**CPR183/F15**

**KENYA BUREAU OF STANDARDS**

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| **Document Type:** | **Adoption proposal** |
| **Dates:** | Circulation date | Closing date |
| 2024-01-31 | 2024-03-02 |
| **TC Secretary** | **This form shall be filled, signed and returned to Kenya Bureau of Standards for the attention of Paul Munene (munenep@kebs.org)** |

The Kenya Bureau of Standards intends to adopt the International Standards listed below.

We are therefore seeking views from potential users in respect of the same. The Standards are available at the Kenya Bureau of Standards Information Resource Centre. Please tick and fill your preference of the listed option in the attached table against each of the standards.

Where the option is that the adoption is not acceptable, you **MUST** give a reason(s) and recommendation(s).

**NOTE 1:** Absence of any reply or comments shall be deemed to be an acceptance of the proposal for adoption and **shall constitute an approval vote**.

1. Number : ISO 22057:2022

**Title**: Sustainability in buildings and civil engineering works — Data templates for the use of environmental product declarations (EPDs) for construction products in building information modelling (BIM)

**Scope**: This document provides the principles and requirements to enable environmental and technical data provided in EPDs for construction products and services, construction elements and integrated technical systems to be used in BIM to assist in the assessment of the environmental performance of a construction works over its life cycle.

This document gives requirements on structuring EPD information using a data template according to ISO 23386 and ISO 23387, to make EPD data machine-interpretable and to enable their integration into information-driven design, construction, use and end-of-life stages.

This document is applicable to structuring generic LCA data for use within a BIM environment, as these data are required in the absence of suitable EPD data to enable assessment of the environmental performance at the construction works level.

The assessment of environmental performance at the construction works level is not covered by this document.

1. **Number**: ISO 12006-2:2015

**Title**: Building construction — Organization of information about construction works — Part 2: Framework for classification

**Scope**: This part of ISO 12006 defines a framework for the development of built environment classification systems. It identifies a set of recommended classification table titles for a range of information object classes according to particular views, e.g. by form or function, supported by definitions. It shows how the object classes classified in each table are related, as a series of systems and sub-systems, e.g. in a building information model.

This part of ISO 12006 does not provide a complete operational classification system, nor does it provide the content of the tables, though it does give examples. It is intended for use by organizations which develop and publish such classification systems and tables, which may vary in detail to suit local needs. However, if this part of ISO 12006 is applied in the development of local classification systems and tables, then harmonization between them will be facilitated.

This part of ISO 12006 applies to the complete life cycle of construction works, including briefing, design, documentation, construction, operation and maintenance, and demolition. It applies to both building and civil engineering works, including associated engineering services and landscaping.

1. **Number**: ISO 12006-3:2022

**Title**: Building construction — Organization of information about construction works — Part 3: Framework for object-oriented information

**Scope**: This document specifies a language-independent information model which can be used for the development of dictionaries used to store or provide information about construction works. The model is extended by instantiating content, such as further objects and their relationships, allowing the content to serve as an ontology, taxonomy, meronomy, lexicon and thesaurus.

NOTE 1 Lexicons are resources for comprising lexical entries for a given language

NOTE 2 Meronomies are type of hierarchies which deals with part-whole relationships

NOTE 3 Ontologies are formal, explicit specification of a shared conceptualizationIt enables classification systems, information models, object models, data templates and process models to be cross-referenced from within a common framework.

This document provides the description of an API allowing the interconnection of data dictionaries as described in ISO 23386.

1. **Number**: ISO 12911:2023

**Title**: Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Framework for specification of BIM implementation

**Scope**: This document establishes a framework for providing specifications for the internal commissioning and implementation of building information modelling (BIM) during both delivery and operational phases. It identifies a structured approach so as to encourage clarity during development, management and checking processes for use by organizations that develop and apply these specifications.

This document does not provide specific content but it does provide examples.

It is applicable to buildings, infrastructure, facilities and managed landscapes, of any size or complexity.

1. **Number**: ISO 16757-1:2015

**Title**: Data structures for electronic product catalogues for building services — Part 1: Concepts, architecture and model

**Scope**: The primary purpose of this International Standard is the provision of data structures for electronic product catalogues to transmit building services product data automatically into models of building services software applications. This includes a meta model for the specification of product classes and their properties and a meta model for the product data which is exchanged in product catalogues. Product data has to follow the specifications for their product groups.

The standard series is split into two areas:

— Basic concepts like conceptual models, languages, geometry representations, and XML schemas for data exchange are provided in the Conceptual Parts of the standard series (Parts with a one digit number).

— Using these resources, the Content Parts of this International Standard define for various product groups of building services concrete models for the description and the exchange of products.

