NBS – Uniclass 2015 update

Robin Cordy
Director of Products & Services, NBS

Lower Costs

Deliver Faster

Lower Emissions

Improve Exports

A defined set of standards and tools

PAS 1192-2

PAS 1192-3

BS 1192-4

PAS 1192-5

BS 8536-1

CIC BIM Protocol

Digital Plan of Work

12,000 classifications. Across 11 tables. For all sectors.

10 Preparation and repair	20 Administrative, commercial and protective services	25 Cultural, educational, scientific and information	30 Industrial	32 Water and land management	35 Medical, health, welfare and sanitary	40 Recreational	42 Sport and activity	45 Residential
50 Waste disposal	55 Piped supply	60 Heating, cooling and refrigeration	65 Ventilation and air conditioning	70 Electrical power generation and distribution	75 Communications, security, safety and protection	80 Transport	85 Operation and maintenance	90 Circulation and storage

Classification

NBS

ISO 12006-2 2015

ISO 12006-2:2015	Uniclass 2015	OmniClass 2006-2013
A.2 Construction information	Form of information	Table 36 Information
A.3 Construction products	Products (published)	Table 23 Products
-	-	Table 41 Materials
A.4 Construction agents	Agents	Table 33 Disciplines
	-	Table 34 Organizational roles
A.5 Construction aids	Construction aids	Table 35 Tools
A.6 Management	Project management (draft)	Table 32 Services
A.7 Construction process	Project phases (draft for comment)	Table 31 Phases
-	Regions (draft)	-
-	Districts (draft)	-
A.8 Construction complexes	Complexes (published)	-
A.9 Construction entities	Entities (published)	Table 11 Construction entities by function
	Entities by form (draft for comment)	Table 12 Construction entities by form
-	Activities (published)	-
A.10 Built spaces	Spaces (published)	Table 13 Spaces by function
	-	Table 14 Spaces by form
A.11 Construction elements	Elements (published)	Table 21 Elements (includes Designed elements) (UniFormat)
-	Systems (published)	-
A.12 Work results	-	Table 22 Work results (MasterFormat)
A.13 Construction properties	Properties	Table 49 Properties
-	Modelling (draft for comment)	-

Complexes, entities, spaces, locations, products

DRAFT INTERNATIONAL STANDARD
ISO/DIS 12006-2

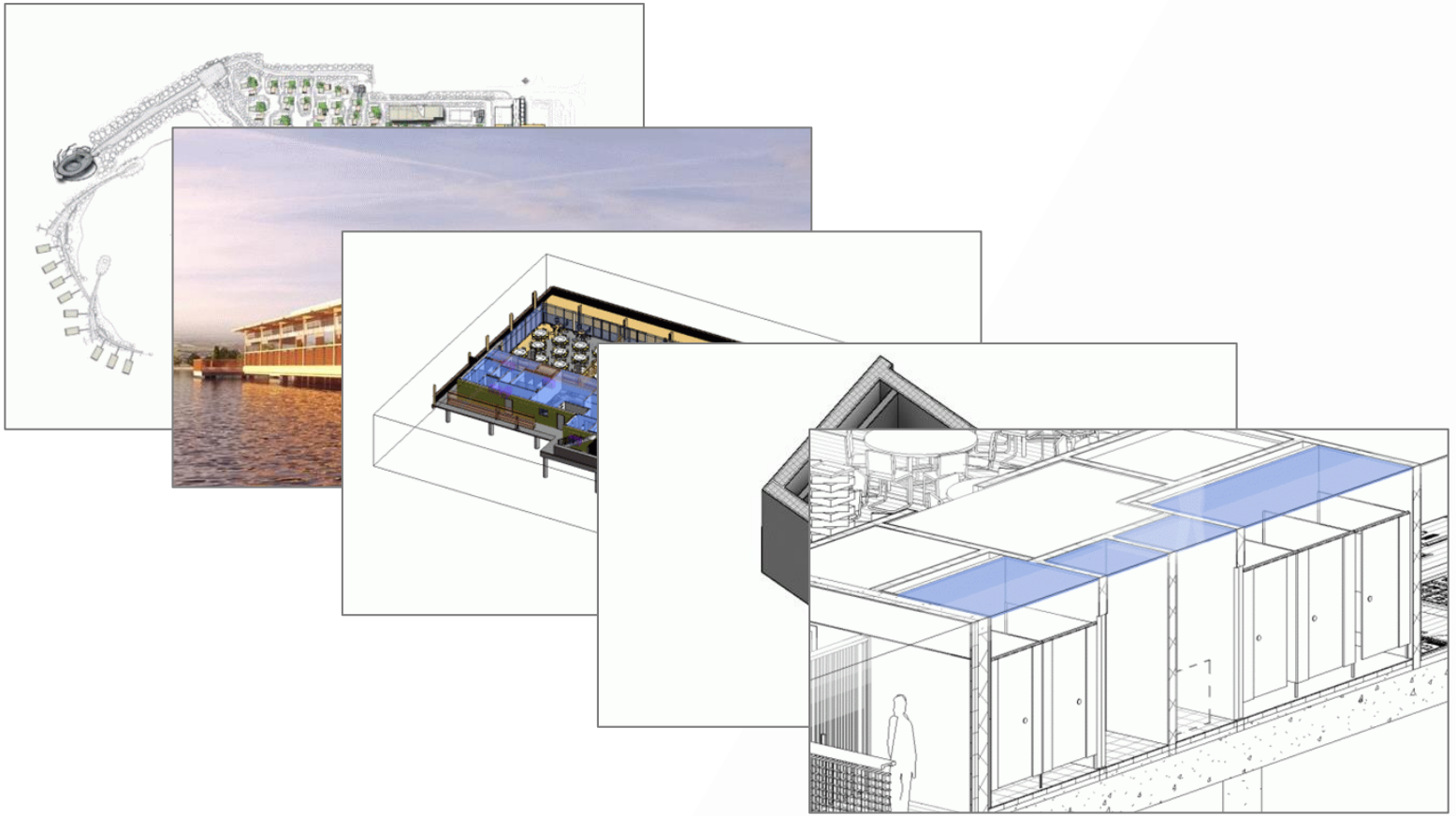
ISO/TC 59/SC 13 — Secretariat: SN
Voting begins on: 2015-01-16 — Voting terminates on: 2016-06-16

Building construction — Organization of information about construction works —

Part 2:
Framework for classification

Construction immobilière — Organisation de l'information des travaux de construction —
Partie 2: Plan type pour la classification
[Revision of first edition (ISO 12006-2:2001)]

ICS: 91.010.01



Complexes, entities, spaces, locations and activities

(Larger scale items – arranged broadly by industry sector and function)

10 Preparation and repair	20 Administrative, commercial and protective services	25 Cultural, educational, scientific and information	30 Industrial	32 Water and land management	35 Medical, health, welfare and sanitary	40 Recreational	42 Sport and activity	45 Residential
50 Waste disposal	55 Piped supply	60 Heating, cooling and refrigeration	65 Ventilation and air conditioning	70 Electrical power generation and distribution	75 Communications, security, safety and protection	80 Transport	85 Operation and maintenance	90 Circulation and storage

Elements, functions and systems

(Smaller scale items – arranged broadly by fabric and function)

15 Preparatory	20 Structural	25 Wall and barrier	30 Roof, floor and paving	32 Damp-proofing, waterproofing and plaster finishing	35 Stair and ramp	37 Tunnel, shaft, vessel and tower	40 Signage, fittings, furnishings and equipment	45 Flora and fauna
50 Waste disposal	55 Piped supply	60 Heating, cooling and refrigeration	65 Ventilation and air conditioning	70 Electrical power and lighting	75 Communications, security, safety and protection	80 Transport	85 Process engineering	90 Soft facility management

CLASSIFICATION

First published 8th April 2015, last updated 31st January 2018.

