication of areal surface texture

Requirements for areal surface texture are indicated on technical product documentation by graphical symbols, each having its own significant meaning. The symbols used are similar to the ones defined in ISO 1302:2002, Clause 4. To identify that the requirement is an areal surface texture, a rhomb is added to the symbol, see [Table 1](#).

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-