BS 8541-5:2015

BSI Standards Publication

Library objects for architecture, engineering and construction —

Part 5: Assemblies – Code of practice

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Summary of pages
This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 16, an inside back cover and a back cover.

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Foreword

Publishing information

This part of BS 8541 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 March 2015. It was prepared by Technical Committee B/555, *Construction design, modelling and data exchange*. A list of organizations represented on this committee can be obtained on request to its secretary.

Relationship with other publications

BS 8541 comprises six parts as follows:

- Part 1, *Identification and classification*
- Part 2, *Recommended 2D symbols of building elements for use in building information modelling*
- Part 3, *Shape and measurement*
- Part 4, *Attributes for specification and assessment*
- Part 5 (this part), *Assemblies*
- Part 6, *Product and facility declarations*

BS 8541-1, BS 8541-3 and BS 8541-4 document best practice for the development and application of construction library objects to support Building Information Modelling (BIM) based design, standardization, specification and construction processes. See BS 8541-1 and Figure 1.

BS 8541-2 documents best practice for the use of 2D symbols for construction objects. BS 8541-5 and BS 8541-6 document best practice for the transmission of assemblies of construction objects and for the transmission of formal product declarations of product performance.

The IFC standard (BS ISO 16739) includes recommendations for the association of sets of attributes to objects. The use of the IFC standard can be supplemented by using UK-specific recommendations, such as are referenced in BS 1192-4:2014, Clause **7**.

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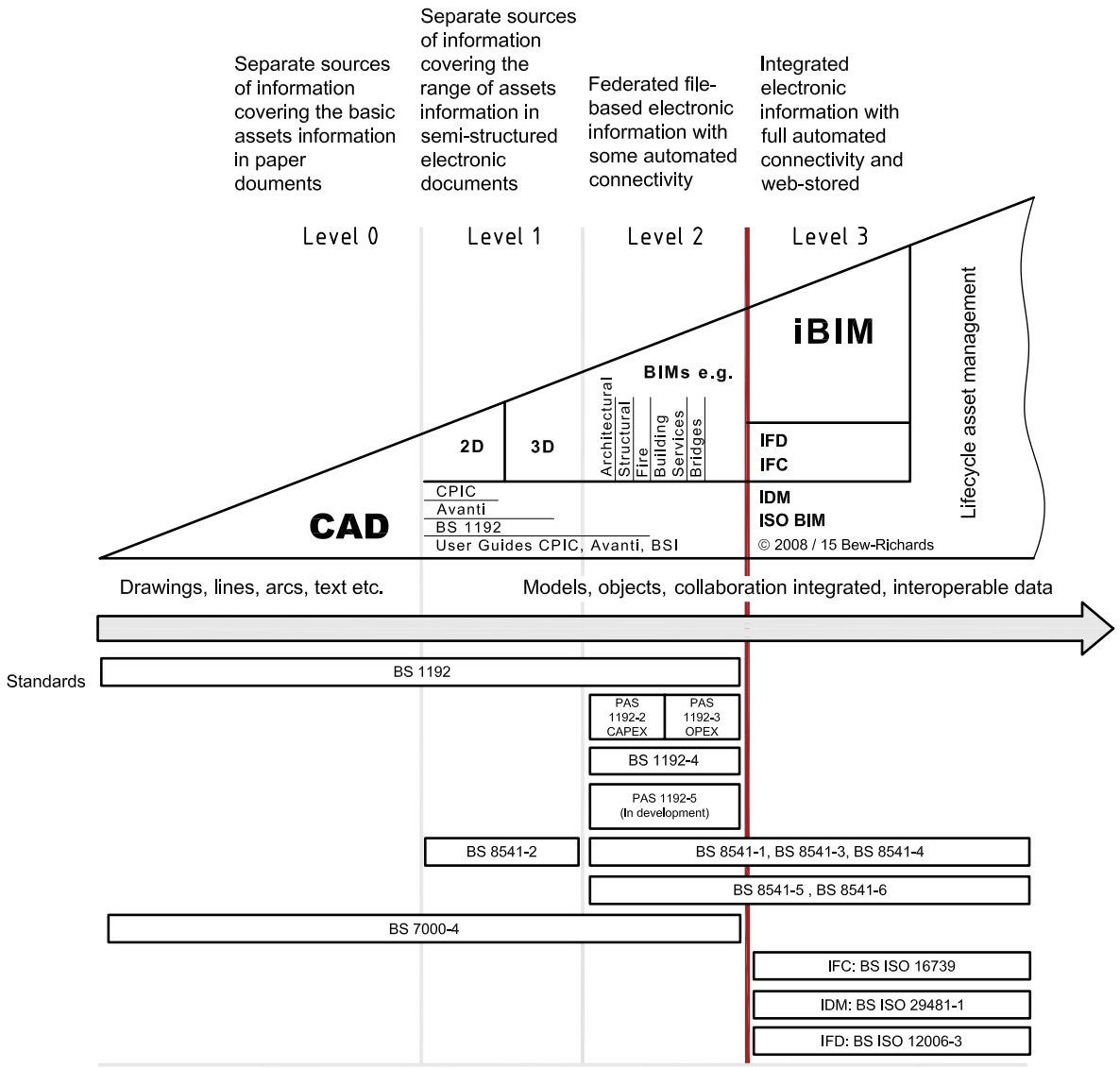
Figure 1 **Core maturity model**