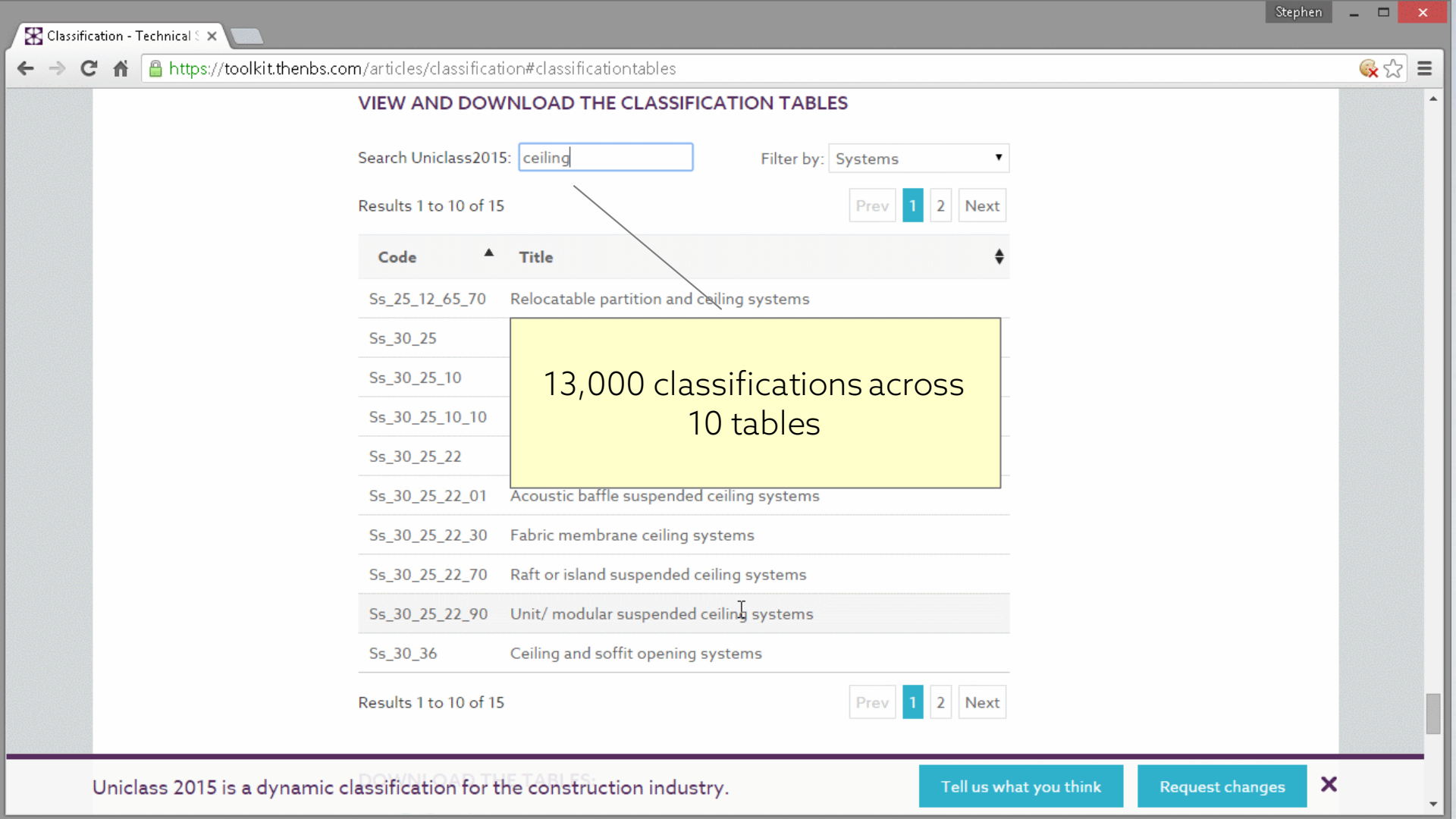
Sarah Delany
Technical Author and Head of Classification at NBS

Uniclass 2015 is a unified classification for the UK industry covering all construction sectors. It contains consistent tables classifying items of all scale from a facility such as a railway down through to products such as a CCTV camera in a railway station. Sarah Delany, Technical Author and Head of Classification at NBS, introduces Uniclass 2015 in this article.

View and download the classification tables | Latest updates.

As part of the BIM Toolkit project, NBS are working on the next version of the Uniclass classification scheme. Originally released in 1997, Uniclass allows project information to be structured to a recognised standard. This original version has now been heavily revised, to make it more suitable for use with modern construction industry practice, and to make it compatible with BIM now and in the future.

As a key deliverable of the BIM Toolkit project, NBS have worked with experts from across the industry to develop the new classification system – Uniclass 2015. This builds on previous versions and developments of Uniclass, but significantly extends the


Classification - Technical
Stephen
https://toolkit.thenbs.com/articles/classification#classificationtables
VIEW AND DOWNLOAD THE CLASSIFICATION TABLES
Search Uniclass2015: ceiling
Filter by: Systems
Results 1 to 10 of 15
Prev 1 2 Next
Code
Title
Ss_25_12_65_70 Relocatable partition and ceiling systems
Ss_30_25
Ss_30_25_10
Ss_30_25_10_10
Ss_30_25_22
Ss_30_25_22_01 Acoustic baffle suspended ceiling systems
Ss_30_25_22_30 Fabric membrane ceiling systems
Ss_30_25_22_70 Raft or island suspended ceiling systems
Ss_30_25_22_90 Unit/ modular suspended ceiling systems
Ss_30_36 Ceiling and soffit opening systems
13,000 classifications across 10 tables
Results 1 to 10 of 15
Prev 1 2 Next
Uniclass 2015 is a dynamic classification for the construction industry.
Tell us what you think
Request changes

Classification - Technical S

https://toolkit.thenbs.com/articles/classification#classificationtables

VIEW AND DOWNLOAD THE CLASSIFICATION TABLES

Search Uniclass2015: air

Filter by: Complexes

- All tables
- Complexes
- Entities
- Activities
- Spaces/locations
- Elements
- Systems
- Products
- CAD

Results 1 to 8 of 8

Code	Title
Co_20_60_02	Air force complexes
Co_25_50_58	Open air museums
Co_25_50_59	Open air sculpture parks
Co_35_10_02	Air ambulance complexes
Co_40_05_30	Fairground complexes
Co_65	Ventilation and air conditioning complexes
Co_80_05_02	Airports and airfields
Co_80_20_13	Chairlift way complexes

Results 1 to 8 of 8

DOWNLOAD THE TABLES:

- Co Complexes
- En Entities
- Ac Activities
- SL Spaces/ locations

Classification - Technical S

https://toolkit.thenbs.com/articles/classification#classificationtables

VIEW AND DOWNLOAD THE CLASSIFICATION TABLES

Search Uniclass2015: air

Filter by: Spaces/locations

- All tables
- Complexes
- Entities
- Activities
- Spaces/locations
- Elements
- Systems
- Products
- CAD

Results 1 to 10 of 22

Pre

Code	Title
SL_20_45_29	Fuel filling station air and water points
SL_20_50_36	Hair and beauty salons
SL_30_60_13	Clothes drying and airing rooms
SL_40_05_42	Indoor fairground spaces
SL_40_05_60	Outdoor fairground spaces
SL_40_05_88	Temporary outdoor fairgrounds
SL_80_05_04	Aircraft fuelling spaces
SL_80_05_05	Aircraft manoeuvring bu
SL_80_05_06	Aircraft standing areas
SL_80_05_07	Aircraft storage spaces

Results 1 to 10 of 22

DOWNLOAD THE TABLES:

- Co Complexes
- En Entities

Classification - Technical S

https://toolkit.thenbs.com/articles/classification#classificationtables

VIEW AND DOWNLOAD THE CLASSIFICATION TABLES

Search Uniclass2015: bar

Filter by: Elements

- All tables
- Complexes
- Entities
- Activities
- Spaces/locations
- Elements
- Systems
- Products
- CAD

Results 1 to 2 of 2

Code	Title
Ee_25	Wall and barrier elements
Ee_25_55	Barriers

Results 1 to 2 of 2

DOWNLOAD THE TABLES:

- Co Complexes
- En Entities
- Ac Activities
- SL Spaces/ locations
- Ee Elements
- Ss Systems
- Pr Products
- Zz CAD

Stephen

Classification - Technical S

https://toolkit.thenbs.com/articles/classification#classificationtables

VIEW AND DOWNLOAD THE CLASSIFICATION TABLES

Search Uniclass2015: blast

Filter by: Systems

- All tables
- Complexes
- Entities
- Activities
- Spaces/locations
- Elements
- Systems
- Products
- CAD

Results 1 to 2 of 2

Code	Title
Ss_25_16_08	Blast barrier systems
Ss_25_16_08_44	Jet blast deflection systems

