BSI Standards Publication

Geometrical product specifications (GPS) — Surface texture: Profile

Part 2: Terms, definitions and surface texture parameters

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National foreword

This British Standard is the UK implementation of EN ISO 21920-2:2022. It is identical to ISO 21920-2:2021. It supersedes BS EN ISO 4287:1998+A1:2009, BS EN ISO 12085:1997, BS EN ISO 13565-1:1998, BS EN ISO 13565-2:1998 and BS EN ISO 13565-3:2000, which are withdrawn.

The UK participation in its preparation was entrusted to Technical Committee TPR/1, Technical Product Realization.

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

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Published by BSI Standards Limited 2022

ISBN 978 0 539 23064 2

ICS 01.040.17; 17.040.40

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2022.

Amendments/corrigenda issued since publication

Date	Text affected
28 February 2023	Implementation of ISO corrected text June 2022: see ISO foreword for details.

EUROPEAN STANDARD **EN ISO 21920-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2022

ICS 01.040.17; 17.040.40

Supersedes EN ISO 12085:1997, EN ISO 4287:1998, EN ISO 13565-2:1997, EN ISO 13565-3:2000, EN ISO 4287:1998/A1:2009, EN ISO 4287:1998/AC:2008, EN ISO 12085:1997/AC:2008

English Version

Geometrical product specifications (GPS) - Surface texture: Profile - Part 2: Terms, definitions and surface texture parameters (ISO 21920-2:2021)

Spécification géométrique des produits (GPS) - État de surface: Méthode du profil - Partie 2: Termes, définitions et paramètres d'état de surface (ISO 21920-2:2021)

Geometrische Produktspezifikation (GPS) - Oberflächenbeschaffenheit: Profile - Teil 2: Begriffe und Parameter für die Oberflächenbeschaffenheit (ISO 21920-2:2021)

This European Standard was approved by CEN on 27 November 2021.

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Ref. No. EN ISO 21920-2:2022 E

European foreword

This document (EN ISO 21920-2:2022) 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 July 2022, and conflicting national standards shall be withdrawn at the latest by July 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 12085:1997, EN ISO 4287:1998, EN ISO 13565-2:1997 and EN ISO 13565-3:2000.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 21920-2:2021 has been approved by CEN as EN ISO 21920-2:2022 without any modification.

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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.

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 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 290, *Dimensional and geometrical product specification and verification*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 21920-2 cancels and replaces ISO 4287:1997, ISO 13565-2:1996 and ISO 13565-3:1998, which have been technically revised.

It also incorporates the Amendment ISO 4287:1997/Amd 1:2009 and the Technical Corrigenda ISO 4287:1997/Cor 1:1998, ISO 4287:1997/Cor 2:2005 and ISO 13565-2:1996/Cor 1:1998.

The main changes are related to ISO 4287 and are as follows:

— all field parameters are now related to the evaluation length;

— unambiguous evaluation of profile elements;

— definition of new parameters, in particular parameters based on the watershed transformation.

A list of all parts in the ISO 21920 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This corrected version of ISO 21920-2:2021 incorporates the following corrections:

— ISO 12085:1996 and ISO 12085:1996/Cor 1:1998 have been removed from the list of documents which this document replaces as they have been reinstated.

Introduction

This document is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO 14638). It influences chain link B of the chains of standards on profile surface texture.

The ISO GPS matrix model 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 and the default decision rules given in ISO 14253-1 apply to the specifications made in accordance with this document, unless otherwise indicated.

For more detailed information of the relation of this document to other standards and the GPS matrix model, see Annex K.

This document develops the terminology, concepts and parameters for profile surface texture.

Throughout this document, parameters are written as abbreviated terms with lower-case suffixes (as in Rq) when used in a sentence, and are written as symbols with subscripts (as in R_q) when used in formulae, to avoid misinterpretations of compound letters as an indication of multiplication between quantities in formulae. The parameters with lower-case suffixes are used in product documentation, drawings and data sheets.

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

Part 2: Terms, definitions and surface texture parameters

1 Scope

This document specifies terms, definitions and parameters for the determination of surface texture by profile methods.

NOTE 1 The main changes to previous ISO profile documents are described in Annex I.

NOTE 2 An overview of profile and areal standards in the GPS matrix model is given in Annex J.

NOTE 3 The relation of this document to the GPS matrix model is given in Annex K.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 16610-1:2015, *Geometrical product specifications (GPS) — Filtration — Part 1: Overview and basic concepts*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16610-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 General terms

3.1.1
skin model
non-ideal surface model
<of a workpiece> model of the physical interface of the workpiece with its environment

[SOURCE: ISO 17450-1:2011, 3.2.2]

3.1.2
surface texture
geometrical irregularities contained in a scale-limited profile

Note 1 to entry: Surface texture does not include geometrical irregularities contributing to the form or shape of the profile.