

BS 8541-3:2012



BSI Standards Publication

Library objects for architecture, engineering and construction –

Part 3: Shape and measurement – 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.

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 30 September 2012. 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 four parts as follows:

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

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 8541-1:2012, 0.4 and Figure 1.

The IFC standard (ISO/PAS 16739) includes recommendations for the association of base quantities and geometry for objects. The use of the IFC standard can be supplemented by using UK-specific quantification recommendations. For further information on work within ISO, see BS 8541-1:2012, Clause 0.

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 in 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.

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.

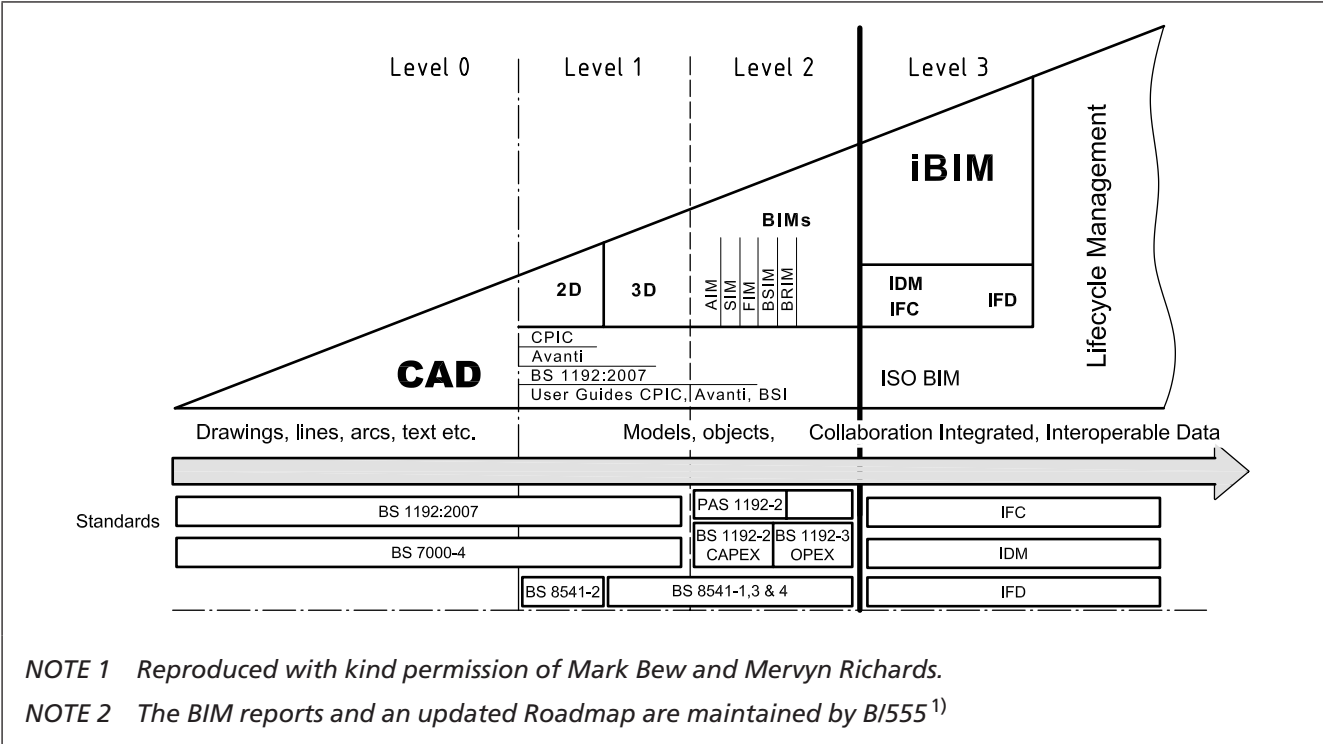
Notes and commentaries are provided throughout the text of this standard. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

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.

Figure 1 Core maturity model



¹⁾ Available at: <http://www.bsigroup.com/en/sectorsandservices/Forms/BIM-Reports/>

1 Scope

This part of BS 8541 extends the recommendations in BS 8541-1 to cover purposes for characterizing the shape and measurement of construction library objects for use in the building construction and facility domain. It applies to the creation and use of generic objects and manufacturer's product objects.

NOTE Providers of generic and manufacturer's product objects can provide information to support additional purposes including measurement and spatial coordination.

It gives recommendations for the application of construction objects in integrated BIM working for spatial and construction coordination, quantity take-off and visualization. It defines the level of detail appropriate for specific uses and provides representations of measurements for characterizing the library object where geometric shape is not relevant.

Where a project is formally committed to integrated working, this British Standard may be adopted as a requirement on the design team and/or the procurement chain. For other situations, this British Standard gives recommendations of best practice.

2 Normative references

The following referenced documents are indispensable for the application 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.

BS 8541-1:2012, *Library objects for architecture, engineering and construction – Part 1: Identification and classification – Code of practice*

3 Terms and definitions

For the purposes of this part of BS 8541, the terms and definitions given in BS 8541-1 and the following apply.

3.1 object

3.1.1 template object

type object intended to guide the production of generic objects and product objects by providing schedules of classification values and a minimum set of attributes

NOTE Typically the measurement type is specified, but the values are not.

3.1.2 generic object

type object intended for use in stages of design when the object is not resolved into a product

3.1.3 product object

type object intended to represent an obtainable product, either as a requirement or exemplar or as-built

3.1.4 type (library) object

representation of the common features of a product or group, including its classifications and properties

NOTE 1 It can be a template object, generic object or product object.

NOTE 2 It is independent of any occurrence, and has no placement in space. It can represent a template, generic or product object.

3.1.5 occurrence object

representation of an actual occurrence (instance) of an object in a building

3.2 level of detail

completeness and accuracy of a virtual shape representation compared to the physical and functional characteristics of the actual object

3.3 level of measurement

completeness and accuracy of a virtual measurement compared to the physical and functional characteristics of the actual object

4 Shape and measurement levels for construction library objects

4.1 Level of detail and shape types

4.1.1 General

Library objects should be delivered with shape information appropriate to the intended uses, see Figure 2.

NOTE Three levels of detail are defined in 4.1.2 to 4.1.4.

Figure 2 Schematic, coordinating and visualization levels of detail