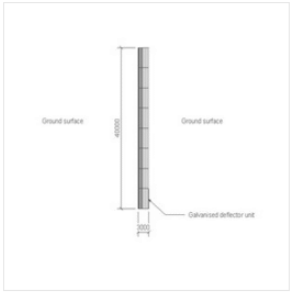
Results 1 to 2 of 2

Prev

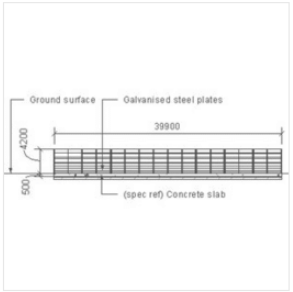
DOWNLOAD THE TABLES:

- Co Complexes
- En Entities
- Ac Activities
- SL Spaces/ locations
- Ee Elements
- Ss Systems
- Pr Products
- Zz CAD

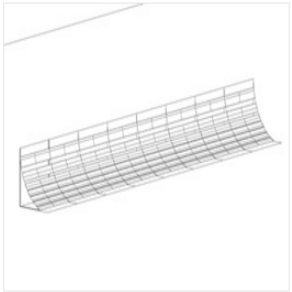
Plan



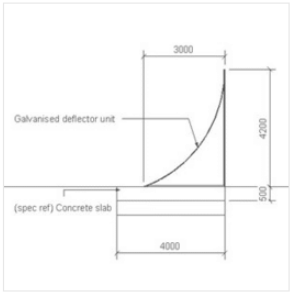
Elevation



Model



2D Section



Stephen

Classification - Technical S

https://toolkit.thenbs.com/articles/classification#classificationtables

VIEW AND DOWNLOAD THE CLASSIFICATION TABLES

Search Uniclass2015: blast

Filter by: Products

- All tables
- Complexes
- Entities
- Activities
- Spaces/locations
- Elements
- Systems
- Products
- CAD

Results 1 to 6 of 6

Code	Title
Pr_20_31_35_33	Granulated blast furnace slag
Pr_20_31_35_34	Ground granulated blast furnace slag
Pr_20_31_35_60	Partially ground granulated blast furnace slag
Pr_25_71_57_44	Jet blast deflectors
Pr_40_70_31_06	Blast chiller cabinets
Pr_40_70_31_08	Blast freezer cabinets

Results 1 to 6 of 6

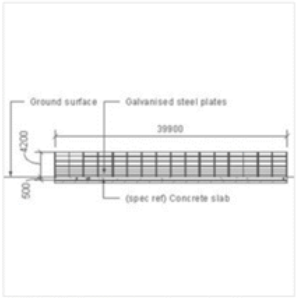
Prev

DOWNLOAD THE TABLES:

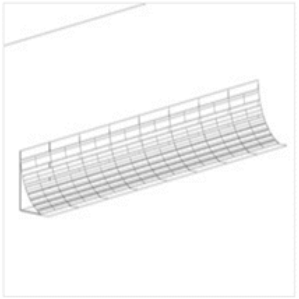
- Co Complexes
- En Entities
- Ac Activities
- SL Spaces/ locations
- Ee Elements
- Ss Systems

