

Geometric Product Specification (GPS) — Surface texture: Profile method — Motif parameters

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National foreword

This British Standard is the UK implementation of EN ISO 12085:1997. It is identical with ISO 12085:1996, incorporating corrigendum June 1998.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags. Text altered by ISO corrigendum June 1998 is indicated in the text by AC1 AC1.

The UK participation in its preparation was entrusted to Technical Committee MTE/27, Properties and metrology of surfaces.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

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This British Standard was published under the authority of the Standards Board and comes into effect on 15 March 1997

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9951	May 1998	This amendment renumbers BS ISO 12085:1996 as BS EN ISO 12085:1998
	31 July 2009	Implementation of ISO corrigendum June 1998 and BS publication date aligned with the CEN standard

English version

Geometrical product specification (GPS) — Surface texture: Profile method — Motif parameters

(ISO 12085:1996)

Spécification géométrique des produits
(GPS) — Etat de surface: Méthode du profil —
Paramètres liés aux motifs
(ISO 12085:1996)

Geometrische Produktspezifikationen (GPS) —
Oberflächenbeschaffenheit:
Tastschnittverfahren — Motifkenngrößen
(ISO 12085:1996)

This European Standard was approved by CEN on 2 November 1997.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

The text of the International Standard from Technical Committee ISO/TC 57 “Metrology and properties of surfaces” of the International Organization for Standardization (ISO) has been taken over as a European Standard by Technical Committee CEN/TC 290 “Dimensional and geometrical product specification and verification”, the secretariat of which is held by DIN.

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 June 1998, and conflicting national standards shall be withdrawn at the latest by June 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 12085:1996 has been approved by CEN as a European Standard without any modification.

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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 links 2, 3 and 4 of the surface texture chain of standards on roughness profile and waviness profile.

For more detailed information of the relation of this International Standard to other GPS standards, see Annex C.

The approach described in this International Standard facilitates the determining roughness and waviness parameters from the primary profile by finding those motifs which characterize the surface under consideration. This method is independent of any profile filter and results in parameters which are based on the depth and spacing of the motifs. These parameters, which are complementary to those defined in ISO 4287, can be used to describe the functional properties of workpieces as indicated in Annex B.

1 Scope

This International Standard defines terms and parameters used for determining surface texture by the motif method. It also describes the corresponding ideal operator and measuring conditions.

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 4287:1997^{AC1}, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and parameters of surface texture*.

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

3 Definitions

For the purposes of this International Standard the following definitions apply.

3.1 General definitions

3.1.1

surface profile

(see ISO 4287.)

3.1.2

primary profile

(see ISO 3274.)

3.1.3

local peak of profile

a part of a profile between two adjacent minima of the profile (see Figure 1)

3.1.4

local valley of profile

a part of a profile between two adjacent maxima of the profile (see Figure 2)

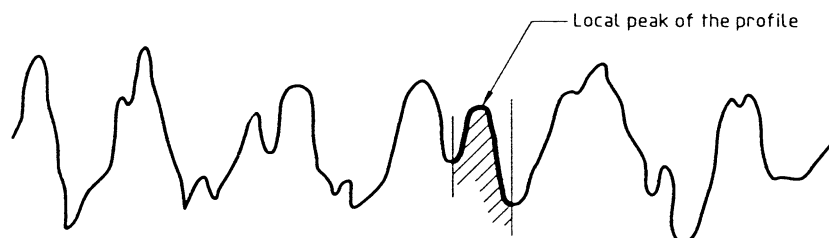


Figure 1 — Local peak of profile

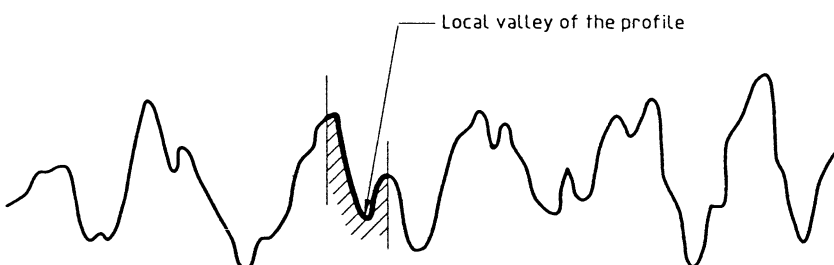


Figure 2 — Local valley of profile

3.1.5 motif

a portion of the primary profile between the highest points of two local peaks of the profile, which are not necessarily adjacent

a motif is characterized by (see Figure 3 and Figure 5):

- its length, AR_i or AW_i , measured parallel to the general direction of the profile;
- its two depths, H_j and H_{j+1} , or Hw_j and Hw_{j+1} , measured perpendicular to the general direction of the primary profile;
- its T characteristic, that is the smallest depth between the two depths.

3.1.6 roughness motif

motif derived by using the ideal operator with limit value A (see Figure 3)

NOTE 1 By this definition, a roughness motif has a length AR_i smaller than or equal to A .

3.1.7 upper envelope line of the primary profile (waviness profile)

straight lines joining the highest points of peaks of the primary profile, after conventional discrimination of peaks (see Figure 4)

3.1.8 waviness motif

motif derived on the upper envelope line by using the ideal operator with limit value B (see Figure 5)