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Technical product documentation — Organization and naming of layers for CAD —

Part 2: Concepts, format and codes used in construction documentation

Documentation technique de produits — Organisation et dénomination des couches de CAO —

Partie 2: Concepts, format et codes utilisés dans la documentation pour la construction

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Foreword

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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).

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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*, Subcommittee SC 8, *Construction documentation*.

This second edition cancels and replaces the first edition (13567-2:1998), of which it constitutes a minor revision to update the Bibliography.

A list of all parts in the ISO 13567 series can be found on the ISO website.

Introduction

ISO 13567 consists of two parts which deal with CAD layer organization and naming. ISO 13567-1 has a general application whereas this document is applicable to construction projects.

The purpose of the ISO 13567 series is to establish a common international basis for organizing data in CAD systems that cover the structuring of data into layers.

Technical product documentation — Organization and naming of layers for CAD —

Part 2:
Concepts, format and codes used in construction documentation

1 Scope

This document covers the organization and allocation of layers for CAD on construction projects for the purposes of communication and management.

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 13567-1, *Technical product documentation — Organization and naming of layers for CAD — Part 1: Overview and principles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13567-1 apply.

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

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

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

4 Layer name subclassification

The following concepts are used in the layer name. An independent classification can be applied to each concept.

4.1 Agent responsible

The agent responsible is the construction specialist responsible for the data.

NOTE The Agent Responsible subclassification is considered to be unique to each project, and is thus not defined in this document.

4.2 Element

An element consists of the physical parts of construction works to be allocated by national or international construction classification systems.

Elements should also be used to represent areas and spaces when appropriate.

4.3 Presentation

Presentation is information which may relate to particular elements or to the model or drawing, and which may need to be switched on or off.

NOTE Presentation information is related primarily to the graphic appearance on screen and paper, as opposed to element information, which is related to the physical structure.

4.4 Status

Status defines whether physical parts in construction work are new, for retention or demolition, etc.

NOTE This concept allows the modelling of the situation before and after rebuilding of existing facilities in the same model.

4.5 Sector

A sector is a subdivision of a project into physical locations, for example building, block, storey, zone.

4.6 Phase

A phase is a subdivision of a project in time according to the product life cycle, for example project, contract, construction, decommissioning/demolition.

4.7 Projection

Projection is additional or alternative data which are used to produce different views from the same CAD model.

NOTE Projection may be especially important for component libraries, which are produced outside the project, and therefore cannot be agreed for the project.

4.8 Scale

Scale is additional or alternative data which are used to produce drawings at different scales with different levels of detail.

NOTE Scale may be especially important for component libraries, which are produced outside the project, and therefore cannot be agreed for the project.

4.9 Work package

A work package is a subdivision used for indication of materials and work sections.

4.10 User defined

User defined is additional information which the user may wish to attach to a separate layer for subdivision or description not covered by the concepts above.

5 Layer name format and codes

5.1 Principles

The following concepts, categories, formats and codes should be used to allocate layers on construction projects for the purposes of communication and management. Those involved on any project should agree on the selection of the layers and codes to be used and how the data will be transferred between their CAD systems.

Codes used in the layer names to define layers should be both human- and machine-readable wherever possible. A format with fixed number of characters is used to allow selection of layers by wildcarding. Where reserved codes are given, they should be used only for the purpose specified. Other codes may be used for project-specific values.

Layer names are divided into fields. Each field holds one concept. Fields are either mandatory or optional. Mandatory fields should always be included in the layer names. Optional fields can be used as required in each project. The order of fields in a layer name and the number of characters for each field should be maintained as defined in this document, unless an alternative is specifically agreed by the project partners and this alternative is documented in a way that ensures future retrieval of the layer-structured information.

5.2 Coding conventions

Where a decision has not been made regarding the use of a field, or the field is not being used, the underscore character "_" should be used. The first three fields should always be used, and may not be replaced by the underscore character, except in the situation where a manufacturer is creating a catalogue of components which will be used in various projects. In this case the Agent Responsible field is unknown and the underscore characters should be used for this field.

If a layer is to be interpreted as relating to all possible values of a specific character position, the hyphen "-" character should be used. For indication of no further subdivision of the information, hyphens filling out to the end of the field should be used.

Alphanumeric characters allowed are the letters A–Z and the digits 0–9 in addition to the hyphen and underscore characters.

All fields are left-justified.

Unused trailing characters in a field should be represented by the underscore character.

Unused trailing fields in the optional part of the layer name can be omitted.

6 Mandatory fields

6.1 Agent Responsible

Two alphanumeric characters.

Values to be used should be decided on in each project. Manufacturers creating catalogues may use two underscore characters in this field.

6.2 Element

Six alphanumeric characters.

National element tables should be used whenever available.

Unused characters to the right of the national table codes should be coded with the underscore character "_". The level of detail (number of specific characters) can be decided in each project. Non-specific characters should be coded as hyphens "-". Hyphens followed by underscore(s) in this field indicate graphic not related to elements but to the entire model or drawing page.

6.3 Presentation

Two alphanumeric characters.

A hierarchical subdivision with reserved codes is used for the first character position. At the simplest level of coding a coarse division of information into model-related (M) or page/paper-related (P)