Plan

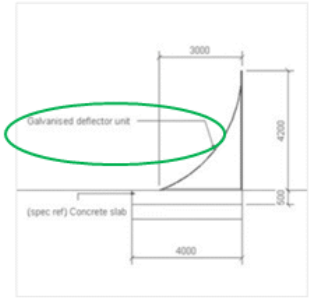
Elevation

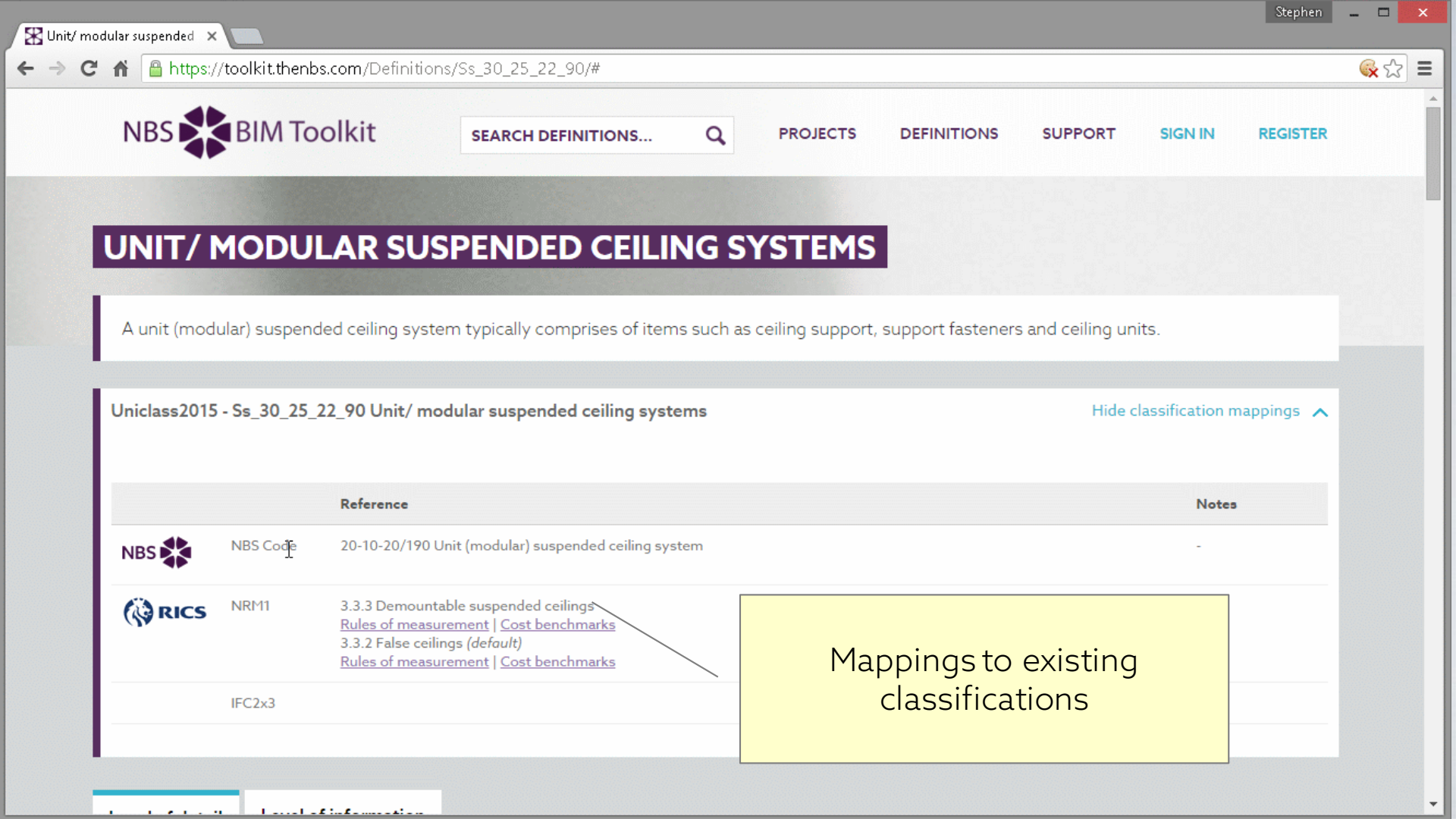


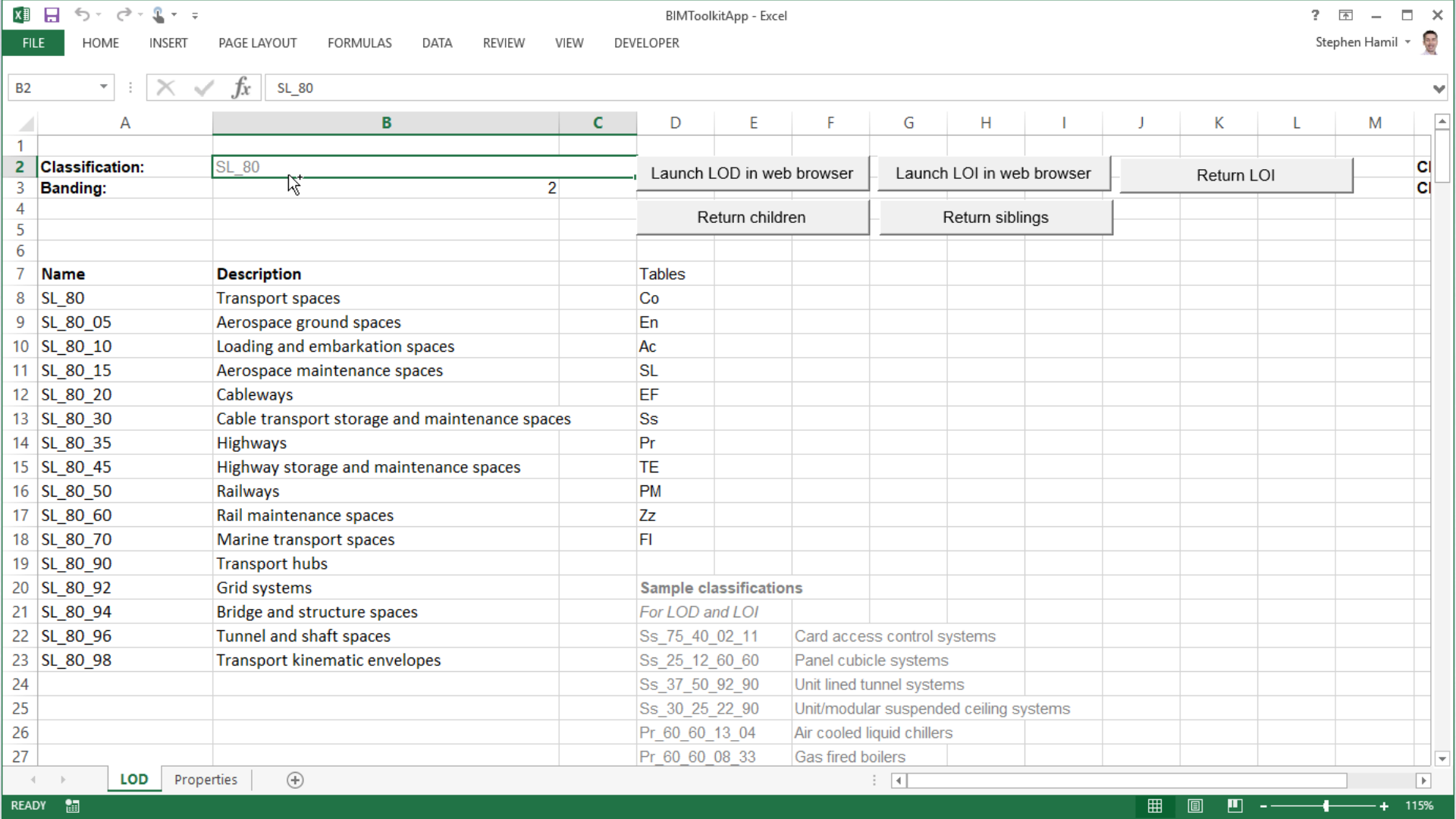
Model



2D Section




Stephen
Unit/ modular suspended
https://toolkit.thenbs.com/Definitions/Ss_30_25_22_90/#
NBS BIM Toolkit
SEARCH DEFINITIONS...
PROJECTS
DEFINITIONS
SUPPORT
SIGN IN
REGISTER
UNIT/ MODULAR SUSPENDED CEILING SYSTEMS
A unit (modular) suspended ceiling system typically comprises of items such as ceiling support, support fasteners and ceiling units.
Uniclass2015 - Ss_30_25_22_90 Unit/ modular suspended ceiling systems
Hide classification mappings
Reference
Notes
NBS
NBS Code
20-10-20/190 Unit (modular) suspended ceiling system
-
RICS
NRM1
3.3.3 Demountable suspended ceilings
Rules of measurement | Cost benchmarks
3.3.2 False ceilings (default)
Rules of measurement | Cost benchmarks
IFC2x3
Mappings to existing classifications


BIMToolkitApp - Excel
FILE
HOME
INSERT
PAGE LAYOUT
FORMULAS
DATA
REVIEW
VIEW
DEVELOPER
Stephen Hamil
B2
SL_80
Classification:
SL_80
Banding:
2
Launch LOD in web browser
Launch LOI in web browser
Return LOI
Return children
Return siblings
Name
Description
SL_80 Transport spaces
SL_80_05 Aerospace ground spaces
SL_80_10 Loading and embarkation spaces
SL_80_15 Aerospace maintenance spaces
SL_80_20 Cableways
SL_80_30 Cable transport storage and maintenance spaces
SL_80_35 Highways
SL_80_45 Highway storage and maintenance spaces
SL_80_50 Railways
SL_80_60 Rail maintenance spaces
SL_80_70 Marine transport spaces
SL_80_90 Transport hubs
SL_80_92 Grid systems
SL_80_94 Bridge and structure spaces
SL_80_96 Tunnel and shaft spaces
SL_80_98 Transport kinematic envelopes
Tables
Co
En
Ac
SL
EF
Ss
Pr
TE
PM
Zz
FI
Sample classifications
For LOD and LOI
Ss_75_40_02_11 Card access control systems
Ss_25_12_60_60 Panel cubicle systems
Ss_37_50_92_90 Unit lined tunnel systems
Ss_30_25_22_90 Unit/modular suspended ceiling systems
Pr_60_60_13_04 Air cooled liquid chillers
Pr_60_60_08_33 Gas fired boilers
LOD
Properties
READY
115%

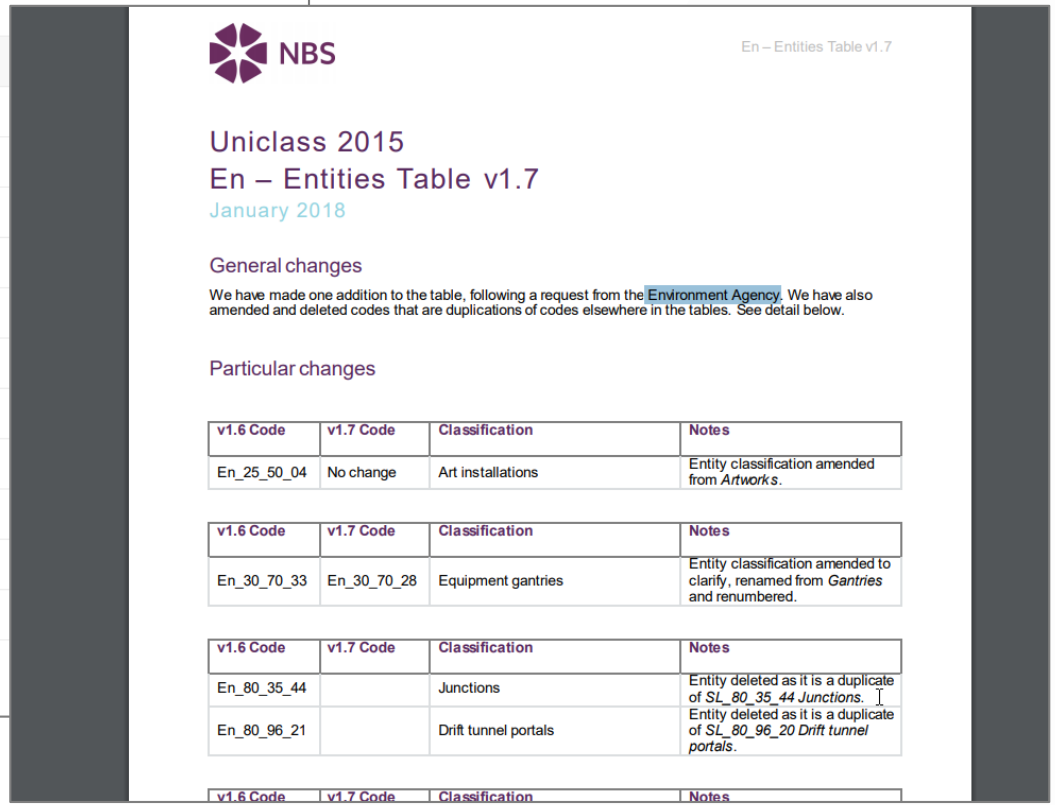
Governance and maintenance

DOWNLOAD THE TABLES:

The current status of the classification tables is listed below.

Table	Status and revision information
Co - Complexes	v1.5, Published January 2018
En - Entities	v1.7, Published January 2018
Ac - Activities	v1.5, Published January 2018
SL - Spaces/ locations	v1.7, Published January 2018
EF - Elements/ functions	v1.2, Published November 2016
Ss - Systems	v1.9, Published January 2018
Pr - Products	v1.9, Published January 2018
TE - Tools and Equipment	v1.4, Published January 2018
PM - Project management	v1.0, Published September 2017
Zz- CAD	v1.0, Published July 2015
FI - Form of information	Beta status – consultation ongoing

LICENCING



NBS

Uniclass 2015

En – Entities Table v1.7

January 2018

General changes

We have made one addition to the table, following a request from the Environment Agency. We have also amended and deleted codes that are duplications of codes elsewhere in the tables. See detail below.

