

INTERNATIONAL  
STANDARD

**ISO**  
**4288**

Second edition  
1996-08-01

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**Geometrical Product Specifications  
(GPS) — Surface texture: Profile method —  
Rules and procedures for the assessment  
of surface texture**

*Spécification géométrique des produits (GPS) — État de surface: Méthode  
du profil — Règles et procédures pour l'évaluation de l'état de surface*



Reference Number  
ISO 4288:1996(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.

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.

International Standard ISO 4288 was prepared jointly by Technical Committees ISO/TC 57, *Metrology and properties of surfaces*, Subcommittee SC 1, *Geometrical parameters — Instruments and procedures for measurement of surface roughness and waviness*, ISO/TC 3, *Limits and fits* and ISO/TC 10, *Technical drawings, product definition and related documentation*, Subcommittee SC 5, *Dimensioning and tolerancing*.

This second edition cancels and replaces the first edition (ISO 4288:1985) which has been technically revised.

It differs from the previous edition in that filter cut-off values are chosen based on the workpiece texture rather than the drawing indication. Furthermore, this International Standard includes rules for the determination of parameters other than  $R_a$  and  $R_z$ . This second edition covers roughness profile parameters, primary profile parameters and comparison of measured motif parameter values with given specification.

It is envisaged that an amendment will be prepared covering M-system waviness profile parameters, for which there are currently no standardized rules.

Annexes A, B and C of this International Standard are for information only.

## Introduction

This International Standard is a geometrical product specification (GPS) standard and is to be regarded as a general GSP standard (see ISO/TR 14638). It influences the chain links 3 and 4 of the chains of standards for roughness profile and primary profile.

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

The discrimination between periodic and non-periodic profiles is subjective and left to the discretion of the user.

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# Geometrical Product Specifications (GPS) — Surface texture: Profile method — Rules and procedures for the assessment of surface texture

## 1 Scope

This International Standard specifies the rules for comparison of the measured values with the tolerance limits for surface texture parameters defined in ISO 4287, ISO 12085, ISO 13565-2 and ISO 13565-3.

It also specifies the default rules for selection of cut-off wavelength,  $\lambda_c$ , for measuring roughness profile parameters according to ISO 4287 by using stylus instruments according to ISO 3274.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1302:1992, *Technical drawings — Method of indicating surface texture.*

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

ISO 4287:1996, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and parameters of surface texture.*

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:—<sup>1)</sup>, *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:—<sup>1)</sup>, *Geometrical Product Specifications (GPS) — Inspection by measurement of workpieces and measuring instruments — Part 1: Decision rules for proving conformance or non-conformance with specifications.*

## 3 Definitions

For the purposes of this International Standard, the definitions given in ISO 3274, ISO 4287, ISO 12085, ISO 13565-2 and ISO 13565-3 apply.

1) To be published.