

ECE CAD & IT Guideline

Section 3:

Drawing Key Explanation and Example

Revision 3.0

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Change Log

<u>Revision #</u>	<u>Updated</u>	<u>Changed by</u>	<u>Changes made</u>
1.0	n.a.	Marc Scherer	Initial version: Annex to planning directory, English language only
2.0	27.05.2011	Marc Scherer	Changed layout, merged older German & English version contents to this document.
2.1	03.07.2012	Marc Scherer	Minor formatting and spelling changes
2.2	04.04.2016	Marc Scherer	Update of graphics on last page: Sample plan key overview
3.0	06.12.2018	Marc Scherer	Integrated reference to BIM method, minor corrections

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General Introduction

The ECE CAD & IT Guideline has been developed to improve the quality of Computer-Aided Design (CAD) standardization efforts within ECE. The purpose of this manual is to set a basic CAD standard to ensure consistent electronic deliverables to and within ECE.

All externally produced documents delivered to ECE must be submitted in accordance with these standards.

The ECE CAD & IT Guideline is broken down into separate sections as follow:

- Section 0 defines the general CAD organizational structure.
- Section 1 addresses the general DWG Specifications for drawings.
- Section 2 addresses the Layer standard that will be used at ECE and that should be used when creating CAD files for ECE.
- Section 3 addresses the plan- and file naming convention and shows some examples (according to the requirement and rules for usage of a project room).
- Section 4 defines basic topics around BIM models

Each section was created to stand alone. Sections 0, 1 & 2 represent the complete ECE CAD Standard. It is expected that external architectural design firms use sections 0, 1 & 2 for general CAD rules and Section 3 for file naming and file organisation in general, especially if a project room is used for a project. Section 4 is to be considered in the case of project execution according to the BIM method.

This regulation does not specify any detailed definitions for projects conducted with the BIM method. For projects in which the BIM method is used, the project specific documents Client-Information Requirement (German: AIA, Auftraggeber Informationsanforderung) and BIM-Plan of Procedure (German: BAP, BIM-Ablaufplan) are created and provided to all project participants.

Acronyms

ACA	AutoCAD Architecture
ACA 2018	AutoCAD Architecture, Version 2018
AEC	Architecture, Engineering and Construction (or Civil)
AIA	American Institute of Architects related to CAD/Layer-Context or
AIA	German: Auftraggeber Informationsanforderung in BIM-Context (English: Client-Information Requirement)
BAP	German: BIM-Ablaufplan (English: BIM-Plan of Procedure)
BIM	Building Information Modeling (Method)
CAD	Computer aided Drafting / Design
DWG	Drawing (AutoCAD file format)
ECE	ECE Projektmanagement G.m.b.H. & Co. KG
FM	Facility Management
IAI	International Alliance for Interoperability
IFC	Industry Foundation Classes
ISO	International Organization for Standardization
LEED	Leadership in Energy and Environmental Design
NCS, USNCS	United States National CAD Standard
NIBS	National Institute of Building Sciences
UDS	Uniform Drawing System

Preamble

For the purpose of the standardization of drawing names and/or drawing file names, ECE defined a drawing key. The drawing key serves for the unified naming of drawings and the identical file name.

For all projects in which the drawing exchange is realized via the project room technology, it is obligatory to use the exact structure for the processing in the project room used for the project (e.g. Conject, PKM). The drawing key exists of a fixed number of blocks or fields that are separated from each other by using an underscore. Further blocks cannot be added. The possible individual field values can be taken from a project-specific value overview managed and provided by ECE. The values can be supplemented after consultation with the planning management.

If the project is carried out using the BIM method, test procedures, the provision of plans and the data management of BIM models must be coordinated with all project participants and defined and documented in the BIM-Plan of Procedure (German: BAP, BIM-Ablaufplan) in a project-specific manner.

All field values stated in this document serve the explanation of the structure and are exemplarily. Since each project is individual, the operatively used drawing key will be different in some details from the examples stated in this document. The basic structure, however, will always remain the same.

Overview of the basic structure

The drawing key is composed of data fields that are separated from each other by underscores. A detailed list of the permitted values for a project is managed and provided by ECE. This list is usually published for all participants as Excel file in the project room.