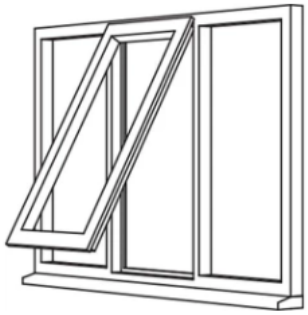
Particular changes

v1.6 Code	v1.7 Code	Classification	Notes
En_25_50_04	No change	Art installations	Entity classification amended from *Artworks*.

v1.6 Code	v1.7 Code	Classification	Notes
En_30_70_33	En_30_70_28	Equipment gantries	Entity classification amended to clarify, renamed from *Gantries* and renumbered.

v1.6 Code	v1.7 Code	Classification	Notes
En_80_35_44		Junctions	Entity deleted as it is a duplicate of *SL_80_35_44 Junctions*.
En_80_96_21		Drift tunnel portals	Entity deleted as it is a duplicate of *SL_80_96_20 Drift tunnel portals*.

v1.6 Code	v1.7 Code	Classification	Notes



Traditional 2500 Casement - C30 Fixed/Opener/Fixed

PVC-U casement windows, available in range of styles in three standard finishes.

The Traditional 2500 is a window and door system that offers the best in weather-proofing technology, energy efficiency and security.

Years of research and development has resulted in a technically advanced system ideal for commercial projects.

With one sash size (75 mm), two frame sizes (52 mm & 70 mm), and a slim (68 mm) intermediate (88 mm) or large (110 mm) transom/mullion option.

The system is available in 18 laminate colourways from stock providing the ultimate convenience regarding supply.

View object guide | Embed </> | Get technical help

Tags: +

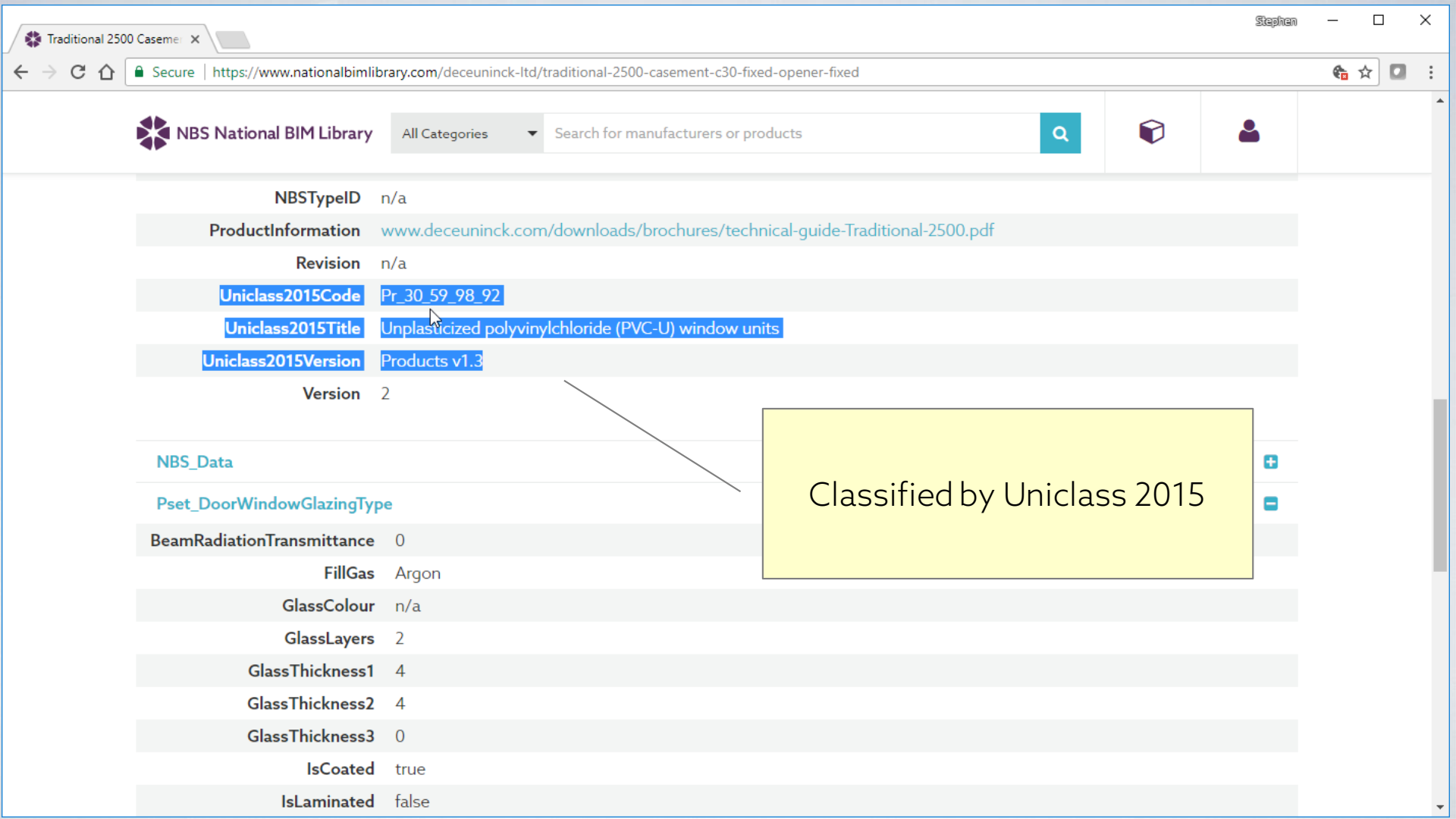
Platform	Compatible	Version	Certified to
IFC	-	2	1.3

