



BSI Standards Publication

Technical product documentation (TPD)— Presentation of dimensions and tolerances

Part 1: General principles

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National foreword

This British Standard is the UK implementation of ISO 129-1:2018. It supersedes BS ISO 129-1:2004, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee TDW/4, Technical Product Realization.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Technical product documentation (TPD) — Presentation of dimensions and tolerances —

Part 1: General principles

*Documentation technique de produits — Représentation des
dimensions et tolérances —*

Partie 1: Principes généraux



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Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
3.1 Elements of dimensioning.....	2
3.2 Dimensions.....	2
4 Presentation of dimensions	3
4.1 Presentation rules.....	3
4.1.1 Dimensions.....	3
4.1.2 Repeated dimensions.....	3
4.1.3 Out of scale dimensions.....	3
4.1.4 Auxiliary dimensions.....	3
4.1.5 Theoretically exact dimensions.....	3
4.1.6 Symmetrical dimensions.....	4
4.1.7 Characters and presentation.....	4
4.2 Positioning of dimensions.....	4
4.3 Units of dimensions.....	6
5 Elements of dimensioning — Usage	6
5.1 General.....	6
5.2 Property indicators.....	7
5.3 Dimension line.....	8
5.4 Terminators and origin presentation.....	11
5.4.1 Terminators.....	11
5.4.2 Origin presentation.....	12
5.5 Extension line.....	13
5.6 Leader line.....	17
5.7 Dimensional values.....	17
5.7.1 Presentation.....	17
5.7.2 Placement of dimensional values and symbols.....	17
5.7.3 Special placement of dimensional values and symbols.....	19
5.8 Alpha numerical characters and symbols representing dimensional values.....	21
5.8.1 Alpha numerical characters representing dimensional values.....	21
5.8.2 Symbols added to dimensional values.....	21
5.9 Tabular dimensioning.....	21
5.10 Complementary indication.....	22
6 Presentation of dimensional tolerances	22
6.1 General.....	22
6.2 Limit deviations.....	22
6.3 Limit dimensioning.....	24
7 Presentation of special dimensions	24
7.1 Arrangement of graphical and letter symbols with dimensional values.....	24
7.2 Diameters.....	26
7.3 Radii.....	26
7.3.1 General.....	26
7.3.2 Dimension location of radius centre.....	27
7.3.3 Semicircle features.....	28
7.3.4 Combined radii presentation.....	28
7.4 Spheres.....	29
7.5 Between.....	29
7.6 Arcs, chords and angles.....	29
7.7 Squares.....	31

This is a preview of "BS ISO 129-1:2018". [Click here to purchase the full version from the ANSI store.](#)

7.8	Equally spaced and repeated features	32
7.8.1	Equally spaced features	32
7.8.2	Repeated features	34
7.8.3	Tabulated repeated features	35
7.9	Symmetrical workpieces and views	36
7.10	Presentation of levels	38
7.11	Dimensions of out-of-scale represented features	39
7.12	Auxiliary dimensions	39
7.13	Theoretical exact dimensions	39
7.14	Dimensioning of curved features	39
7.14.1	Curved features defined by radii	39
7.14.2	Curved features defined by coordinate dimensions	40
7.15	Dimensioning of developed views	42
7.16	Dimensioning of thin parts	42
7.16.1	Thickness indication	42
7.16.2	Surface indication	43
7.17	Dimensioning of restricted areas	44
7.17.1	General Rules	44
7.17.2	Dimensioning of restricted areas on surfaces of revolution	44
7.17.3	Dimensioning of restricted areas on other than surfaces of revolution	45
8	Arrangements of dimensions	46
8.1	General	46
8.2	Chain dimensioning	46
8.3	Parallel dimensioning	46
8.4	Running dimensioning	47
8.4.1	General	47
8.4.2	Unidirectional and bidirectional running dimensions	47
8.5	Coordinate dimensioning	51
8.5.1	Cartesian coordinate dimensioning	51
8.5.2	Polar coordinate dimensioning	53
8.6	Combined dimensioning	53
9	Notes and special notations	55
9.1	Flag notes	55
9.2	Indication of textual instructions	57
	Annex A (normative) Relations and dimensions of graphical symbols	59
	Annex B (informative) Chamfers, countersinks, wedges, cones and screw threads	63
	Annex C (informative) Former practice	66
	Bibliography	67

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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 (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 voluntary nature of standards, 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: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 10, *Technical product documentation*.

This second edition cancels and replaces the first edition (ISO 129-1:2004), which has been technically revised.

The main changes compared to the previous edition are as follows:

- that this document does not cover the application of dimensioning tolerances has been clarified;
- property indicator, surface indicator, developed length and between symbols have been discussed;
- flag notes and textual instructions have been discussed;
- dimensioning repeated features and restricted areas have been clarified.

A list of all parts in the ISO 129 series can be found on the ISO website.

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Introduction

This document is intended for all fields of application. See other parts of ISO 129 for information pertaining to specific application areas.

The principles of tolerancing and the interpretation of tolerance presentations are given in the ISO 14405 series.

Figures in this document illustrate the rules and are not intended to show complete representations. It should be understood that third-angle projection could equally well have been used without prejudice to the principles established.

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Technical product documentation (TPD)—Presentation of dimensions and tolerances —

Part 1: General principles

1 Scope

This document establishes the general principles for presentation of dimensions and associated tolerances that apply to 2D technical drawings in all disciplines and trades but which can also be applied to 3D applications.

This document does not cover the application of dimensional tolerances and their meaning. See ISO 14405-1 for tolerancing principles. This document can only be used to describe the nominal model of a drawing, not the non-ideal surface model (skin model) used for tolerancing purposes (for more information on tolerancing specifications, see the list of GPS standards listed as normative reference or as bibliography)

Considering the ISO 14405 series, the presentation of tolerance indication is unambiguous when it is applied to a dimension which is a size and ambiguous when the dimension is not a size.

All rules presented in this document are available for any type of drawing (see ISO 29845).

In addition, this document introduces the concept of property indicators, developed length, between, surface indicators, flag notes and textual instructions.

NOTE 1 All figures are shown in 2D views only.

NOTE 2 Additional information and details for construction engineering are given in ISO 6284.

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 128-20, *Technical drawings — General principles of presentation — Part 20: Basic conventions for lines*

ISO 128-22, *Technical drawings — General principles of presentation — Part 22: Basic conventions and applications for leader lines and reference lines*

ISO 128-24:2014, *Technical drawings — General principles of presentation — Part 24: Lines on mechanical engineering drawings*

ISO 3098 (all parts), *Technical product documentation — Lettering*

ISO 10209, *Technical product documentation — Vocabulary — Terms relating to technical drawings, product definition and related documentation*

ISO 14405 (all parts), *Geometrical product specifications (GPS) — Dimensional tolerancing*

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