SLOVENSKI STANDARD
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Tehnična dokumentacija izdelkov - Razvrstitev zahtev - 1. del: Okvir (ISO/DIS 24096-1:2023)

Technical product documentation (TPD) - Classification of requirements - Part 1: Framework (ISO/DIS 24096-1:2023)

Technische Produktdokumentation (TPD) - Klassifizierung von Anforderungen - Teil 1: Allgemeine Grundlagen (ISO/DIS 24096-1:2023)

Documentation technique de produits (TPD) - Classification des exigences - Partie 1: Cadr (ISO/DIS 24096-1:2023)

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Technical product documentation (TPD) — Classification of requirements —

Part 1:
Framework

Documentation technique de produits (TPD) — Classification des exigences —

Partie 1: Cadre

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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 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*, Subcommittee SC 6, *Mechanical engineering documentation*.

A list of all parts in the ISO 24096 series can be found on the ISO website.

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.

Introduction

This document addresses classification of requirements. It is a framework for building a system to enable classification of requirements and indication of the classification in the technical product documentation (TPD) to support communication of the consequences of non-conformity to requirements.

This document has been elaborated mainly to be implemented within industry, e.g., the automotive and aerospace industries. However, it could also be used in other engineering fields.

Classification of requirements is a tool by which subsequent parties and stakeholders can be informed of the severity of consequences of non-conformity of requirements. This facilitates guiding of production and quality assurance resources, for instance the work of purchasing, production planning, control and revision. The classification system relies on an underpinning of procedures, regulatory framework and contractual agreements for implementation and follow-up as present in all modern industry.

There are quite a few examples of industrial stakeholders which deploys their own or partially self-developed system and methodology for classification of requirements. There has not been any ISO document that pragmatically describes "what is" and "how to create" a classification system. With these documents, the identified gap will be bridged. There is a great need within ISO, and external ISO, to describe how to introduce and work with a classification system in an industrial and design context.

Knowledge of the consequences of non-conformity with requirements and actions taken to resolve the source of the deviation from given requirements will have a positive effect on the product quality, user safety and economy of the product. The production and inspection resources can then be used where they are most needed.

Annex A gives guidance for class implication and system application.

Annex B gives guidance for indication, definition of requirement classes and the selection of symbols.

Annex C gives guidance for indication in TPD and placing of symbols.

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Technical product documentation (TPD) — Classification of requirements —

Part 1:
Framework

1 Scope

This document describes the framework for building a system for classification of requirements. Such a system can be used to indicate requirements of special importance, and communicate them for production set-up, verification, and audit etc.

This document

— gives background information why such a system is useful in many areas of manufacturing;

— can be referred to for the concept of classification of requirements;

— functions as a framework for applying such a system in technical product documentation (TPD);

— indicates the needed elements for a classification system;

— supports with aspects in the choice of symbols for a classification system.

As a framework this document does not give the details of a specific classification system. Instead, it functions as a basis for an organization specific system which contains the details such as notations and symbols, classification levels, assessment procedures etc., including usage and interpretation in the TPD.

This document does not describe contractual consequences of a classification e.g., required actions like choice of tools, reliability index or process capability for a classification level, nor needed references to other such standards or documents for handling classifications and non-conformity to requirements.

2 Normative references

The following documents 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 8015:2011, *Geometrical product specifications (GPS) — Fundamentals — Concepts, principles and rules*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8015:2011 and ISO 10209 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

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— IEC Electropedia: available at https://www.electropedia.org/

3.1
requirement
need or expectation that is stated, generally implied or obligatory

Note 1 to entry: "Generally implied" means that it is custom or common practice for the organization and interested parties that the need or expectation under consideration is implied.

Note 2 to entry: A specified requirement is one that is stated, for example in documented information .

Note 3 to entry: A qualifier can be used to denote a specific type of requirement, e.g. product requirement, quality management requirement, customer requirement, quality requirement.

Note 4 to entry: Requirements can be generated by different interested parties or by the organization itself.

Note 5 to entry: It can be necessary for achieving high customer satisfaction to fulfil an expectation of a customer even if it is neither stated nor generally implied or obligatory.

Note 6 to entry: This constitutes one of the common terms and core definitions for ISO management system standards given in Annex SL of the Consolidated ISO Supplement to the ISO/IEC Directives, Part 1. The original definition has been modified by adding Notes 3 to 5 to entry.

[SOURCE: ISO 9000:2015, 3.6.4]

3.2
requirement class
element in a technical product requirement which indicates a level of consequence at non-conformity

3.3
classification system
organization of requirement classes with described interdependencies and symbols

3.4
severity
gravity of possible consequence of non-conformity

4   Basic rules

4.1   General

The framework in this document describes the needed components in a complete classification system.

With a classification system and through indication of classified requirements, it is possible to give information about the consequences of non-conformity with requirements. However, this document and its classification system does not give exemptions to deviate from requirements.

All requirements in the product documentation shall be fulfilled, compliant with ISO 8015:2011, 4.3.

A classification system is a tool to indicate critical requirements in order to facilitate the quality assurance downstream the design departments.

A classification system shall contain a description of indication (see Annex A for examples), criteria for classification levels and how to document a classification. A classification system can be constructed with levels and/or types of consequences of non-conformity with requirements.

NOTE   Severity of non-conformity with a requirement as sole basis for classification can lead to an excessive number of classified requirements. An additional parameter can therefore be useful as exemplified in ISO 24096-2.

The design goal should always be to have a robust design, in which small deviations such as production variation do not cause critical effects, and thereby render this type of marking redundant.

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