

# International BIM Object Standard

## Part B - New Zealand Requirements

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# Foreword

Responding to industry feedback that a National BIM Object Library which contained high quality and consistent objects would assist with growing the use of BIM in New Zealand, Construction Information Limited (Masterspec-NZ) determined that a key building block for this was an effective BIM Object Standard.

At the same time the Australasian Procurement and Construction Council (APCC) and the Australian Construction Industry Forum (ACIF) tasked NATSPEC to be custodians of a National BIM Object Library for Australia and they concluded the same key need.

The first crucial step of developing a BIM Object Standard has been completed in collaboration with Construction Information Limited (Masterspec-NZ) and the NBS-UK.

Having a standard for BIM object creation in place for New Zealand and Australia will provide confidence to object authors and, importantly, to product manufacturers that their BIM objects will be acceptable to the end users of the objects, allowing them to manage their BIM content in a consistent and structured manner. The acceptability of standard-based content means that authors and manufacturers do not waste their time, money and resources creating BIM content that may not be suitable to industry.

## Introduction

Following a workshop in April 2015, held in Melbourne, it was agreed that the first step towards a National BIM Object Library would be to develop a BIM Object Standard suitable for use in Australia and New Zealand.

In order to align BIM practices internationally, it was decided early in the process that the existing NBS BIM Object Standard would be used as a starting point for the development of the standard. Following this, an agreement was reached between NATSPEC, Masterspec-NZ, and the NBS-UK to develop a core International BIM Object Standard that would be suitable for use within all three countries.

Local/regional requirements were to be included in a localised/regional Part B to the core International BIM Object Standard. This approach allows for other countries to come on board over time, each having their own localised/regional Part B, if necessary, with the core International BIM Object Standard remaining unchanged.

This Part B is to be read in conjunction with the requirements of the core International BIM Object Standard, for BIM objects being created for use in New Zealand.

# Scope

The purpose of this Part B document is not to contradict any of the requirements within the core International BIM Object Standard but to describe additional requirements and further clarification of requirements.

The scope of this Part B includes further information requirements and clarification of metadata requirements.

## Presentational Conventions

Words in bold are explained in the Terms and Definitions section of the core International BIM Object Standard.

The word 'shall' is used to express requirements of this standard. The word 'should' is used to express recommendations. 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.

# Part B: New Zealand Requirements

This section describes additional requirements and further clarification of requirements from the core International BIM Object Standard, for BIM objects being created for use in New Zealand. The scope of this section includes further information requirements and clarification of metadata requirements.

## 6.1 Information Requirements

### 6.1.1 Suffix

User created properties added to a User defined data **property set** (see Clause 2.3) shall include an alphanumeric 3 – 6 character **code**, to identify the origin or purpose of the property, added as a suffix to the end of the **property** name separated by an underscore. e.g. DoorPanelHeight\_ANZRS.

### 6.1.2 Classification properties

The BIM **object** shall also include any of the classification properties detailed in Table A1. The properties shall be completed with the detailed **property** requirement and grouped in the General property group (see Clause 2.3).

Table A1 - Classification properties

Property name	Property requirement	Data type	Example
CBIClassificationCode	The value shall be completed with a numeric value of the appropriate Coordinated Building Interchange (CBI) classification code.	Numeric	4511
CBIClassificationDescription	The value shall be completed with CBI classification description for the chosen CBI code.	Text	

### 6.1.3 Product Technical Statement

The BIM object may include valid URL link to a PDF version of the Product Technical Statement (PTS) for the object.

### 6.1.4 Facilities Management Properties

When a BIM object represents a managed asset, it shall include the properties detailed in Table A.2. The property shall be completed with the detailed property requirements. Where the property relates to manufacturer/warranty information for a generic object, or where the value is simply not known, the property shall be left empty.

Table A2 — Facilities Management Properties

Property name	Property requirement	Data type	Example
AssetIdentifier	An alphanumeric value to uniquely identify the construction product represented by the BIM object	Text	A123
AssetType	An alphanumeric default value of: <ul style="list-style-type: none"> <li>- 'Fixed' to indicate fixed equipment and products attached and integral to the buildings function, e.g. heating, plumbing, elevators</li> <li>- 'Movable' to indicate standalone equipment and products, e.g. a chair, table, lamp</li> </ul>	Text	Heater
Description	An alphanumeric value giving a concise description of the construction product represented by the BIM object. Manufacturer objects shall include factual information only and may include the manufacturer's trade and catalogue name	Text	Apex EcoHeater
Manufacturer	A valid email address for the organisation responsible for supplying or manufacturing the construction product	Text	sales@apex.co.nz
ModelNumber	An alphanumeric value representing the product, item or unit number assigned by the manufacturer of the construction product	Text	123
NominalHeight	A numerical value of the nominal height (typically the vertical characteristic dimension of the product) in millimetres	Numeric	450
NominalLength	A numerical value of the nominal length (typically the primary or larger of the two perpendicular horizontal dimensions of the product) in millimetres	Numeric	900
NominalWidth	A numerical value of the nominal width (typically the secondary or smaller of the two perpendicular horizontal dimensions of the product) in millimetres	Numeric	185
WarrantyDurationLabor	A numerical value representing the duration in years of the labour warranty	Numeric	1
WarrantyDurationParts	A numerical value representing the duration in years of the parts warranty	Numeric	1
WarrantyDurationUnit	The value 'year'	Text	year

Note: These required properties are considered a minimum subset of the COBie Type and Component properties. COBie is not yet a requirement by the New Zealand Government or facilities owners but as it is being increasingly adopted internationally so we recommend that object developers and object libraries consider supporting the full range of COBie Type and Component properties as identified in section 2.6 for their objects.

## 6.2 Metadata requirements

### 6.2.1 File and material naming

File names and material names shall be structured as follows and composed using the **fields** defined in Part A – Table 10:

<Classification<sup>1</sup>>\_<Type>\_<Subtype>\_<Source<sup>2</sup>>\_<ProductCode<sup>2</sup>>\_<Differentiator>

### 6.2.2 Additional fields

File names and material names may include the additional property of Originator, defined in Part A – Table 11, structured as follows:

<Classification<sup>1</sup>>\_<Type>\_<Subtype>\_<Source<sup>2</sup>>\_<ProductCode<sup>2</sup>>\_<Differentiator>\_<Originator<sup>3</sup>>

Note 1: The Classification field is the Coordinated Building Information (CBI) 4 digit code that is appropriate for the material. This may well be different to the 'CBIClassificationCode' property defined in clause 6.1.2.

Note 2: Source and ProductCode do not apply for Generic Objects.

Note 3: For objects being created for inclusion in an **object library**, it is recommended to include the Originator field.

