
**Geometrical Product Specifications
(GPS) — Standard reference temperature
for geometrical product specification and
verification**

*Spécification géométrique des produits (GPS) — Température normale de
référence pour la spécification géométrique des produits et vérification*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 1:2002

<https://standards.iteh.ai/catalog/standards/sist/39ff3266-b328-45c1-987f-5ecbd9c3d201/iso-1-2002>



Reference number
ISO 1:2002(E)

© ISO 2002

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 1:2002

<https://standards.iteh.ai/catalog/standards/sist/39ff3266-b328-45c1-987f-5ecbd9c3d201/iso-1-2002>

© ISO 2002

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

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

This second edition cancels and replaces the first edition (ISO 1:1975), which has been technically revised. Specifically, the following points have changed:

- the standard reference temperature has been modified; consequently, the title has been changed, and
- the footnote, referring to a definition of the metre which no longer exists, has been deleted.

Annex A is for information only.

Introduction

This International Standard is a geometrical product specification (GPS) standard and is to be regarded as a global GPS standard (see ISO/TR 14638). It influences all links in all chains of standards.

For more detailed information on the relationship of this International Standard to other standards and the GPS matrix model, see annex A.

The standard reference temperature is now applied to the GPS specification, i.e. all GPS characteristics are defined and specified at the standard reference temperature. Consequently, when measurements of geometrical features of workpieces and/or metrological characteristics of measuring equipment are carried out, deviations from the standard reference temperature will introduce errors and measurement uncertainties in the measurement result.

The definitions of the units of length and temperature were determined and adopted by the International Committee of Weights and Measures (CIPM) under the authority of the Convention of the Meter. These definitions are published in the *Procès-verbaux* of the CIPM^{[4], [5], [6]}.

This International Standard does not require that all calibrations of metrological characteristics of measuring equipment, workpiece measurements and manufacturing be carried out at the standard reference temperature. Uncertainty in temperature measurement and measurement at temperatures other than the standard reference temperature contribute to the uncertainty assessment of the measurement result and lead to systematic errors in the measurement result. An ISO Technical Report^[2] which discusses these issues is being prepared.

ISO 1:2002

<https://standards.iteh.ai/catalog/standards/sist/39ff3266-b328-45c1-987f-5ecbd9c3d201/iso-1-2002>

Geometrical Product Specifications (GPS) — Standard reference temperature for geometrical product specification and verification

1 Scope

This International Standard specifies the standard reference temperature for geometrical product specification and verification.

2 Standard reference temperature

The standard reference temperature for geometrical product specification and verification is fixed at 20 °C.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 1:2002

<https://standards.iteh.ai/catalog/standards/sist/39ff3266-b328-45c1-987f-5ecbd9c3d201/iso-1-2002>

Annex A (informative)

Relation to the GPS matrix model

A.1 General

For full details about the GPS matrix model, see ISO/TR 14638.

A.2 Information about this International Standard and its use

This International Standard is used whenever GPS specifications for workpieces and measuring equipment are given. It constitutes the basis for the evaluation of measurement uncertainty.

A.3 Position in GPS matrix model

This International Standard is a global GPS standard, which influences all links in all chains of standards in the general GPS matrix, as shown in Figure A.1.

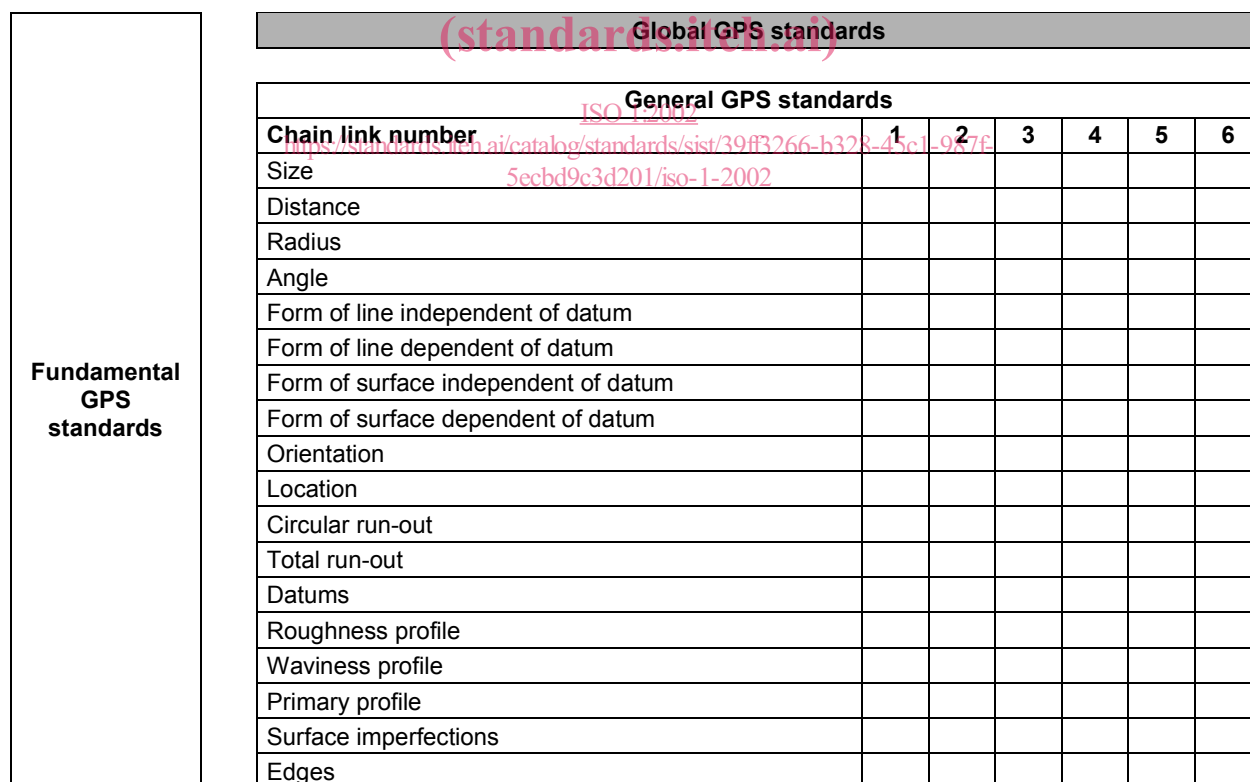


Figure A.1

A.4 Related International Standards

The related standards are those of the chains of standards indicated in Figure A.1.

Bibliography

- [1] ISO/TR 14638:1995, *Geometrical Product Specifications (GPS) — Masterplan*
- [2] ISO/TR 16015:—¹⁾, *Geometrical Product Specifications (GPS) — Systematic errors and contributions to measurement uncertainty of length measurement due to thermal influences*
- [3] VIM:1993, *International vocabulary of basic and general terms in metrology*. BIPM, IEC, IFCC, ISO, IUPAC, IUPAP, OIML, 2nd edition, 1993
- [4] *Procès-verbaux du Comité international des poids et mesures, 1931 session*
- [5] *Procès-verbaux du Comité international des poids et mesures, 72nd session, 1983*
- [6] *Procès-verbaux du Comité international des poids et mesures, 78th session, 1989*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 1:2002

<https://standards.iteh.ai/catalog/standards/sist/39ff3266-b328-45c1-987f-5ecbd9c3d201/iso-1-2002>

1) To be published.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 1:2002

<https://standards.iteh.ai/catalog/standards/sist/39ff3266-b328-45c1-987f-5ecbd9c3d201/iso-1-2002>