The basic concepts which are provided by the standard series include the following:

— resources for the specification of selection properties and a selection property tree guiding the selection process to identify the appropriate product variant from a parametric electronic catalogue;

— resources for the specification of dependent properties and their computational functions to compute their values in dependency from installation parameters;

— resources for the specification of composition relationships between products which can be used to model structures like bill of materials or accessory relationships;

— resources for a parametric constructed solid geometry (CSG) based geometry representation containing specific CSG elements geometrical elements which are typical for building services products.

This part of ISO 16757 specifies

— the underlying concepts,

— a generic model specifying the available modelling elements and their relationships, and

— a framework for the specification of the Content Parts by describing the elements which are to be provided by these Parts.

Not in scope of this part of ISO 16757 are the following:

— a detailed description of the used geometrical primitives;

NOTE Geometry is described in ISO 16757-2.

— a specification of the script language used to exchange algorithms for computing the values of dependent and computable properties;

NOTE The script language is described in ISO 16757-3.

— a specification of the XML Schema specifying the data structures for the catalogue exchange;

NOTE The XML schema is described in ISO 16757-5.

— a description of the relationships to standards of the area of buildingSMART;

NOTE The relationships to standards of the area of buildingSMART is described in ISO 16757-4.

— definition of models for specific product groups.

NOTE 1 Definitions of models for specific product areas are described in ISO 16757-10 et. seq., the Content Parts of ISO 16757.

NOTE 2 All parts are still under development

1. **Number** ISO 16757-2:2016

**Title**: Data structures for electronic product catalogues for building services — Part 2: Geometry

**Scope**: This part of ISO 16757 describes the modelling of building services product geometry. The description is optimized for the interchange of product catalogue data and includes

— shapes for representing the product itself,

— symbolic shapes for the visualization of the product's function in schematic diagrams,

— spaces for functional requirements,

— surfaces for visualization, and

— ports to represent connectivity between different objects.

The shape and space geometry is expressed as Constructive Solid Geometry (CSG) based on geometric primitives concatenated to boundary representations by Boolean operations. This part of ISO 16757 uses the applicable primitives from ISO 10303-42 and from ISO 16739 and adds primitives which are required for the special geometry of building services products. For symbolic shapes, line elements are also used.

This part of ISO 16757 neither describes the inner structure and internal functionality of the product nor the manufacturing information because this is typically not published within a product catalogue.

Building services products can have millions of variant dimensions. To avoid the exchange of millions of geometries, a parametric model is introduced which allows the derivation of variant-specific geometries from the generic model. This is necessary to reduce the data to be exchanged in a catalogue to a manageable size. The parametric model will result in smaller data files, which can be easier transmitted during data exchanges.

The geometry model used does not contain any drawing information such as views, line styles or hatching.

1. **Number**: ISO 19650-1:2018

**Title**: Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 1: Concepts and principles

**Scope**: This document outlines the concepts and principles for information management at a stage of maturity described as “building information modelling (BIM) according to the ISO 19650 series”.

This document provides recommendations for a framework to manage information including exchanging, recording, versioning and organizing for all actors.

This document is applicable to the whole life cycle of any built asset, including strategic planning, initial design, engineering, development, documentation and construction, day-to-day operation, maintenance, refurbishment, repair and end-of-life.

This document can be adapted to assets or projects of any scale and complexity, so as not to hamper the flexibility and versatility that characterize the large range of potential procurement strategies and so as to address the cost of implementing this document.

1. **Number**: ISO 19650-2:2018

**Title**: Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling — Part 2: Delivery phase of the assets

**Scope**: This document specifies requirements for information management, in the form of a management process, within the context of the delivery phase of assets and the exchanges of information within it, using building information modelling.

This document can be applied to all types of assets and by all types and sizes of organizations, regardless of the chosen procurement strategy

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**ADOPTION PROPOSAL**

| **S/No.** | **Standard Number** | **Adoption acceptable as presented** | **Adoption proposal not acceptable** | **Reason why adoption proposal not acceptable** | **Proposed Change/recommendation(s)** |
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|  | ISO 22057:2022 |  |  |  |  |
|  | ISO 12006-2:2015 |  |  |  |  |
|  | ISO 12006-3:2022 |  |  |  |  |
|  | ISO 12911:2023 |  |  |  |  |
|  | ISO 16757-1:2015 |  |  |  |  |
|  | ISO 16757-2:2016 |  |  |  |  |
|  | ISO 19650-1:2018 |  |  |  |  |
|  | ISO 19650-2:2018 |  |  |  |  |

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| Name and (of respondent) |   | Position |   |
| Signature |   |  |  |

On behalf of: (Name of organization)

Date (& stamp):