

**Geometrical Product Specifications
(GPS) - Acceptance and reverification
tests for coordinate measuring
machines (CMM) - Part 2: CMMs used
for measuring size**

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measuring machines (CMM) - Part 2: CMMs used
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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 10360-2:2002 sisaldab Euroopa standardi EN ISO 10360-2:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 14.03.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 10360-2:2002 consists of the English text of the European standard EN ISO 10360-2:2001.</p> <p>This document is endorsed on 14.03.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This part of EN ISO 10360 specifies the acceptance test for verifying that the performance of a CMM used for measuring size is as stated by manufacturer.</p>	<p>Scope: This part of EN ISO 10360 specifies the acceptance test for verifying that the performance of a CMM used for measuring size is as stated by manufacturer.</p>
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Võtmesõnad: dimensional measurements, intermediate t, limit dimensions, linear measurement, measuring instruments, metrology, properties, sample surveys, scanning, scanning system, size measurement, surveillance (approval), technical data sheets, test equipment, testing

English version

Geometrical Product Specifications (GPS)
**Acceptance and reverification tests for
coordinate measuring machines (CMM)**

Part 2: CMMs used for measuring size
(ISO 10360-2 : 2001)

Spécification géométrique des produits
(GPS) – Essais de réception et de
vérification périodique des machines à
mesurer tridimensionnelles (MMT) –
Partie 2: MMT utilisées pour les
mesures de tailles (ISO 10360-2 : 2001)

Geometrische Produktspezifikation
(GPS) – Annahmeprüfung und
Bestätigungsprüfung für
Koordinatenmessgeräte (KMG) –
Teil 2: KMG angewendet für Längen-
messungen (ISO 10360-2 : 2001)

This European Standard was approved by CEN on 2001-11-12.

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist 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 Management Centre has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Management Centre: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 10360-2 : 2001 Geometrical Product Specifications (GPS) – Acceptance and reverification tests for coordinate measuring machines (CMM) – Part 2: CMMs used for measuring size,

which was prepared by ISO/TC 213 'Dimensional and geometrical Product Specifications and verification' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 290 'Dimensional and geometrical Product Specifications and verification', the Secretariat of which is held by AFNOR, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by June 2002 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 10360-2 : 2001 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

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Introduction

This part of ISO 10360 is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO/TR 14638). It influences link 5 of the chains of standards on size, distance, radius, angle, form, orientation, location, run-out and datums.

For more detailed information of the relation of this part of ISO 10360 to other standards and the GPS matrix model see annex B.

The tests of this part of ISO 10360 have two different technical objectives, which are to test

- the error of indication for size measurement, and
- the probing error,

of which the more important is the test for the error of indication for size measurement. The benefit of this test is that the measured result has a direct traceability to the unit length, the metre, and that it gives knowledge on how the CMM will perform when similar measurement relative to the unit length is performed.

The other test is intended to assess the 3D-probing error as a supplement to the test for the error of indication for size measurement, which only involves the probing system in two dimensions. Because it is not possible to completely isolate the probing errors from other sources of machine error, some measurement errors, of both static and dynamic origin, inherent in the other parts of the CMM measuring system, will affect the results of measurement in this test.

1 Scope

This part of ISO 10360 specifies the acceptance test for verifying that the performance of a CMM used for measuring size is as stated by the manufacturer. It also specifies the reverification test which enables the user to periodically reverify the performance of a CMM used for measuring size.

The acceptance and reverification tests of

- probing error, and
- error of indication for size measurement,

given in this part of ISO 10360, are applicable only to CMMs using contacting probing systems of any type operating in the discrete-point probing mode.

This International Standard specifies

- performance requirements that can be assigned by the manufacturer or the user of the CMM,
- the manner of execution of the acceptance and reverification tests to demonstrate the stated requirements,
- rules for proving conformance, and
- applications for which the acceptance and reverification tests can be used.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 10360. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 10360 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3650:1998, *Geometrical Product Specifications (GPS) — Length standards — Gauge blocks*

ISO 10360-1:2000, *Geometrical Product Specifications (GPS) — Acceptance and reverification test for coordinate measuring machines (CMM) — Part 1: Vocabulary*

ISO 14253-1:1998, *Geometrical Product Specifications (GPS) — Inspection by measurement of workpieces and measuring equipment — Part 1: Decision rules for proving conformance or non-conformance with specifications*