INTERNATIONAL STANDARD

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Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation

Spécification géométrique des produits (GPS) — Indication des états de surface dans la documentation technique de produits

Reference number
ISO 1302:2002(E)

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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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 1302 was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

This fourth edition cancels and replaces the third edition (ISO 1302:1992), which has been technically revised.

Annex A forms a normative part of this International Standard. Annexes B, C, D, E, F, G, H, I and J are for information only.

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Introduction

This International Standard is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO/TR 14638). It influences link 1 of the chain of standards on roughness, waviness and primary profile.

For more detailed information of the relation of this International Standard to other standards and the GPS matrix model, see annex J.

This edition of ISO 1302 has been developed for use together with the new editions of the surface texture standards issued in 1996 and 1997, which introduce many radical changes compared with the content of the former surface texture standards issued in the 1980s. The changes are so radical that the drawing indications in some instances have a completely new interpretation. Annex H gives detailed information on these changes.

Drawing indications applied on technical drawings according to former editions of this International Standard refer to the rules given in the surface texture standards issued at the time of issue and can only be interpreted according to those surface texture standards. Annex I provides information on former practices.

The drawing indications given in this edition are to be used for the unambiguous reference to the new surface texture standards issued in 1996 and 1997.

Textual indications in this edition of ISO 1302 are under continuous development within ISO/TC 213 and a separate, detailed standard on this issue is under preparation. Consequently, the textual indications given may change in future editions of ISO 1302.

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Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation

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1 Scope

This International Standard specifies the rules for the indication of surface texture in technical product documentation (e.g. drawings, specifications, contracts, reports) by means of graphical symbols and textual indications.

It is applicable to the indication of requirements for surfaces by means of

a) profile parameters, according to ISO 4287, related to the

- — *R*-profile (roughness parameters),
- — *W*-profile (waviness parameters), and
- — *P*-profile (structural parameters),

b) motif parameters, according to ISO 12085, related to the

- — roughness motif, and
- — waviness motif,

c) parameters related to the material ratio curve according to ISO 13565-2 and ISO 13565-3.

NOTE For the indication of requirements for surface imperfections (pores, scratches etc.), which cannot be specified using surface texture parameters, reference is made to ISO 8785, which covers surface imperfections.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 129-1:—[1)], *Technical drawings — Indication of dimensions and tolerances — Part 1: General principles*

ISO 1101:—[2)], *Geometrical Product Specifications (GPS) — Geometrical tolerancing — Tolerancing of form, orientation, location and run-out*

1) To be published. (Revision of ISO 129:1985)

2) To be published. (Revision of ISO 1101:1983)

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ISO 3098-2:2000, *Technical product documentation — Lettering — Part 2: Latin alphabet, numerals and marks*

ISO 3274:1996, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Nominal characteristics of contact (stylus) instruments*

ISO 4287:1997, *Geometrical product specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

ISO 4288:1996, *Geometrical product specifications (GPS) — Surface texture: Profile method — Rules and procedures for the assessment of surface texture*

ISO 8785:1998, *Geometrical product specifications (GPS) — Surface imperfections — Terms, definitions and parameters*

ISO 10135:—[3)], *Technical drawings — Simplified representation of moulded, cast and forged parts*

ISO 10209-1:1992, *Technical product documentation — Vocabulary — Part 1: Terms relating to technical drawings: general and types of drawings*

ISO 11562:1996, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Metrological characteristics of phase correct filters*

ISO 12085:1996, *Geometrical product specifications (GPS) — Surface texture: Profile method — Motif parameters*

ISO 13565-1:1996, *Geometrical Product Specifications (GPS) — Surface texture: Profile method; Surfaces having stratified functional properties — Part 1: Filtering and general measurement conditions*

ISO 13565-2:1996, *Geometrical Product Specifications (GPS) — Surface texture: Profile method; Surfaces having stratified functional properties — Part 2: Height characterization using the linear material ratio curve*

ISO 13565-3:1998, *Geometrical Product Specifications (GPS) — Surface texture: Profile method; Surfaces having stratified functional properties — Part 3: Height characterization using the material probability curve*

ISO 14253-1:1998, *Geometrical Product Specifications (GPS) — Inspection by measurement of workpieces and measuring equipment — Part 1: Decision rules for proving conformance or non-conformance with specification*

ISO 14660-1:1999, *Geometrical Product Specifications (GPS) — Geometrical features — Part 1: General terms and definitions*

ISO 81714-1:1999, *Design of graphical symbols for use in the technical documentation of products — Part 1: Basic rules*

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3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 3274, ISO 4287, ISO 4288, ISO 10209-1, ISO 11562, ISO 12085, ISO 13565-2, ISO 13565-3, ISO 14660-1 and the following apply.

3.1
basic graphical symbol
⟨surface texture⟩ graphical symbol indicating that a requirement for surface texture exists

See Figure 1.

3) To be published. (Revision of ISO 10135:1994)

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