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

GB/T 24630.1-2024

**Geometrical product specifications (GPS) - Flatness - Part 1:
Vocabulary and parameters of flatness**

产品几何技术规范（GPS）平面度 第1部分：词汇和参数

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting is required. This document is Part 1 of GB/T 24630 "Geometrical Specification for Products (GPS) Flatness". GB/T 24630 has been issued. The following parts were published. Part

1 Scope

GB/T 24630.1-2024 gives the vocabulary and parameters of flatness in the Chinese GPS system. Flatness looks like the simplest of the form tolerances and is in practice one of the most argued over, because a flatness value depends entirely on the reference plane fitted to the measured points and on what is done with the deviations from it: a least squares plane, a minimum zone, a maximum inscribed or minimum circumscribed plane give different numbers from the same data, and peak-to-valley, peak height and valley depth are different parameters again. The standard defines all of that: the basic terminology, the terms for the extracted surface and the association operations, the reference planes and the parameters derived from each of them, so that a drawing specification, a measuring machine and an inspection report can be made to mean the same thing. It is Part 1 of the flatness pair, the companion to the specification operators of Part 2. It took effect on 29 September 2024.

This document defines the terms and concepts related to the flatness of single components. This document applies only to the complete flatness profile of a single component.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies. in this document. ISO 17450

3 Terms and definitions

For the purpose of this document, the terms and definitions defined in ISO 174501 and the following apply.

3.1 Basic terminology

3.1.1 Flatness Characteristics of the plane.

Note. The mathematical definition of the flatness tolerance of nominal components is given in Appendix A.

3.1.2 Nominal plane A mathematical plane defined by design.

3.2 Surface-related terms

3.2.1 extracted surface FlatnessThe actual surface expressed numerically. Note

1.The flatness extraction rules are specified by ISO 127812, and the extracted surface is a type of extracted component. Note

2.See Figure 1 for a schematic diagram.