Irish Standard
I.S. EN ISO 16610-85:2013

Geometrical product specifications (GPS) - Filtration- Part 85: Morphological areal filters: Segmentation (ISO 16610-85:2013)

I.S. EN ISO 16610-85:2013

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Contents

Page

Foreword

This document (EN ISO 16610-85:2013) 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of an identical text or by endorsement, at the latest by August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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The text of ISO 16610-85:2013 has been approved by CEN as EN ISO 16610-85:2013 without any modification.

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I.S. EN ISO 16610-85:2013

INTERNATIONAL STANDARD

ISO 16610-85

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Geometrical product specifications (GPS) — Filtration —

Part 85: Morphological areal filters: Segmentation

Spécification géométrique des produits (GPS) — Filtrage —

Partie 85: Filtres surfaciques morphologiques: Segmentation

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Contents

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16610-85 was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

This first edition of ISO 16610-85 replaces Annex A (Segmentation) in ISO 25178-2:2012.

ISO 16610 consists of the following parts, under the general title *Geometrical product specifications (GPS) — Filtration*:

— *Part 1: Overview and basic concepts* [Technical Specification]

— *Part 20: Linear profile filters: Basic concepts*

— *Part 21: Linear profile filters: Gaussian filters*

— *Part 22: Linear profile filters: Spline filters*

— *Part 28: Profile filters: End effects* [Technical Specification]

— *Part 29: Linear profile filters: Spline wavelets*

— *Part 30: Robust profile filters: Basic concepts* [Technical Specification]

— *Part 31: Robust profile filters: Gaussian regression filters* [Technical Specification]

— *Part 32: Robust profile filters: Spline filters* [Technical Specification]

— *Part 40: Morphological profile filters: Basic concepts*

— *Part 41: Morphological profile filters: Disk and horizontal line-segment filters*

— *Part 49: Morphological profile filters: Scale space techniques*

— *Part 60: Linear areal filters: Basic concepts*

— *Part 61: Linear areal filters: Gaussian filters*

— *Part 71: Robust areal filters: Gaussian regression filters*

— *Part 85: Morphological areal filters: Segmentation*

The following parts are planned:

— *Part 62: Linear areal filters: Spline filters*

— *Part 69: Linear areal filters: Spline wavelets*

— *Part 70: Robust areal filters: Basic concepts*

— *Part 72: Robust areal filters: Spline filters*

— *Part 80: Morphological areal filters: Basic concepts*

— *Part 81: Morphological areal filters: Sphere and horizontal planar segment filters*

— *Part 82: Morphological areal filters: Motif filters*

— *Part 89: Morphological areal filters: Scale space techniques*

See Annex C for relationships to other filtration documents.

Introduction

This part of ISO 16610 is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO 14638). It influences the feature characteristics chain link in the GPS matrix structure.

The ISO/GPS Masterplan 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 part of ISO 16610 to other standards and to the GPS matrix model, see Annex E.

This part of ISO 16610 develops the terminology and concepts for areal segmentation.

Geometrical product specifications (GPS) — Filtration —

Part 85: Morphological areal filters: Segmentation

1 Scope

This part of ISO 16610 develops the terminology and concepts for areal morphological segmentation. In particular, it describes the watershed segmentation method and the Wolf pruning method. This document assumes a continuous surface.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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[1)], *Geometrical Product Specifications (GPS) — Data extraction techniques by sampling and filtration — Part 1: Basic terminology*

ISO 25178-2:2012, *Geometrical product specifications (GPS) — Surface texture: Areal — Part 2: Terms, definitions and surface texture parameters*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16610-1, ISO 25178-2:2012 and the following apply.

3.1 Geometrical feature terms

3.1.1
peak
point on the surface which is higher than all other points within a neighbourhood of that point

Note 1 to entry: For discrete data, a triangulization of the surface is necessary.

Note 2 to entry: There is a theoretical possibility of a plateau. In practice, this can be avoided by the use of an infinitesimal tilt.

Note 3 to entry: For specific implementation, see ISO 25178-3.

[SOURCE: ISO 25178-2:2012, 3.3.1]

3.1.1.1
Maxwellian hill
region around a peak such that all maximum upward paths end at the peak

Note 1 to entry: In ISO 25178-2:2012, 3.3.1.1, the term corresponding to this definition was “hill”.

1) To be published (Revision of ISO/TS 16610-1:2006).