

<b>STN</b>	<b>Geometrické špecifikácie výrobkov (GPS). Filtrácia. Časť 31: Robustné profilové filtre: Gaussove regresné filtre (ISO 16610-31: 2016).</b>	<b>STN EN ISO 16610-31</b>
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Geometrical product specifications (GPS) - Filtration - Part 31: Robust profile filters: Gaussian regression filters (ISO 16610-31:2016)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

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EUROPEAN STANDARD

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## Geometrical product specifications (GPS) - Filtration - Part 31: Robust profile filters: Gaussian regression filters (ISO 16610-31:2016)

Spécification géométrique des produits (GPS) - Filtrage  
- Partie 31: Filtres de profil robustes: Filtres de  
régression gaussiens (ISO 16610-31:2016)

Geometrische Produktspezifikation (GPS) - Filterung -  
Teil 31: Robuste Profilfilter: Gaußsche  
Regressionsfilter (ISO 16610-31:2016)

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## **European foreword**

This document (EN ISO 16610-31:2016) 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of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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### **Endorsement notice**

The text of ISO 16610-31:2016 has been approved by CEN as EN ISO 16610-31:2016 without any modification.

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**Geometrical product specifications  
(GPS) — Filtration —**

Part 31:  
**Robust profile filters: Gaussian  
regression filters**

*Spécification géométrique des produits (GPS) — Filtrage —*

*Partie 31: Filtres de profil robustes: Filtres de régression gaussiens*



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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 documents 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](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

This first edition of ISO 16610-31 cancels and replaces ISO/TS 16610-31, which has been technically revised.

A list of all parts in the ISO 16610 series can be found on the ISO website.

## 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 the chain link C of all chains of standards.

For more detailed information of the relation of this document to the GPS matrix model, see [Annex C](#).

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.

This document develops the concept of the discrete robust Gaussian regression filter. The robust process reduces the influence of the deep valleys and high peaks. The subject of this document is the robust Gaussian regression filter of degree  $p = 2$ , which has very good robust behaviour and form approximation for functional stratified engineering surfaces.



# Geometrical product specifications (GPS) — Filtration —

## Part 31:

## Robust profile filters: Gaussian regression filters

### 1 Scope

This document specifies the characteristics of the discrete robust Gaussian regression filter for the evaluation of surface profiles with spike discontinuities such as deep valleys and high peaks.

### 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 16610-1:2015, *Geometrical product specifications (GPS) — Filtration — Part 1: Overview and basic concepts*

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