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Geometrical product specifications (GPS) - Partition - Part 1: Vocabulary and basic concepts (ISO 18183-1:2024)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Geometrical product specifications (GPS) - Partition - Part 1: Vocabulary and basic concepts (ISO 18183-1:2024)

Spécification géométrique des produits (GPS) - Partition - Partie 1: Vocabulaire et concepts de base (ISO 18183-1:2024)

Geometrische Produktspezifikation (GPS) - Partition - Teil 1: Begriffe und grundlegende Konzepte (ISO 18183-1:2024)

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European foreword

This document (EN ISO 18183-1:2024) 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of an identical text or by endorsement, at the latest by October 2024, and conflicting national standards shall be withdrawn at the latest by October 2024.

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International Standard

ISO 18183-1

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Geometrical product specifications (GPS) — Partition —

Part 1: Vocabulary and basic concepts

Spécification géométrique des produits (GPS) — Partition —

Partie 1: Vocabulaire et concepts de base

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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 document 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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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).

A list of all parts in the ISO 18183 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.

Introduction

This document is a geometrical product specification (GPS) standard and is to be regarded as a general ISO GPS standard (see ISO 14638). It influences chain links B, C and E of all the chains of standards in the ISO GPS matrix model.

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 specifications made in accordance with this document, unless otherwise indicated.

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

Partition is one of the feature ISO GPS operations defined in ISO 17450-1.

The partition can be applied to the surface of the nominal model (reading of an ISO GPS specification) or to the model of non-ideal surface (skin model) of a part (verification).

The information needed to apply a partition to a nominal model is:

— geometrical information contained in the nominal model;

— partition information contained in the ISO GPS specification, such as nature of the specification, symbols such as CZ or UF, restricted areas and so on;

— the method and criterion used for partition.

The information needed to apply a partition to a model of non-ideal surface (skin model) is:

— the result of the partition applied to the nominal model for the corresponding considered ISO GPS specification;

— the method and criterion used for partition.

The approach taken for partition is based on the concept of a single surface (single line), where a nominal model is first separated into a set of single surfaces which become an initial set of partitioned features. This initial set of partition features can then be modified, if required, by ISO GPS modifiers from the specification to obtain the required set of partitioned features of design intent.

This approach taken for partition allows interpretation of the specification to determine the required set of partitioned features of design intent in specification and also allows algorithms to be developed that compute the linked measured partitioned features in verification.

The ISO 18183 series addresses the description of the methods and criteria that can be used to apply a partition.

Both the data and the methods used for the partition of the nominal model or the model of non-ideal surface (skin model) are different. This motivates the splitting of the series into several parts: ISO 18183-2 for partition of the nominal model, ISO 18183-3 for partition of the model of non-ideal surface (skin model) and this document for terms and concepts applicable to partition in general. ISO 18183-4 is foreseen to deal with explicit partition with one or more specific section tools.

International Standard **ISO 18183-1:2024(en)**

Geometrical product specifications (GPS) — Partition —

Part 1:
Vocabulary and basic concepts

1 Scope

This document defines the basic terms for partitioned features and establishes a framework for the fundamental procedures used in partition.

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 8015, *Geometrical product specifications (GPS) — Fundamentals — Concepts, principles and rules*

ISO 17450-1, *Geometrical product specifications (GPS) — General concepts — Part 1: Model for geometrical specification and verification*

ISO 22432, *Geometrical product specifications (GPS) — Features utilized in specification and verification*