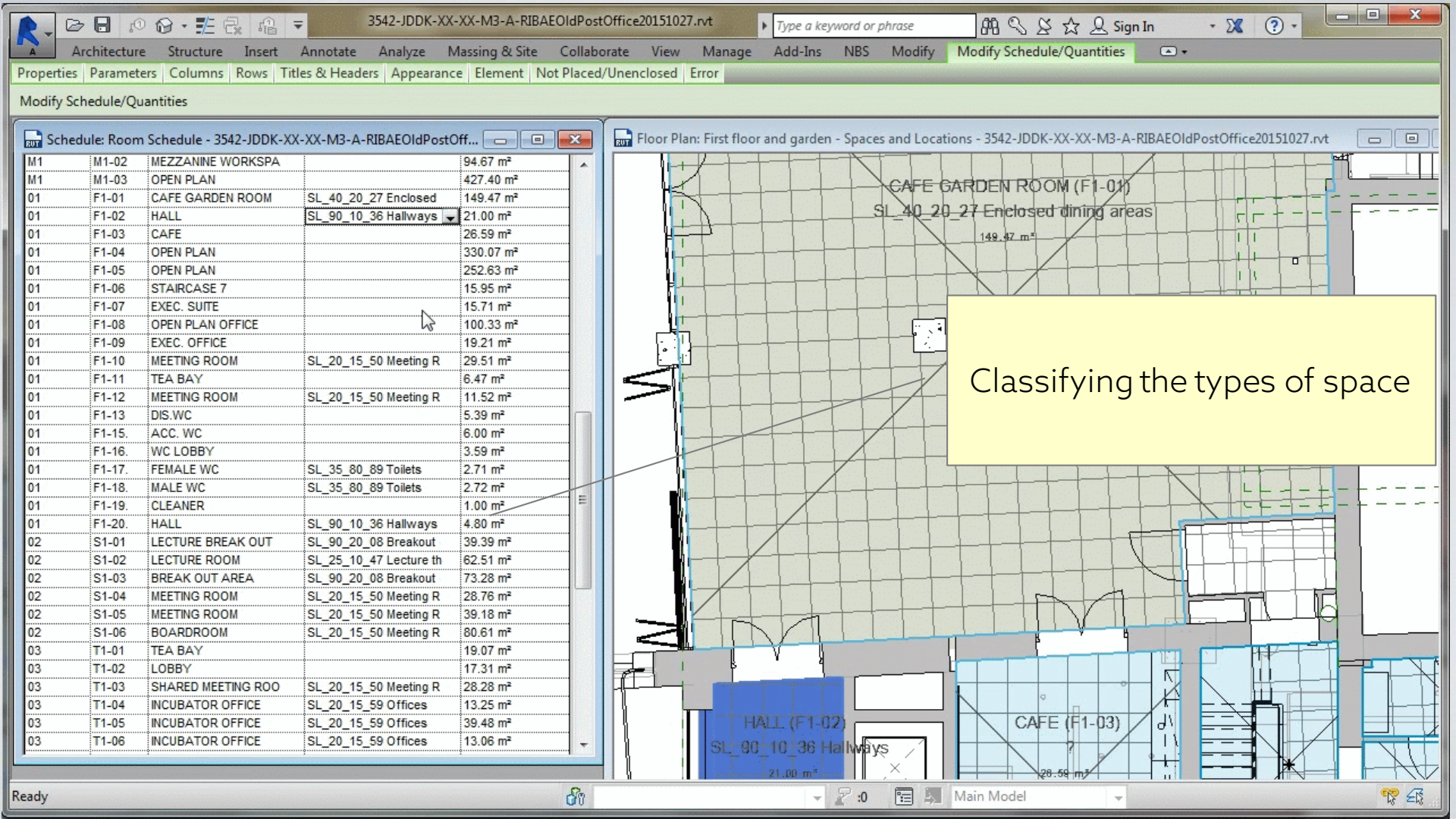
deceuninck

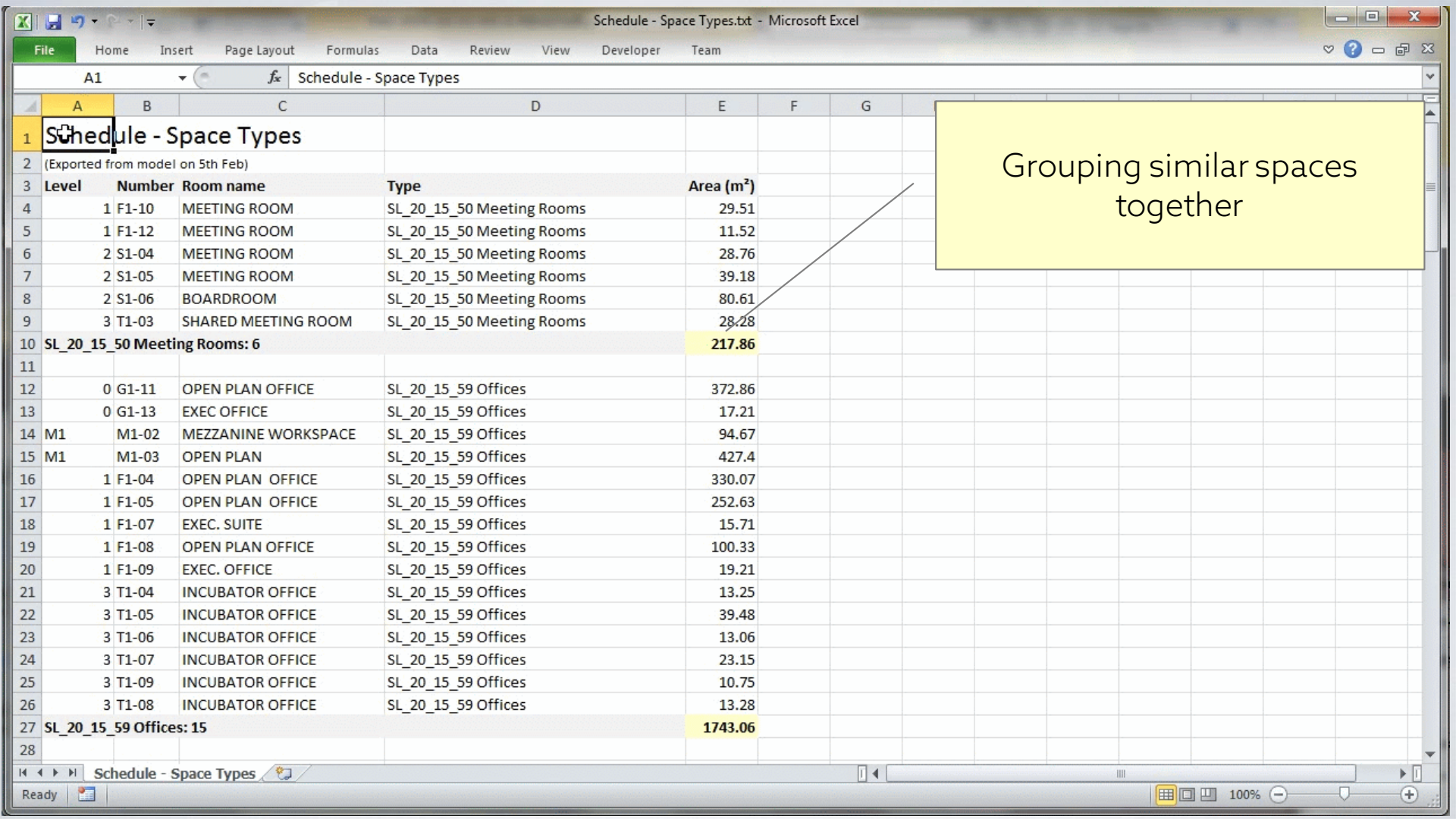
Unit 2 Stanier Road
Porte Marsh Industrial Estate
Calne
Wiltshire
SN11 9PX

Tel +44 (0)1249 816969

Visit Website
Email Enquiry


Traditional 2500 Casem
Stephen
Secure
https://www.nationalbimlibrary.com/deceuninck-ltd/traditional-2500-casement-c30-fixed-opener-fixed
NBS National BIM Library
All Categories
Search for manufacturers or products
NBSTypeID n/a
ProductInformation www.deceuninck.com/downloads/brochures/technical-guide-Traditional-2500.pdf
Revision n/a
Uniclass2015Code Pr_30_59_98_92
Uniclass2015Title Unplasticized polyvinylchloride (PVC-U) window units
Uniclass2015Version Products v1.3
Version 2
NBS_Data
Pset_DoorWindowGlazingType
BeamRadiationTransmittance 0
FillGas Argon
GlassColour n/a
GlassLayers 2
GlassThickness1 4
GlassThickness2 4
GlassThickness3 0
IsCoated true
IsLaminated false
Classified by Uniclass 2015


3542-JDDK-XX-XX-M3-A-RIBAEOldPostOffice20151027.rvt
Type a keyword or phrase
Sign In
Architecture
Structure
Insert
Annotate
Analyze
Massing & Site
Collaborate
View
Manage
Add-Ins
NBS
Modify
Modify Schedule/Quantities
Properties
Parameters
Columns
Rows
Titles & Headers
Appearance
Element
Not Placed/Unenclosed
Error
Modify Schedule/Quantities
Schedule: Room Schedule - 3542-JDDK-XX-XX-M3-A-RIBAEOldPostOff...
M1 M1-02 MEZZANINE WORKSPA 94.67 m²
M1 M1-03 OPEN PLAN 427.40 m²
01 F1-01 CAFE GARDEN ROOM SL_40_20_27 Enclosed 149.47 m²
01 F1-02 HALL SL_90_10_36 Hallways 21.00 m²
01 F1-03 CAFE 26.59 m²
01 F1-04 OPEN PLAN 330.07 m²
01 F1-05 OPEN PLAN 252.63 m²
01 F1-06 STAIRCASE 7 15.95 m²
01 F1-07 EXEC. SUITE 15.71 m²
01 F1-08 OPEN PLAN OFFICE 100.33 m²
01 F1-09 EXEC. OFFICE 19.21 m²
01 F1-10 MEETING ROOM SL_20_15_50 Meeting R 29.51 m²
01 F1-11 TEA BAY 6.47 m²
01 F1-12 MEETING ROOM SL_20_15_50 Meeting R 11.52 m²
01 F1-13 DIS.WC 5.39 m²
01 F1-15. ACC. WC 6.00 m²
01 F1-16. WC LOBBY 3.59 m²
01 F1-17. FEMALE WC SL_35_80_89 Toilets 2.71 m²
01 F1-18. MALE WC SL_35_80_89 Toilets 2.72 m²
01 F1-19. CLEANER 1.00 m²
01 F1-20. HALL SL_90_10_36 Hallways 4.80 m²
02 S1-01 LECTURE BREAK OUT SL_90_20_08 Breakout 39.39 m²
02 S1-02 LECTURE ROOM SL_25_10_47 Lecture th 62.51 m²
02 S1-03 BREAK OUT AREA SL_90_20_08 Breakout 73.28 m²
02 S1-04 MEETING ROOM SL_20_15_50 Meeting R 28.76 m²
02 S1-05 MEETING ROOM SL_20_15_50 Meeting R 39.18 m²
02 S1-06 BOARDROOM SL_20_15_50 Meeting R 80.61 m²
03 T1-01 TEA BAY 19.07 m²
03 T1-02 LOBBY 17.31 m²
03 T1-03 SHARED MEETING ROO SL_20_15_50 Meeting R 28.28 m²
03 T1-04 INCUBATOR OFFICE SL_20_15_59 Offices 13.25 m²
03 T1-05 INCUBATOR OFFICE SL_20_15_59 Offices 39.48 m²
03 T1-06 INCUBATOR OFFICE SL_20_15_59 Offices 13.06 m²
Floor Plan: First floor and garden - Spaces and Locations - 3542-JDDK-XX-XX-M3-A-RIBAEOldPostOffice20151027.rvt
CAFE GARDEN ROOM (F1-01)
SL_40_20_27 Enclosed dining areas
149.47 m²
Classifying the types of space
HALL (F1-02)
SL_90_10_36 Hallways
21.00 m²
CAFE (F1-03)
28.59 m²
Ready
Main Model



