



NSAI
Standards

Irish Standard
I.S. EN ISO 1938-2:2017

Geometrical product specifications (GPS) - Dimensional measuring equipment - Part 2: Reference disk gauges (ISO 1938-2:2017)

© CEN 2017 No copying without NSAI permission except as permitted by copyright law.

I.S. EN ISO 1938-2:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN ISO 1938-2:2017

Published:

2017-02-08

This document was published under the authority of the NSAI and comes into effect on:

2017-02-27

ICS number:

17.040.10

17.040.30

17.040.40

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN ISO 1938-2:2017 is the adopted Irish version of the European Document EN ISO 1938-2:2017, Geometrical product specifications (GPS) - Dimensional measuring equipment - Part 2: Reference disk gauges (ISO 1938-2:2017)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 1938-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2017

ICS 17.040.10; 17.040.30; 17.040.40

English Version

**Geometrical product specifications (GPS) - Dimensional
measuring equipment - Part 2: Reference disk gauges (ISO
1938-2:2017)**

Spécification géométrique des produits (GPS) -
Équipement de mesure dimensionnel - Partie 2:
Disques de référence pour calibres (ISO 1938-2:2017)

Geometrische Produktspezifikation (GPS) -
Längenprüftechnik - Teil 2: Prüflehren für
Rachenlehren (ISO 1938-2:2017)

This European Standard was approved by CEN on 1 January 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 1938-2:2017) 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 2017 and conflicting national standards shall be withdrawn at the latest by August 2017.

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.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 1938-2:2017 has been approved by CEN as EN ISO 1938-2:2017 without any modification.

This page is intentionally left blank

INTERNATIONAL STANDARD

**ISO
1938-2**

First edition
2017-01

Geometrical product specifications (GPS) — Dimensional measuring equipment —

Part 2: Reference disk gauges

*Spécification géométrique des produits (GPS) — Équipement de
mesurage dimensionnel —*

Partie 2: Disques de référence pour calibres



Reference number
ISO 1938-2:2017(E)

© ISO 2017

ISO 1938-2:2017(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and abbreviated terms	2
5 Design characteristics	2
6 Metrological characteristics	2
7 Maximum permissible limits on metrological characteristics	3
8 Marking	5
Annex A (informative) Material measure (reference) of the working size, WS, of a gap gauge	6
Annex B (informative) Relation to the GPS matrix model	9
Bibliography	11

ISO 1938-2:2017(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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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: <http://www.iso.org/iso/foreword.html>.

This document was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

A list of all parts in the ISO 1938 series can be found on the ISO website.

This document does not include requirements for setting plug gauges and setting ring gauges, which were dealt with in ISO/R 1938:1971, 3.9.4.

This document covers the concepts and principles developed in ISO 14978.

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 links F and G of the size chain of standards in the general GPS matrix. For more detailed information on the relation of this document to other standards and the GPS matrix model, see [Annex B](#).

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.

The terms and concepts used in this document (compared to ISO/R 1938:1971) have been changed according to needs and terminology in the other GPS standards.

This document deals with reference disk gauges. The use of reference disk gauges is explained in [Annex A](#).

NOTE The content of [Table 2](#) uses the modifiers given in ISO 14405-1 and ISO 1101.

Geometrical product specifications (GPS) — Dimensional measuring equipment —

Part 2: Reference disk gauges

1 Scope

This document specifies the most important metrological and design characteristics of reference disk gauges.

This document covers linear sizes of the gauge up to 500 mm.

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 286-1, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 1: Basis of tolerances, deviations and fits*

ISO 1101, *Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

ISO 1938-1:2015, *Geometrical product specifications (GPS) — Dimensional measuring equipment — Part 1: Plain limit gauges of linear size*

ISO 14405-1, *Geometrical product specifications (GPS) — Dimensional tolerancing — Part 1: Linear sizes*

ISO 17450-2, *Geometrical product specifications (GPS) — General concepts — Part 2: Basic tenets, specifications, operators, uncertainties and ambiguities*

ISO/IEC Guide 98-3, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

ISO/IEC Guide 99, *International vocabulary of metrology — Basic and general concepts and associated terms (VIM)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 286-1, ISO 1938-1, ISO 14405-1, ISO 17450-2, ISO/IEC Guide 98-3 and ISO/IEC Guide 99 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

reference disk gauge

gauge designed and intended to determine the working size of a gap gauge

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-