



BSI Standards Publication

Geometrical product specification (GPS) – Geometrical tolerancing of moveable assemblies

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National foreword

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**Geometrical product specification
(GPS) — Geometrical tolerancing of
moveable assemblies**

*Spécification géométrique des produits (GPS) — Tolérancement
géométrique des assemblages mobiles*



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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.

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. 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. www.iso.org/patents

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

Introduction

This Technical Specification 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 to 3 of the chain of standards on size, distance, angle, form of line dependent on datum, form of surface dependent on datum, orientation, location, circular run-out, total run-out and datums.

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 of the relation of this Technical Specification to other standards and the GPS matrix model, see [Annex C](#).

ISO 1101 cannot be applied on movable assemblies where one part of the assembly includes tolerance indications and another part includes corresponding datum indications, because there is a specification uncertainty due to undefined conditions of the interaction and relative mobility of the parts and how the parts are kept together.

ISO 14405-1 cannot be applied on movable assemblies, because there is a specification uncertainty due to undefined conditions of the interaction and relative mobility of the parts and how the parts are kept together.

This Technical Specification provides additional GPS symbols for indication of constraint conditions, e.g. application of forces.

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Geometrical product specification (GPS) — Geometrical tolerancing of moveable assemblies

1 Scope

This Technical Specification specifies the indication of constraint conditions in between the parts of moveable assemblies in conjunction with tolerancing according to ISO GPS standards. On geometrical tolerancing, one part of the assembly includes tolerance indications and another part includes corresponding datum indications.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 128-24, *Technical drawings — General principles of presentation — Part 24: Lines on mechanical engineering drawings*

ISO 1101:2012, *Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

ISO 6433:2012, *Technical product documentation — Part 2: References*

ISO 14405-1:2010, *Geometrical product specifications (GPS) — Dimensional tolerancing — Part 1: Linear sizes*

ISO 81714-1, *Design of graphical symbols for use in the technical documentation of products — Part 1: Basic rules*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 1101, ISO 14405-1 and the following apply.

3.1

movable assembly

assembly of two or more parts where the parts can be moved relative to each other

4 Symbols

For the purpose of this document, the symbols in [Table 1](#) apply.

Rules for the presentation of graphical symbols are given in [Annex A](#).