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Technical product documentation — Digital product definition data practices

*Documentation technique de produits — Pratiques pour les données
numériques de la définition d'un produit*



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Contents

	Page
Foreword	vi
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
3.1 General terms and definitions.....	2
3.2 Classification codes for drawings and data sets (see Annex B).....	2
4 Data set identification and control	3
4.1 General.....	3
4.2 Related data.....	4
4.3 Data management.....	4
5 Data set requirements	5
5.1 General.....	5
5.1.1 Introduction.....	5
5.1.2 Fundamental requirements.....	5
5.1.3 Design model requirement (classification codes 3, 4 and 5).....	7
5.2 General model requirements.....	8
5.2.1 Associativity.....	8
5.2.2 Model coordinate systems.....	8
5.2.3 Applications of supplemental geometry.....	9
5.2.4 Part features not fully modelled.....	9
5.3 General method requirements.....	9
5.3.1 Data set methods.....	9
5.3.2 Model-only method.....	9
5.3.3 Model and drawing method.....	10
5.4 Management data.....	10
5.4.1 General.....	10
5.4.2 Management data in the data set.....	10
5.4.3 Management data on a model.....	11
5.5 Protection marking.....	11
5.5.1 General.....	11
5.5.2 Location on models.....	11
5.6 Saved views on models.....	11
5.6.1 General.....	11
5.6.2 Sections.....	12
6 Design model requirements	14
6.1 General.....	14
6.2 Geometric scale, units and precision.....	14
6.3 Model completeness.....	15
6.4 Assembly model completeness.....	15
6.5 Part reference numbers.....	16
6.6 Identification method.....	16
6.6.1 General.....	16
6.6.2 Colour.....	17
6.6.3 Greyscale.....	17
6.6.4 Mapping.....	17
6.6.5 Transparency.....	17
6.7 Installation model completeness.....	17
7 Common requirements for product definition data	18
7.1 General.....	18
7.2 Common requirements.....	18
7.3 Model requirements.....	21

7.3.1	General.....	21
7.3.2	Associativity.....	22
7.3.3	Attributes.....	24
7.3.4	Annotation planes.....	25
7.3.5	Leader lines.....	26
7.3.6	Direction-dependent specifications.....	27
7.3.7	Indicating of restricted area.....	27
7.3.8	Query types.....	28
7.4	Drawing requirements.....	33
7.4.1	General.....	33
7.4.2	Orthographic views.....	36
7.4.3	Axonometric views.....	36
8	Notes and special notations.....	38
8.1	Common requirements.....	38
8.2	Model requirements.....	38
8.3	Drawing requirements.....	39
9	Model values and dimensions.....	39
9.1	General.....	39
9.2	Common requirements.....	39
9.2.1	Model value queries.....	39
9.2.2	Resolved dimensions.....	39
9.3	Model requirements.....	40
9.3.1	General.....	40
9.3.2	Theoretically exact dimensions (TEDs).....	40
9.3.3	Size values.....	41
9.3.4	Examples of general applications.....	42
9.3.5	Chamfers.....	42
9.3.6	Depth specification.....	45
9.4	Drawing requirements for axonometric views.....	48
10	Datum applications.....	48
10.1	General.....	48
10.2	Model requirements.....	48
10.2.1	Datum systems and model coordinate systems.....	48
10.2.2	Identification of datums.....	50
10.2.3	Identification of restricted area application.....	52
10.2.4	Associativity of datum features and design data.....	53
10.2.5	Datum target identification and attachment.....	53
10.2.6	Multiple features establishing a datum.....	55
10.3	Drawing requirements.....	60
11	Geometric tolerances.....	61
11.1	General.....	61
11.2	Drawing requirements.....	61
11.2.1	General.....	61
12	Welds.....	62
12.1	General.....	62
12.2	Common requirements.....	62
12.2.1	Application of supplemental geometry.....	62
12.2.2	Arrow lines.....	62
12.3	Model requirements.....	63
12.3.1	Annotation plane.....	63
12.3.2	Associativity.....	63
12.3.3	Indicating extents of the weld.....	63
12.3.4	Query of weld path.....	65
12.4	Drawing requirements.....	66
13	Surface texture.....	66

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13.1	General.....	66
13.2	Common requirements.....	66
13.3	Model requirements.....	66
13.3.1	Display techniques.....	66
13.3.2	Associativity.....	66
Annex A (informative) Former practices.....		67
Annex B (informative) Classification codes for drawings and data sets.....		69
Annex C (informative) Examples.....		71
Bibliography.....		76

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 of 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 www.iso.org/iso/foreword.html.

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

This third edition cancels and replaces the second edition (ISO 16792:2015), which has been technically revised.

The main changes to the previous edition are as follows:

- information on assembly part identification added;
- information on movable parts in assemblies added;
- figures updated to reflect current International Standards,
- content which is authored in other documents removed;
- former practices moved to [Annex A](#);
- [Annex C](#) with additional examples of applying this document added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Every effort was made during the preparation of this document, adapted from ASME Y14.41:2012, to apply existing requirements developed for two-dimensional (2D) presentation equally to the output from three-dimensional (3D) models. Where new geometrical product specification (GPS) rules have proved essential, these have been drafted with a view to their being equally applicable to both 2D and 3D. Therefore, in order to maintain the integrity of a single system, these new rules are being incorporated in the relevant existing International Standards for cross-reference. Application examples have been included where, due to the specific requirements of 3D modelling in support of model-based definition (MBD), additional guidance was deemed beneficial.

It is recognized that there is a need to support drawings in conjunction with 3D models now and for the foreseeable future. This need has been addressed in this document through the definition of the two methods for documenting digital models and specification of requirements to ensure that the information in a data set is consistent between the model and the drawing.

The figures in this document are intended only as illustrations to aid the user in understanding the practices elaborated in the text. In some cases, figures show a level of detail as needed for emphasis; in others, they are only complete enough to illustrate a concept or facet thereof, including the associativity of annotations in the design model. The absence of figures has no bearing on the applicability of the specified requirement or practice.

Most figures are illustrations of models in a 3D environment. Figures illustrating drawings in digital format include a drawing sheet border.

This document describes general requirements and practices for digital product definition applied for 3D mechanical engineering (MCAD) but which can be also applied to other disciplines and trades (e.g. ECAD).

For former practices, see [Annex A](#).