



SLOVENSKI STANDARD SIST EN ISO 5459:2024

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Specifikacija geometrijskih veličin izdelka - Geometrijsko toleriranje - Reference in sistemi referenc (ISO 5459:2024)

Geometrical product specifications (GPS) - Geometrical tolerancing - Datums and datum systems (ISO 5459:2024)

Geometrische Produktspezifikation (GPS) - Geometrische Tolerierung - Bezüge und Bezugssysteme (ISO 5459:2024)

Spécification géométrique des produits (GPS) - Tolérancement géométrique - Références spécifiées et systèmes de références spécifiées (ISO 5459:2024)

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17.040.40	Specifikacija geometrijskih veličin izdelka (GPS)	Geometrical Product Specification (GPS)

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Geometrical product specifications (GPS) - Geometrical tolerancing - Datums and datum systems (ISO 5459:2024)

Spécification géométrique des produits (GPS) -
Tolérancement géométrique - Références spécifiées et
systèmes de références spécifiées (ISO 5459:2024)

Geometrische Produktspezifikation (GPS) -
Geometrische Tolerierung - Bezüge und
Bezugssysteme (ISO 5459:2024)

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European foreword

This document (EN ISO 5459:2024) 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of an identical text or by endorsement, at the latest by April 2025, and conflicting national standards shall be withdrawn at the latest by April 2025.

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Endorsement notice

The text of ISO 5459:2024 has been approved by CEN as EN ISO 5459:2024 without any modification.



International Standard

ISO 5459

Geometrical product specifications (GPS) — Geometrical tolerancing — Datums and datum systems

*Spécification géométrique des produits (GPS) — Tolérancement
géométrique — Références spécifiées et systèmes de références
spécifiées*

**Third edition
2024-10**

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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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*, 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 third edition cancels and replaces the second edition (ISO 5459:2011), which has been technically revised.

The main changes are as follows:

- update of the Normative references and Bibliography;
- addition of definitions [3.20](#), [3.20.1](#) and [3.20.2](#);
- in [Table 1](#), update of the symbol of the datum feature indicator;
- in [Table 1](#), addition of the symbol of single datum target indicator, moveable datum target indicator, restricted datum feature, indication of a situation feature and datum coordinate system indicator, and addition of a note;
- in [Table 2](#), addition of [SV], [SF] and [SFxx], and addition of a note;
- in [Clause 6](#), addition of a paragraph before the example in [6.1](#), update of [6.2.1](#) and [6.2.2](#), replacement of the first paragraph in [6.2.3](#) and [6.2.4](#), addition of the last paragraph in [6.3.2](#) and table titles added in [6.3.2](#) and subsequent tables renumbered;
- in [Clause 7](#), addition of a note in [7.1](#), update of [7.2.1](#), [7.3](#), [7.4.2.1](#) and [7.4.2.2](#), update of the text and figures in [7.4.2.4](#) up to [Figure 22](#), update of the first paragraph of [7.4.2.6](#), update of [Figure 39](#), addition of a new rule 11 in [7.4.2.11](#) and a new rule 12 in [7.4.2.12](#);
- addition of a new [Clause 8](#);
- in [Annex A](#), update of the text between [Figures A.1](#) and [A.2](#), update of the first paragraph in [A.2.1](#) and of [Figure A.4](#), addition of Notes 1 and 2 in [A.2.2.3](#), and update of the row for the plane in [Table A.2](#);

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- addition of a new [Clause D.4](#);
- update of [Annex E](#), addition of new [Annexes G](#) to [J](#), update of [Annex K](#) giving the relation to the GPS matrix model.

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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 links A to C of the chains of standards on datums.

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 on the relationship of this document to other standards and the GPS matrix model, see [Annex K](#).

For the definitive presentation (proportions and dimensions) of symbols for geometrical tolerancing, see ISO 7083.

The previous version of this document dealt only with planes, cylinders and spheres being used as datums. There is a need to consider all types of surfaces, which are increasingly used in industry. The definitions of classes of surfaces as given in [Annex B](#) are exhaustive and unambiguous.

This document applies new concepts and terms that have not been used in previous ISO GPS standards. These concepts are described in detail in ISO 14638, ISO 17450-1 and ISO 17450-2; therefore, it is recommended to refer to these standards when using this document.

This document provides tools to express location or orientation constraints, or both, for a tolerance zone. It does not provide information about the relationship between datums or datum systems and functional requirements or applications.

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