



NSAI
Standards

Irish Standard
I.S. EN ISO 2538-1:2014

Geometrical product specifications (GPS) - Wedges - Part 1: Series of angles and slopes (ISO 2538-1:2014)

I.S. EN ISO 2538-1:2014

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English Version

Geometrical product specifications (GPS) - Wedges - Part 1: Series of angles and slopes (ISO 2538-1:2014)

Spécification géométrique des produits (GPS) - Coins -
Partie 1: Séries d'angles et d'inclinaisons (ISO 2538-
1:2014)

Geometrische Produktspezifikation (GPS) - Keile - Teil 1:
Reihen von Winkeln und Neigungen (ISO 2538-1:2014)

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EN ISO 2538-1:2014 (E)

Contents	Page
Foreword	3

Foreword

This document (EN ISO 2538-1:2014) 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of an identical text or by endorsement, at the latest by March 2015, and conflicting national standards shall be withdrawn at the latest by March 2015.

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.

This document supersedes EN ISO 2538:2003.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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**INTERNATIONAL
STANDARD**

**ISO
2538-1**

First edition
2014-09-01

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

**Part 1:
Series of angles and slopes**

*Spécification géométrique des produits (GPS) — Coins —
Partie 1: Séries d'angles et d'inclinaisons*



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Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Terms and definitions	1
3 Values	4
Annex A (informative) Relation to the GPS matrix model	6
Bibliography	8

ISO 2538-1:2014(E)

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).

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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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

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

This first edition of ISO 2538-1, together with ISO 2538-2, cancels and replaces ISO 2538:1998, which has been technically revised.

ISO 2538 consists of the following parts, under the general title *Geometrical product specifications (GPS) — Wedges*:

- *Part 1: Series of angles and slopes*
- *Part 2: Dimensioning and tolerancing*

Introduction

This part of ISO 2538 is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO/TR 14638). It influences chain links 1 and 2 of the chain of standards on angle in the GPS matrix.

The ISO/GPS Masterplan given in ISO/TR 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 2538 to other standards and to the GPS matrix model, see [Annex A](#).

Geometrical product specifications (GPS) — Wedges —

Part 1: Series of angles and slopes

1 Scope

This International Standard specifies terms and definitions for wedges, three series of wedge angles from 120° to 0° 30' and a series of wedge slopes from 1:10 to 1:500, for general mechanical engineering purposes.

2 Terms and definitions

For the purposes of this document, the following definitions apply.

2.1

wedge

pair of intersecting planes

Note 1 to entry: A wedge is a feature of size defined by an angular size.

Note 2 to entry: See Figure 1.

2.2

wedge angle

β

angular size of the wedge defined in a plane perpendicular to the wedge edge

Note 1 to entry: See Figure 1.

2.3

wedge slope

S

ratio of the difference between the heights H and h in two determined cross-sections to the signed distance L between these cross-sections

$$S = (H - h) / L = \tan \beta$$

Note 1 to entry: L is positive for angles $< 90^\circ$ and negative for angles $> 90^\circ$.

2.4

rate of wedge

C

$2 \times$ the tangent of half the wedge angle

$$C = 2 \tan \frac{\beta}{2}$$

2.5

wedge edge

straight line established by the intersection of the wedge planes

Note 1 to entry: See Figure 1.

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