
Specifikacija geometrijskih veličin izdelka (GPS) - Dimenzijske in geometrijske tolerance za formane dele - 2. del: Pravila (ISO/TS 8062-2:2013, popravljena različica 2013-11-01)

Geometrical Product Specifications (GPS) - Dimensional and geometrical tolerances for moulded parts - Part 2: Rules (ISO/TS 8062-2:2013, Corrected version 2013-11-01)

Geometrische Produktspezifikationen (GPS) - Maß-, Form- und Lagetoleranzen für Formteile - Teil 2: Regeln (ISO/TS 8062-2:2013, korrigierte Fassung 2013-11-01)

Spécification géométrique des produits (GPS) - Tolérances dimensionnelles et géométriques des pièces moulées - Partie 2: Règles d'utilisation (ISO/TS 8062-2:2013, Version corrigée 2013-11-01)

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English Version

**Geometrical Product Specifications (GPS) - Dimensional and
geometrical tolerances for moulded parts - Part 2: Rules (ISO/TS
8062-2:2013, Corrected version 2013-11-01)**

Spécification géométrique des produits (GPS) - Tolérances
dimensionnelles et géométriques des pièces moulées -
Partie 2: Règles d'utilisation (ISO/TS 8062-2:2013, Version
corrigée 2013-11-01)

Geometrische Produktspezifikationen (GPS) - Maß-, Form-
und Lagetoleranzen für Formteile - Teil 2: Regeln (ISO/TS
8062-2:2013, korrigierte Fassung 2013-11-01)

This Technical Specification (CEN/TS) was approved by CEN on 21 May 2010 for provisional application.

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Foreword

This document (CEN ISO/TS 8062-2:2013) has been prepared by Technical Committee ISO/TC 213 "Dimensional and geometrical product specifications and verification" in collaboration with Technical Committee CEN/TC 190 "Foundry technology" the secretariat of which is held by DIN.

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TECHNICAL SPECIFICATION

**ISO/TS
8062-2**

First edition
2013-07-01

Corrected version
2013-11-01

Geometrical product specifications (GPS) — Dimensional and geometrical tolerances for moulded parts —

Part 2: Rules

*Spécification géométrique des produits (GPS) — Tolérances
dimensionnelles et géométriques des pièces moulées —
Partie 2: Règles d'utilisation*

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ISO/TS 8062-2:2013(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. 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*.

ISO 8062 consists of the following parts, under the general title *Geometrical product specifications (GPS) — Dimensional and geometrical tolerances for moulded parts*:

- *Part 1: Vocabulary*
- *Part 2: Rules [Technical Specification]*
- *Part 3: General dimensional and geometrical tolerances and machining allowances for castings*

The following part is under preparation:

- *Part 4: General tolerances for castings (according to the GPS rules)*

This corrected version of ISO 8062:2013 incorporates a change in 7.2.2, Figure 8.

Introduction

This part of ISO 8062 is to be regarded as a complementary process-specific tolerance geometrical production specification (GPS) standard (see ISO/TR 14638). It influences chain links 1, 2 and 3 of the chain of standards on mouldings.

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 about the relation of this part of ISO 8062 to other standards and the GPS matrix model, see [Annex F](#).

This part of ISO 8062 takes into account experiences with the application of previous standards (e.g. ISO 8062:1994, ASME Y14-8M:1996, and ISO 1101).

The tolerancing methods in this part of ISO 8062 are not yet fully developed within the new approach of geometrical product specifications (GPS) according to ISO 17450. The requirements for castings (mainly due to the uncertainty in the calculation of the shrinking of the casting) remain incompatible with the GPS standards. Therefore, this Technical Specification has been issued in order to gather further experience in the tolerancing of castings.

It is intended that the next version of this document will include more realistic ways of calculating the nominal dimension d_C of the final moulded part by elaborating GPS-conformant ways of combining linear dimensions and tolerance zones.

This document is intended to cover all types of moulded parts. However, most of the examples refer to castings.

When the methods of this part of ISO 8062 are used in 3D models, provisions have to be made in order to distinguish between theoretically exact dimensions (TEDs) and linear and angular dimensions with plus/minus tolerances.

Geometrical product specifications (GPS) — Dimensional and geometrical tolerances for moulded parts —

Part 2: Rules

1 Scope

This part of ISO 8062 gives the rules for geometrical dimensioning and tolerancing of final moulded parts and parts machined out of moulded parts. It also gives rules and conventions for the indications of these requirements in technical product documentation and specifies the proportions and dimensions of the graphical symbols to be used.