	A	B	C	D	E	F	G
1	Schedule - Space Types						
2	(Exported from model on 5th Feb)						
3	**Level**	**Number**	**Room name**	**Type**	**Area (m²)**		
4	1	F1-10	MEETING ROOM	SL_20_15_50 Meeting Rooms	29.51		
5	1	F1-12	MEETING ROOM	SL_20_15_50 Meeting Rooms	11.52		
6	2	S1-04	MEETING ROOM	SL_20_15_50 Meeting Rooms	28.76		
7	2	S1-05	MEETING ROOM	SL_20_15_50 Meeting Rooms	39.18		
8	2	S1-06	BOARDROOM	SL_20_15_50 Meeting Rooms	80.61		
9	3	T1-03	SHARED MEETING ROOM	SL_20_15_50 Meeting Rooms	28.28		
10	**SL_20_15_50 Meeting Rooms: 6**				**217.86**		
11							
12	0	G1-11	OPEN PLAN OFFICE	SL_20_15_59 Offices	372.86		
13	0	G1-13	EXEC OFFICE	SL_20_15_59 Offices	17.21		
14	M1	M1-02	MEZZANINE WORKSPACE	SL_20_15_59 Offices	94.67		
15	M1	M1-03	OPEN PLAN	SL_20_15_59 Offices	427.4		
16	1	F1-04	OPEN PLAN OFFICE	SL_20_15_59 Offices	330.07		
17	1	F1-05	OPEN PLAN OFFICE	SL_20_15_59 Offices	252.63		
18	1	F1-07	EXEC. SUITE	SL_20_15_59 Offices	15.71		
19	1	F1-08	OPEN PLAN OFFICE	SL_20_15_59 Offices	100.33		
20	1	F1-09	EXEC. OFFICE	SL_20_15_59 Offices	19.21		
21	3	T1-04	INCUBATOR OFFICE	SL_20_15_59 Offices	13.25		
22	3	T1-05	INCUBATOR OFFICE	SL_20_15_59 Offices	39.48		
23	3	T1-06	INCUBATOR OFFICE	SL_20_15_59 Offices	13.06		
24	3	T1-07	INCUBATOR OFFICE	SL_20_15_59 Offices	23.15		
25	3	T1-09	INCUBATOR OFFICE	SL_20_15_59 Offices	10.75		
26	3	T1-08	INCUBATOR OFFICE	SL_20_15_59 Offices	13.28		
27	**SL_20_15_59 Offices: 15**				**1743.06**		
28							

UK Government publications - Buildings

Uniclass classification - at Component level

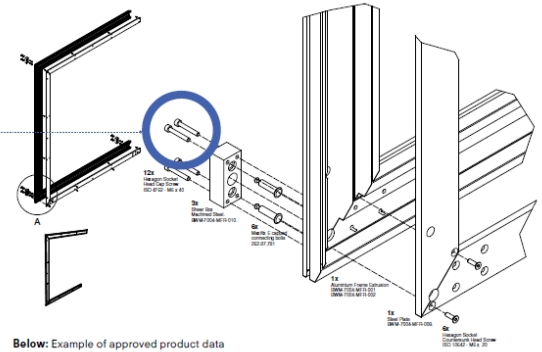
Pr -	Products
Pr_20	Structure and general products
Pr_20_29	Fastener products
Pr_20_29_76	Screws
Pr_20_29_76_81	Socket screws

At this level the components can be linked to individual manufacturers data. This is described in more detail in 'Product Data Definition - A technical specification for defining and sharing structured digital construction product information' (S. Thompson, April 2016).

LEXiCON, hosted by the Construction Products Association (CPA), will implement the methodology set out in the Product Data Definition document and facilitate the capture of the following information relating to products:

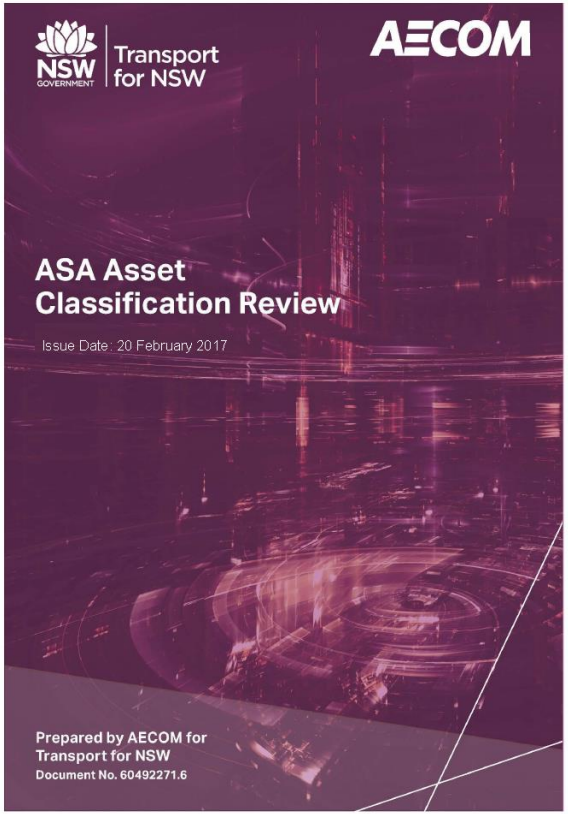
- Essential Requirements for the Harmonised European Standards (hENs);
- Requirements from other Standard (e.g relevant ISO, EN or BS standards other than those captured above);
- Industry recognised documents;
- Mandated requirements for a specific sector or application e.g. NRM for Chartered Surveyors;
- Non-mandated but recognised within a specific sector e.g. CIBSE Guide M;
- Industry agreed and recognised e.g. identified by a professional institute, trade association or cross-industry group;
- User-defined additional terms proposed for approval and wider adoption.

Healthcare example showing individual components making up the wall panel.



Below: Example of approved product data template from 'Product Data Definition' http://bim-level2.org/globalassets/pdfs/product-data-definition_v2.pdf

Transport for New South Wales



4 Classification Reviews (Stage 1 & 2)

4.1 Summary of Findings

The findings from this revieware as follows:

1. **ASA ACS:**

   As a classification system, the TfNSW Asset Standards Authority (ASA) Asset Classification System (ACS) is not complete and does not comply with ISO 12006-2:2015 requirements. It is a single table that partially represents objects of several ISO classes. The ACS classification system is structured around both type-of (classification) and part-of (modelling) principles.

2. **COBie:**

   COBie (as utilised by the Sydney Metro Stage 1 Project) for civil works is not an asset classification standard. It stipulates the format for the exchange of asset information. COBie requires the assignment of a classification code to each object and therefore the use of a classification standard such as Omniclass (USA) or Uniclass (UK) is recommended.

3. **NRT:**

   Northwest Rapid Transit (NRT) adapted the ORIS Reference Data Template which contains Work Breakdown Structure (WBS) for both Asset Location (LWBS) and Function (FWBS) which also provides a data template similar to COBie that can be used as a template to create a project based asset register. The template is not a complete classification system and doesn't comply with ISO 12006-2:2015 requirements. Furthermore, it does not address the complete asset lifecycle explicitly and was probably devised to support the construction phase predominantly. The total objects for FWBS in the template are 237 which seem light for a rail related construction project. However, expanding ACS to incorporate the naming conventions of the FWBS objects may be of benefit to TfNSW.

4. **W2B:**

   The classification used by the Woolgoolga to Ballina Pacific Highway Upgrade Project (W2B) is a single table that partially represents objects of several ISO classes. The W2B classification system is structured around both type-of (classification) and part-of (modelling) principles. However, expanding ACS to incorporate the W2B naming conventions for drainage, roads and bridges may be of benefit to TfNSW.

