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Irish Standard  
I.S. EN ISO 12180-1:2011

# Geometrical product specifications (GPS) - Cylindricity - Part 1: Vocabulary and parameters of cylindrical form (ISO 12180 -1:2011)

## I.S. EN ISO 12180-1:2011

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English Version

**Geometrical product specifications (GPS) - Cylindricity - Part 1:  
Vocabulary and parameters of cylindrical form (ISO 12180-  
1:2011)**

Spécification géométrique des produits (GPS) - Cylindricité  
- Partie 1: Vocabulaire et paramètres de cylindricité (ISO  
12180-1:2011)

Geometrische Produktspezifikation (GPS) - Zylindrizität -  
Teil 1: Begriffe und Kenngrößen der Zylinderform (ISO  
12180-1:2011)

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## **Foreword**

This document (EN ISO 12180-1:2011) 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of an identical text or by endorsement, at the latest by October 2011, and conflicting national standards shall be withdrawn at the latest by October 2011.

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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**ISO  
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**Geometrical product specifications  
(GPS) — Cylindricity —**

Part 1:  
**Vocabulary and parameters of cylindrical  
form**

*Spécification géométrique des produits (GPS) — Cylindricité —  
Partie 1: Vocabulaire et paramètres de cylindricité*



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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.

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.

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ISO 12180-1 was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

This first edition of ISO 12180-1 cancels and replaces ISO/TS 12180-1:2003, which has been technically revised.

ISO 12180 consists of the following parts, under the general title *Geometrical product specifications (GPS) — Cylindricity*:

- *Part 1: Vocabulary and parameters of cylindrical form*
- *Part 2: Specification operators*

## Introduction

This part of ISO 12180 is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO/TR 14638). It influences chain link 2 of the chain of standards on form of a surface (independent of a datum).

The ISO/GPS Masterplan given in ISO/TR 14638 gives an overview of the ISO/GPS system of which this part of ISO 12180 is a part. The fundamental rules of ISO/GPS given in ISO 8015 apply to this part of ISO 12180 and the default decision rules given in ISO 14253-1 apply to specifications made in accordance with this part of ISO 12180, unless otherwise indicated.

For more detailed information on the relationship of this part of ISO 12180 to other standards and the GPS matrix model, see Annex D.

This part of ISO 12180 defines terms and concepts necessary for defining the specification operators according to ISO 17450-2 for cylindricity of integral features.

Extracting data always involves applying a certain filtering process. An additional filtering of the extracted data might or might not be applied. This additional filter can be a mean line filter (Gaussian, spline, wavelet, etc.) or a non-linear filter (e.g. morphological filter). The type of filtering influences the definition of cylindricity and the specification operators and, therefore, needs to be stated unambiguously.

This part of ISO 12180 is not intended to disallow any means of measuring cylindricity.



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