

MOLIO

CONSTRUCTION INFORMATION CENTRE

A status on the project P03/21 and the finalized report:

Classification, Identification, and BIM

Released November 2017.

ICIS DA, Cologne, June 2018

Gunnar Friberg, Molio, June 18th 2018

Agenda

- The project team
- Scope and target group
- Content and important topics
- Spreading of the report

Project team 2013-2016

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The original scope

Problem statement:

Most classification tables of the construction industry today (and in the current ISO 12006-2 standard as Framework for classification of construction information) aims at classifying documents with contained information – and often for very specific parties, stages or documents of the construction lifecycle.

The construction industry moves towards a model- and data based data-handling and broader use and sharing of information (BIM) across the parties and the stages of the construction lifecycle.

How can contemporary classification support the new ways of working and the data-handling, and in which areas (of interest for ICIS members), will the application and use of such a classification be beneficial?

Target group

The report is for everybody involved within the construction sector that, on an expert level, is concerned with the use, the importance and nature of classification and identification in and with regard to BIM.

Our hope was that it should be useful and could create debate, and influence the thinking of classification and identification with BIM.

2012 Classification Survey Findings

A lot of existing construction classification used worldwide is to a large extent

- Poorly implemented – even by consultants
- Primarily used by consultants – and only a little by other participants
- Document-oriented – not object-oriented
- Not considered useful digitally nor with BIM
- Also used in different ways for identifications purposes
- Not standardized

Applying classification in BIM according to users

Issues to deal with and problems to be solved

- **Geometry and modelling** (the linking to non-geometrical information, the problems of layered objects compares to specified objects)
- **Structural, thermal and other simulations** (including of objects, compositional structure of objects)
- **Specification** (linking to geometrical model and to structured tendering list, specification of objects with property data, identifying interfaces)
- **Cost estimation, quantity take off and tendering** (the integration of information from several tools, doing 5D, automatic quantification, measurement standards)
- **Manufacturer information** (searching for products, sorting them by properties)
- **Timeline and programming** (identifying and numbering elements for production)
- **Mapping classifications and buildingSMART Data Dictionary (bSDD)**

End user comments about classification purpose

Want to classify objects in order to

- Sort and group objects by type
- Seek and find specific object types
- Define generic sets of properties for the objects

Does not want to

- Convert classification code 3-6 times
- Look into large catalogues
- Classify just to classify

End user comments about identification purpose

Want to identify objects in order to

- Trace and identify the specific instance of the object in its lifecycle
- Distinguish, separate and handle them individually being able to reference them unambiguously
- Group them according to a systems point of view (assembling in constructions/systems)
- Communicate the context of the object
- Secure unambiguous exchange of data
- Be able to link object based information

Content (35 pages including Annex and Bibliography)

Executive summary

Introduction - The challenge of BIM to classification

1. BIM

- 1.1 Definitions of BIM
- 1.2 Objects and ISO 12006-2
- 1.3 Databases

2. Classification, defined language, and structuring of information

- 2.1 The revision of ISO 12006-2 (released 2015)
- 2.2 The international classification survey and end-user comments
- 2.3 Demands for classification and structuring of information summarized
- 2.4 Terms and definitions for concepts and classes
- 2.5 Object classes and classification tables
- 2.6 Type-of relations and the desired level of classification
- 2.7 Part-of relations, structure, and identification
- 2.8 Combining classification and structuring
- 2.9 Object occurrences, types, instances, and identifiers
- 2.10 Properties

3. BIM and Classification - implementing ISO 12006-2

- 3.1 General requirements for BIM-ready classification systems

4. Applying classification in BIM

- 4.1 In general
- 4.2 Geometry and modelling
- 4.3 Structuring and simulation
- 4.4 Specification
- 4.5 Costing, cost estimation, quantity take-off, and tendering
- 4.6 Manufacturer information
- 4.7 Timeline
- 4.8 Mapping classifications & buildingSMART Data Dictionary (bSDD)

5. Bibliography and other sources

- 5.1 Standards referred to
- 5.2 Books, publications, papers, and presentations used
- 5.3 Classifications systems and materials viewed and used
- 5.4 Organizations – websites and references used

Annex A - The international classification survey and end-user comments, in detail

Important topics of the report

The survey about classification and rev. of ISO 12006-2

Common language, terminology and definitions

Involvement of other standards besides ISO 12006-2

Classification and properties and the relationships between them

Classification and Identification, the differences in use

Applying classification with BIM

Spreading of the report since November 2017

Was at the time of release sent to around 37 people, having asked for it, or whom we knew was working on classification and classification research:

- **Belgian research group** analyzing and comparing classification useful for BIM
- **French research group** analyzing and comparing classification useful for BIM
- **German VDE group** discussing classification for BIM
- **Selected persons working in CEN WGs, NATSPEC a.o.** by request or through networking
- **Some product manufacturers in EU** are discussing the report (being spread by others)
- **Inspired and now is partially used by CoBuilder** writing a report on *Standardising Construction Asset Data for Digital Use* (not yet published) on the topic: Classification and/or vs. Properties.
- **By request** of France, Belgium, Germany, Luxembourg a.o. **to do a presentation on the report and the CCS/CoClass-development at the next CEN/TC 442/WG4-meeting.**