5. **RMS:**

   The RMS classification deals with objects of several ISO classes in a single table. Further, the table is organised around both type-of (classification) and part-of (modelling) principles. Although the RMS Asset Information Strategy (AIS) outlines the requirement of asset lifecycle information, the asset classification spreadsheet doesn't classify the complete lifecycle asset activities. Rather, it only covers the naming convention of asset classes from level 1 to level 4. It does not provide a coding system to be used for Asset Management Systems or BIM modelling.

6. **Uniformat II:**

   UniFormat II was used by NSW Health Infrastructure (NSW HI). It is a North American classification table which has been adopted as one of the tables (Table 21) in the OmniClass Classification System. Used on its own, Uniformat II (OmniClass Table 21 Elements) does not support a complete Building Information Modelling (BIM). Therefore, separate tables are needed (Entities, Work results table and etc.). Also the focus of the classification system is on building assets ad it does not include bridge and other civil (transport and utility) construction components.

7. **NATSPEC:**

   NATSPEC provide a classification system which deals with buildings, landscape and municipal (small-scale civil) work. NATSPEC is generally geared to the construction phase, however explicitly addresses planning and design, and maintenance and operations, for some Systems. Its table can be mapped in ISO12006-2 Work Result (mostly limited to Systems).

8. **Austroads:**

   The Austroads Data Standard for Road Management provides comprehensive details on infrastructure asset management data requirements throughout the asset lifecycle mainly for road and associated civil assets. However, it has not been aligned with ISO 12006 requirements. It deals with objects of several ISO classes in a two main tables (Inventory Location and Reference Code lists). It is a good reference source however for TfNSW to consider incorporating into its information management practices to support decision making.

5 Mapping TfNSW ASA ACS to Uniclass 2015 (Stage 3)

5.1 Preferred Classification Decision Point 1

Stage 1 & 2 indicated that all the current classification systems used by TfNSW are either not or only partially aligned with the ISO12006 classification framework. Additionally, it identified that there is currently no unified approach for asset classification across all construction sectors in Australia. NATSPEC's classification table is the only classification examined here that refers to ISO12006-2 and the organisation recommends that any amendment or adoption of a new classification system for the Australian construction industry should meet ISO 12006-2 requirements.

Therefore, the need for a comprehensive and widely adopted information classification system for the Australian construction industry has become imperative with the emergence of increasingly data-based applications such as BIM and risk based decision making throughout the asset lifecycle.

Both Uniclass and OmniClass classifications follow the international framework set out in ISO 12006-2:2015. However, it is envisaged that TfNSW's ability to influence Omniclass and incorporate additional classification requirements would be a challenge. Whereas, Uniclass has a design goal of operating internationally, and serving all construction sectors, and is therefore operating as a dynamic online classification system. This is important, as flexibility of change will be a key requirement for NSW when looking to accommodate additional Transport-related classifications that may be required, and to cater for other sectors within NSW Government other than those that deal with Transport.

Based on the findings from Stage 1 and 2, AECOM recommend Uniclass 2015 as the preferred classification system to be reviewed in greater depth in Stage 3 against ASA ACS.

Based on the findings, AECOM recommended Uniclass 2015 is selected as the classification system to be reviewed in Stage 3 against ASA ACS in order assess any gaps/differences, their implications, and how the ASA ASC could be improved or enhanced or replaced and to inform the recommended strategy and implementation plan.

5.2 Mapping TfNSW ASA ACS to Uniclass 2015

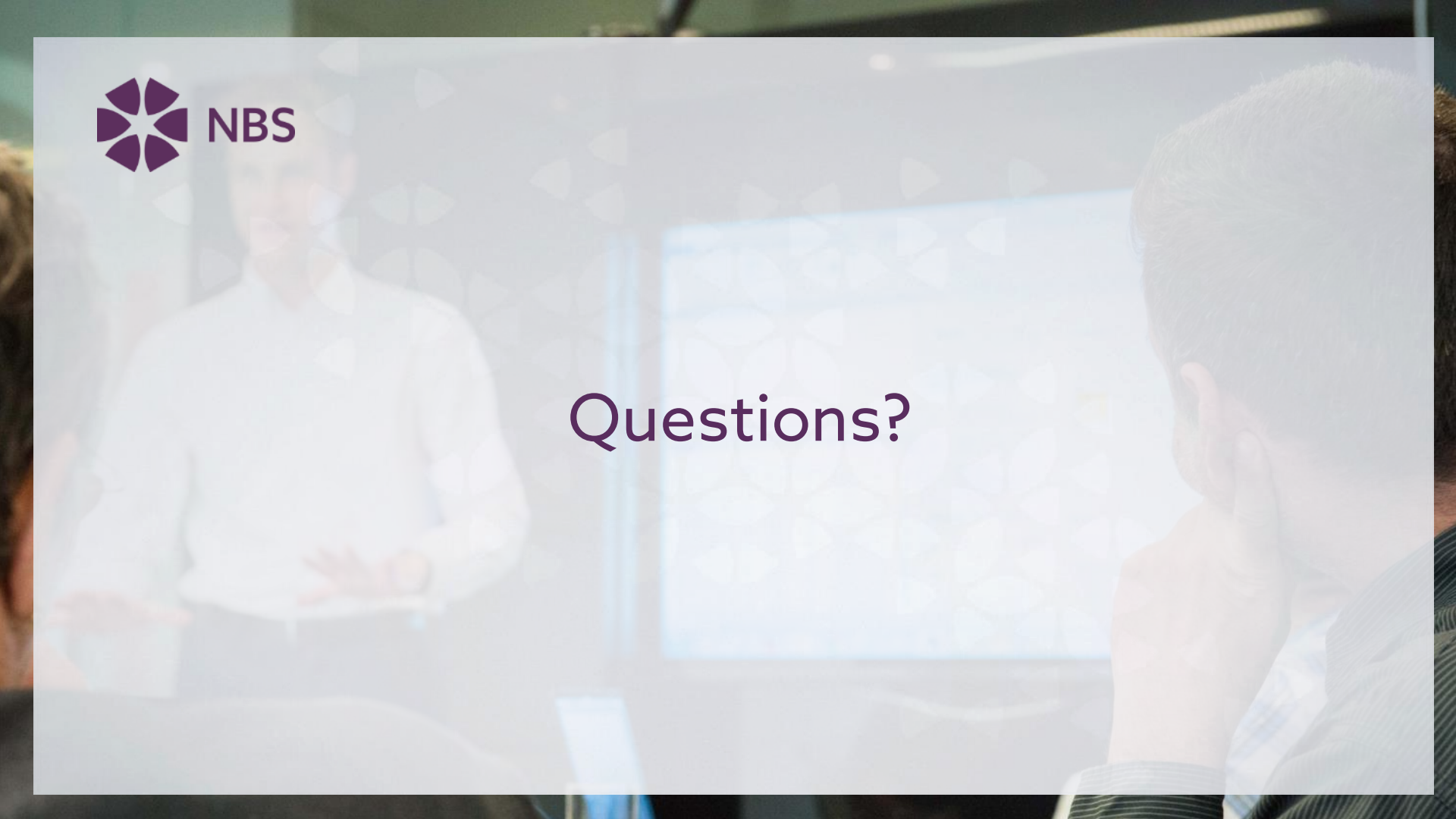
AECOM assessed and documented gaps and differences between the TfNSW ASA Classification standard and Uniclass 2015. The result of this assessment informed the recommended strategy (short & long term) and implementation plan.

In total, 1,099 objects from the ACS ACS register as well as the Asset Reference Codes Register were assessed and mapped into the Uniclass object tables. Table 38 below outlines and describes different mapping type identified in stage 3 assessment.

Table 38 - Mapping Types

Type	Description
1:0	An object exist in ACS but doesn't exist in Uniclass
1:1	Same object exists in both classification systems
1:Many	There are many objects in Uniclass that correlate to one object in ACS.
Many:1	There are many objects in ACS that are mapped to only one object in Uniclass such as Toilets
Many: Many	There are many similar objects named different in both classifications and/or level of details is not the same.

Figure 32 provides a summary of the mapping results, which indicates that only 17% (187 objects) from ASA ACS can be mapped into Uniclass directly (1:1 type) whereas, 50% (556 objects) of ASA ACS have not been captured in Uniclass (1:0 type).


NBS
Questions?