NOTE The BIM reports and an updated Roadmap are maintained by BI/555[1].

Use of this document

As a code of practice, this part of BS 8541 takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this part of BS 8541 is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

[1] http://shop.bsigroup.com/bim [viewed: 24-3-2015]

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The word "should" is used to express recommendations of this standard. The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

Notes and commentaries are provided throughout the text of this standard. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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Introduction

The use of assemblies is rising in response to client interest in reusable design elements, and in design for manufacturing and assembly ("dfma"), and in better facility management of assets.

Assemblies might represent standard configurations intended for reuse between projects, products intended for off-site manufacture, and examples of products in context or other reusable design configurations. Assemblies might have internal connections and potential connections into the overall design.

The transmission of information about assemblies is different from that about facilities or individual products, especially when both the overall assembly and the constituent parts have significance in the management of the design, construction and use. In particular, attention might switch between the overall assembly and the constituent parts, which might affect processes such as material take-off.

Examples where assemblies are used include:

Design:

- predesigned aspects and complex system solutions;
- repetitive building types and cumulative design knowledge; and
- standard design configurations (such as space with equipment)

Construction:

- prefabrication and items manufactured off site;
- recommended details and connections; and
- layered constructions and layered sets

Operations:

- engineered-to-order solutions;
- standard furniture schedules; and
- asset groupings.

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1 Scope

This part of BS 8541 gives recommendations covering the transmitting of assemblies of construction library objects for use throughout both the "project" and "in-use" life cycle stages. It applies to the provision of generic objects and manufacturers' specific products. It is intended to ease the communication between parties whether or not they are contractually related.

It also gives recommendations for the application of assemblies in integrated BIM working. It defines the level of information appropriate for specific uses such as:

- specification, comparison and selection;
- coordination;
- take-off; and
- asset management.

This part of BS 8541 builds on Part 1 and complements Parts 2 to 4.

NOTE 1 Testing is by compliance with these earlier parts, with additional rules implied by the specific requirements.

BS ISO 16739 IFC and IFCXML are used as example formats with reference to BS ISO 10303-21 (STEP physical file) and ISO 10303-28 (XML representation). COBie examples are included.

NOTE 2 Concepts reflected in the COBie sheet names are capitalized, such as Component and Type. See BS 1192-4 for definitions.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 8541-1, *Library objects for architecture, engineering and construction – Part 1: Identification and classification – Code of practice*

BS 8541-2, *Library objects for architecture, engineering and construction – Part 2: Recommended 2D symbols of building elements for use in building information modelling*

BS 8541-3, *Library objects for architecture, engineering and construction – Part 3: Shape and measurement – Code of practice*

BS 8541-4, *Library objects for architecture, engineering and construction – Part 4: Attributes for specification and assessment – Code of practice*

3 Terms and definitions

For the purposes of this part of BS 8541, the following terms and definitions apply.

3.1 assembly
partial model where both the overall assembly and the constituent parts are managed during design, construction or use, and the constituent parts are located relative to the overall assembly

NOTE See Figure 2 and Figure 3.

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