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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 47759.1-2026

**Geometrical product specifications (GPS) - Partition - Part 1:
Vocabulary and basic concepts**

产品几何技术规范（GPS） 分离 第1部分：词汇和基本概念

(English Translation)

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Table of Contents

Preface

Introduction

1 Scope

2 Normative References

3 Terms and Definitions

4 Separation of concepts

4.1 Overview

4.2 Determination of Separation

4.4 Use of Identifier Sets for Uncertain Areas in Separation of Elements

4.5 Remarks

5 General Information

Appendix A (Informative) Conceptual Relationship Diagram

A.1 Basic Concepts Used in Separation

A.2 Concepts related to separation operations for specification and verification

Appendix B (Informative) Relationship with GPS Matrix Model

B.1 Overview

B.2 Information about this document and its use

B.3 Position in the GPS matrix model

B.4 Relevant Standards

Reference

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 1 of GB/T 47759 "Product Geometric Specifications (GPS) Separation". GB/T 47759 has been published as follows.

Part 2.

---Part 1: Vocabulary and Basic Concepts this document is equivalent to ISO 18183-1:2024 "Geometric Specifications for Products (GPS) - Separation - Part 1: Vocabulary and Basic Terms".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Product Geometric Specifications (SAC/TC240).

Introduction

Separation is defined in GB/T 24637.1 "Product Geometric Specification (GPS) - General Concepts - Part 1: Models for Geometric Specifications and Inspection".

One of the characteristics of the defined GPS operation set is that it can be applied to nominal model surfaces (i.e., GPS specification interpretation) as well as to non-ideal surfaces of parts.

Validation of the surface model (i.e., the skin surface model).

The information required to apply the separation operation to the nominal model includes.

---Geometric information contained in the nominal model;

---Separation information included in the GPS specification, such as specification type, CZ or UF modifiers, and defined areas;

---Separation methods and criteria.

The information required to apply separation operations to non-ideal surface models (skin models) includes.

---Separation results implemented on the nominal model based on GPS specifications;

---Separation methods and criteria.

The separation method is based on the concept of a single surface (or single line). first, the nominal model is decomposed into a set of single surfaces, forming an initial set of separated elements.

As needed, the initial set of separation elements is adjusted using modifiers in the GPS specifications to ultimately obtain a set of separation elements that meets the design objectives.

Element set.

An algorithm for separating section-related measured features.

The data and methods used to separate the nominal model from the non-ideal surface model (skin model) are different.

GB/T 47759 is proposed to consist of three parts.

---Part 1: Vocabulary and Basic Concepts. The aim is to define a separate framework of

basic terminology and concepts.

---Part 2: Nominal Model. The purpose is to define the element separation operations on the nominal model.

---Part 3: Methods for Specification and Validation. The purpose is to define methods for separation in specifications and validation.

Product Geometry Specification (GPS) Separation Part 1: Vocabulary and Basic Concepts

1 Scope

This document defines the basic terminology related to separation elements and establishes a basic conceptual framework for separation.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

ISO 8015 Product Geometry Specification (GPS) - Fundamental Concepts, Principles and Rules Note. GB/T 4249-2018 Product Geometry Specification (GPS) - Basic Concepts, Principles and Rules (ISO 8015:2011, MOD) ISO 17450-1 Product Geometry Specification (GPS) - General Concepts - Part 1: Models for Geometric Specification and Verification [Geomet-[verification] Note. GB/T 24637.1-2020 Product Geometric Specification (GPS) - General Concepts - Part 1: Models for Geometric Specification and Verification (ISO 17450-Note. GB/T 38760-2020 Product Geometry Specification (GPS) Specification and Elements Used in Inspection (ISO 22432:2011, MOD)

3 Terms and Definitions

The terms and definitions defined in ISO 8015, ISO 17450-1 and ISO 22432, as well as the following terms and definitions, apply to this document.

geometrical feature

Points, lines, planes, volumes, or collections thereof.

[Source. ISO 17450-1:2011, 3.3, with modifications] 3.2 Separate partition Operations used to identify partial geometric elements (3.1) that belong to the actual surface of the workpiece or the surface model of the workpiece.

[Source. ISO 17450-1:2011, 3.4.1.1] 3.3 nominal model the workpiece is a model with an

ideal shape defined by the designer.

Note 1: The nominal model represents the design intent.

Note 2: Separation information is part of the nominal model.