International Standard

ISO 16610-45

First edition
2025-02

Geometrical product specifications (GPS) — Filtration —

Part 45: Morphological profile filters: Segmentation

Spécification géométrique des produits (GPS) — Filtrage —

Partie 45: Filtres de profil morphologiques : Segmentation

Reference number
ISO 16610-45:2025(en)

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Published in Switzerland

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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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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).

A list of all parts in the ISO 16610 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.

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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 C and E in the GPS matrix structure.

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 information on the relationship of this document to filtration matrix model, see Annex C.

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

This document develops the terminology and concepts for profile segmentation.

This document will replace part of ISO 21920-2 as the source document for profile segmentation. ISO 21920-2 is under revision and its definitions will be aligned with this document.

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Geometrical product specifications (GPS) — Filtration —

Part 45:
Morphological profile filters: Segmentation

1 Scope

This document defines the terminology and develops concepts for profile morphological segmentation. In particular it specifies the watershed segmentation method, the Wolf pruning method and the crossing-the-line method. This document assumes a continuous surface.

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, *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 Terms related to geometrical features

3.1.1
topographic feature
line or point feature on a profile

3.1.1.1
line feature
hill or dale

3.1.1.2
point feature
peak or pit

3.1.2
peak
<watershed segmentation> point on the profile which is higher than all other points within the neighbourhood of that point

Note 1 to entry: There is a theoretical possibility of a plateau. In this case, the peak is the middle single point on the plateau. Alternatively, techniques given in Annex B can be used.

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