This part of ISO 8062 provides symbols which may be used to identify the relative completeness of the moulded features and parts. These graphical symbols should not be confused with the graphical symbols for surface texture according to ISO 1302, which are notably larger.

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 129-1, *Technical drawings — Indication of dimensions and tolerances — Part 1: General principles*

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

ISO 1302, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation*

ISO 2692, *Geometrical product specifications (GPS) — Geometrical tolerancing — Maximum material requirement (MMR), least material requirement (LMR) and reciprocity requirement (RPR)*

ISO 5458, *Geometrical Product Specifications (GPS) — Geometrical tolerancing — Positional tolerancing*

ISO 5459, *Geometrical product specifications (GPS) — Geometrical tolerancing — Datums and datum systems*

ISO 7083, *Technical drawings — Symbols for geometrical tolerancing — Proportions and dimensions*

ISO 8015, *Geometrical product specifications (GPS) — Fundamentals — Concepts, principles and rules*

ISO 8062-1, *Geometrical product specifications (GPS) — Dimensional and geometrical tolerances for moulded parts — Part 1: Vocabulary*

ISO 8062-3:2007, *Geometrical product specifications (GPS) — Dimensional and geometrical tolerances for moulded parts — Part 3: General dimensional and geometrical tolerances and machining allowances for castings*

ISO 10135, *Geometrical product specifications (GPS) — Drawing indications for moulded parts in technical product documentation (TPD)*

ISO 10579, *Geometrical product specifications (GPS) — Dimensioning and tolerancing — Non-rigid parts*

ISO 13715, *Technical drawings — Edges of undefined shape — Vocabulary and indications*

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ISO 14405-2, *Geometrical product specifications (GPS) — Dimensional tolerancing — Part 2: Dimensions other than linear sizes*

ISO 17450-1, *Geometrical product specifications (GPS) — General concepts — Part 1: Model for geometrical specification and verification*

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 purposes of this document, the terms and definitions given in ISO 8062-1, ISO 1101, ISO 5459, ISO 17450-1 and the following apply.

3.1 moulded feature

<of a moulded part> feature which has not been machined on a moulded part

3.2 intermediate machined feature

<of a moulded part> feature of a moulded part which has undergone machining and which subsequently will be machined to its final condition

Note 1 to entry: An intermediate machined feature is typically a roughly machined *moulded feature* (3.1).

Note 2 to entry: An intermediate machined feature can be used as a datum for subsequent machining of the moulded part.

3.3 final machined feature

<of a moulded part> feature of a moulded part which has been machined to its final condition

3.4 final moulded part

moulded part after fettling (if any)

Note 1 to entry: A final moulded part only consists of features which are moulded and have not been finished except by fettling.

3.5 intermediate machined moulded part

moulded part which has undergone some machining and which subsequently will be machined further

Note 1 to entry: An intermediate machined moulded part consists of at least one *moulded feature* (3.1) to be subsequently machined or at least one *intermediate machined feature* (3.2). In addition, it consists of moulded features not to be machined (if any) and *final machined features* (3.3) (if any).

Note 2 to entry: An intermediate machined moulded part can be produced from a final moulded part or from another intermediate machined moulded part.

3.6 final machined moulded part

moulded part which has been machined to its final condition

Note 1 to entry: A final machined moulded part consists of *final machined features* (3.3) and can include *moulded features* (3.1) not to be machined. A final machined moulded part cannot include *intermediate machined moulded features*.

Note 2 to entry: A final machined moulded part can be produced from a *final moulded part* (3.4) or from an *intermediate machined moulded part* (3.5).

3.7**moulded-part condition**

manufacturing stage of a moulded part

Note 1 to entry: Listed in chronological order of manufacturing, a moulded part can be in a *final moulded-part* (3.4) condition, *intermediate machined moulded-part* (3.5) condition or *final machined moulded-part* (3.6) condition.

Note 2 to entry: Only one final moulded-part condition exists.

Note 3 to entry: Various intermediate machined moulded-part conditions can exist.

Note 4 to entry: Only one final machined moulded-part condition can exist.

Note 5 to entry: A moulded part does not need to exist in an intermediate machined moulded-part condition before the final machined moulded-part condition.

Note 6 to entry: Heat treatment or straightening (correction of unintended distortion) can be carried out in any moulded-part condition.

3.8**single drawing**

<of a moulded part> drawing of a moulded part giving requirements for one moulded-part condition only

3.9**combined drawing**

<of a moulded part> drawing of a moulded part giving requirements for more than one moulded-part condition

4 Symbols

See [Table 1](#) for the letter symbols and [Table 2](#) for the graphical symbols used in this document.