A complete drawing name is composed of the following blocks:

1. Project number
2. Sub-project
3. Work phase
4. Originator/creator
5. Building part
6. Description/type/kind
7. Level/section/view
8. Plan contents
9. Plan no./free text
10. Index
11. Status/check note
12. File extension

Example:

Drawing name for a drawing as pdf file:

0049_11_p4_pfp1_A10_op_01_fs_S200_aa0_p.pdf

describes the following drawing:

Project number:	0049	Unique project no., refers to project name
Sub-project	11	Two-digit number, refers to a building
Work phase	p4	Work phase 4, technical project
Originator/creator	pfp1	Fire protection expert
Building part	A10	Building part A10 (project-specific)
Description/type/kind	op	Overview plan
Level/section/view	01	1 st floor
Plan contents	fs	Fire alarm system
Plan No./free text	S200	Free text used here for plan scale 1:200
Index	aa0	First official index, no intermediate state
Status/check note	p	Submitted for review
File extension	pdf	File extension of the PDF file

Remarks:

The abbreviations of the drawing key are English also in German drawings. E.g. pfp1 = planner 1, fire protection; op = overview plan; S200 = Scale 1:200

Field definitions in detail

1. Project

Field:	01
Field Length:	four digits
Description:	Unique project number, defined by ECE

2. Sub-Project

Field:	02
Field Length:	two digits
Description:	The sub-project number is needed since different construction projects within an overall project are possible (e.g. shopping center and adjoining office building).

3. Work Phase

Field: 03

Field Length: two digits

Description: 3 main phases are distinguished – Development Phase, Work Phase/Execution and Operation Phase.
The allocation to the service phases is of utmost economic importance for the distinction of fees and the related certificates of achievement.

Typical Phases		
Development Phase		
d1	Wettbewerb	Competition
d2	Gutachten	Expertise
d3	Studie	Study
d4	Stufe 2	Stage 2
d5	Stufe 3	Stage 3
d6	Präsentation	Presentation
Work Phase/Execution		
p0	Phasen unabhängig	Phase-independent
p1	Grundlagenermittlung	Basic evaluation/urban zoning
p2	Vorentwurf	Preliminary design
p3	Entwurf	Draft
p4	Genehmigung	Technical project
p5	Ausführung	Working project
p6	Ausschreibung	Tendering
p7	Vergabe - K-Pläne	Correction plans
p8	Werkstatt- und Montageplanung	Assembly planning
p9	Bestandsdokumentation	As-built drawings
Operation Phase		
o1	Objektbetreuung	Property support
o2	Umstrukturierung	Restructuring
o3	Struktursitzung	Structure meeting

4. Originator/Creator

Field: 04

Field Length: four digits

Description: The originator is shown with an abbreviation. This abbreviation is independent from the company abbreviations of the respective office. Each office involved in the project receives its own abbreviation. The first sign of an abbreviation usually has the following meaning:
e = ECE department
p = planner commissioned by ECE
i = planner commissioned by investor
x = GC
w = work contract

The remaining three digits of the abbreviation show the service to be rendered. E.g. (elgt – lighting (contractual relation to ECE), xlgt – lighting (contractual relation GC); wlgt – lighting (work contract – contract granted outside GC contract).

As far as 2 or more offices are commissioned for specific services then those are separated from each other with figures as fourth digit.

5. Building Part

Field: 05

Field Length: three digits

Description: Three digits are available to label the building parts. The building parts are defined project-relatedly by the planning manager. The overall project is always labelled with 000.

6. Description/Type/Kind

Field: 06

Field Length: two digits

Description: Defines the drawing type and/or the drawing view e.g. top view, section, strip map.
Meaning: What type of drawing is it?

7. Level/Section/View

Field: 07

Field Length: two digits

Description: Defines the floor and/or the intersection axis of the drawing. e.g. basement, view on roof, intersection axis A-A.
Meaning: Which area is shown on the drawing?

8. Plan Contents

Field: 08

Field Length: two digits

Description: Defines the content of a drawing.
Meaning: Which content is to be shown in the drawing?

9. Plan No./Free Text

Field: 09

Field Length: max. 20 digits!!!

Description: This area can be used for the presentation of internal structure or for the separation of otherwise similar drawings both with reference to the user or the project; e.g. for the presentation of versions of a drawing or description of scale.

10. Index

Field: 10

Field Length: three digits

Description: The index consists of 3 digits.
Digits 1 and 2 are letters.
Digit 3 is a figure.
All official states of planning are labelled with "0" as third digit in the index. Intermediate states for coordination purposes, etc. are labelled with 1 to 9.

Intermediate states only serve the internal coordination and are no planning basis for external parties (GC, investor, project partners).

11. Status/Check note

Field: 11

Field Length: one digit

Description: The status field is usually used for the design review process. E.g. a drawing with status "p" can be submitted by a participant for review. After revision by another participant, the drawing can be returned with the same name but with another status. Drawings without revision remark are given a special label for "in progress / without status", usually "o".

Typical Status		
o	in Bearbeitung	In progress / w/o status
g	gleichgestellt GU	Equated GC
p	zur Prüfung	Under review
u	ungültig	Invalid
a	Freigabe	Approved
b	Freigabe mit Vorbehalt	Approved with reservation
c	keine Freigabe	Not approved

12. File Extension

Field: 12

Field Length: max. four digits

Description: File extensions depend from the type of file. The following file types are legitimate for drawings: dwg, dxf, pdf, plt, tif, jpg.

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