

Domain



Kingdom



Phylum



Class



Order



Family



Genus



Species

# *Uniclass2*

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# Context – UK BIM level 2

- PAS [1192-2:2013](#) *Specification for information management for the capital/delivery phase of construction projects using building information modelling.*
- PAS [1192-3:2014](#) *Specification for information management for the operational phase of assets using building information modelling (BIM).*
- BS 1192-4:2014 *Collaborative production of information – Fulfilling employers information exchange requirements using COBie – Code of practice (draft for public comment).*
- Construction Industry Council (2013), [Building Information Model \(BIM\) Protocol](#), CIC.
- Government Soft Landings ([GSL](#)).
- **Classification** (*part of TSB competition* – hopefully Uniclass2).
- The digital Plan of Works (*part of TSB competition*).

# ***Tables and Manual***

- Uniclass2 Tables at [www.cpic.org.uk/uniclass2](http://www.cpic.org.uk/uniclass2)
- Uniclass2 Manual underway – 130 pages and counting.

# *Uniclass2 update*

- Tables out for comment, still.
- Withdrawal of Work Results table as redundant.
- Government acquisition of Uniclass2 from CPI.
- TSB two-stage competition:
  - Phase 1: Small Business Innovation Research (SBRI) and Technology Strategy Board (TSB) (2014), [\*Functional specification\*](#): *A digital tool for building information modelling*, SBRI & TSB.

# Scope

		ISO/DIS 12006-2	Uniclass2
<b>Construction resource</b>	In: Information table	●	P
	Pr: Products table	●	●
	Ag: Agents table	●	P
	Ai: Aids table	●	P
<b>Construction process</b>	Ma: Management table	●	D
	PP: Project Phases table	●	●
<b>Construction result</b>	Re: Regions table – by activities		D
	Di: Districts table – by activities		D
	Co: Complexes table – by activities	●	●
	En: Entities table – by activities	●	●
	EF: Entities table – by Form	●	D
	Ac: Activities table – by activities		●
	Sp: Spaces table – by activities	●	●
	SE: Spaces table – by degree of Enclosure	●	
	Ee: Elements table	●	●
	Ss: Systems table		●
	WR: Work Results table	●	
<b>Construction property</b>	PM: Properties and Materials table	●	P
<b>Modelling</b>	Mo: Modelling table		●

This tool is a fully searchable, online version of the following ten Uniclass2 Development Release Classification tables (to find out how to use this tool see the [FAQ](#)):

1. **Co** - Complexes
2. **En** - Entities
3. **Ac** - Activities
4. **Sp** - Spaces
5. **EF** - Entities by Form
6. **Ee** - Elements
7. **Ss** - Systems
8. **Pr** - Products
9. **Zz** - CAD
10. **PP** - Project Phases

A full PDF version of these eleven tables is available here: [2013-12-03\\_Uniclass2\(Development Release\).pdf](#)

Show  entries

Search Uniclass2:

Code	Description	Parent Code
Pr_20_29_14_50	Masonry Clamps	Pr_20_29_14
Pr_20_29_23_50	Masonry Dowels	Pr_20_29_23
Pr_20_29_56_50	Masonry Nails	Pr_20_29_56
Pr_20_29_63_50	Masonry Plugs	Pr_20_29_63
Pr_20_31_12_50	Masonry Cements	Pr_20_31_12
Pr_20_85_03_50	Masonry Supports	Pr_20_85_03
Pr_20_85_09_42	Individual Masonry Brackets	Pr_20_85_09
Pr_20_93_50	Masonry Capping And Coping Units	Pr_20_93
Pr_20_93_51	Masonry Flooring Units	Pr_20_93
Pr_20_93_52	Masonry Walling Units	Pr_20_93

Showing 1 to 10 of 45 entries (filtered from 11,107 total entries)

## + 20 ADMINISTRATIVE, COMMERCIAL AND PROTECTIVE SERVICE COMPLEXES

### + 20-10 Legislative complexes

- 20-10-10 International legislative complexes
  - 20-10-10-xx *Council of the European Union*
  - 20-10-10-xx *European Commission*
  - 20-10-10-xx *European [Parliament](#)*
  - 20-10-10-xx *United Nations [General Assembly](#)*
  - 20-10-10-xx *United Nations [Security Council](#)*
- 20-10-30 National legislative complexes
  - 20-10-30-xx *National assemblies*
  - 20-10-30-xx *National capitols*
  - 20-10-30-xx *National parliaments*
- 20-10-50 Regional legislative complexes
  - 20-10-50-xx *Provincial parliaments*
  - 20-10-50-xx *State parliaments*
- 20-10-70 Local legislative complexes
  - 20-10-70-xx *County council chambers*
  - 20-10-70-xx *City council chambers*
  - 20-10-70-xx *Town council chambers*
- 20-10-95 Temporary legislative complexes

### + 20-20 Secular administrative complexes

- 20-20-10 International official administrative complexes
  - 20-20-10-xx *European Union agencies*
  - 20-20-10-xx *United Nations agencies*
- 20-20-30 National official administrative complexes
  - 20-20-30-xx *National governmental agencies*
  - 20-20-30-xx *National ministries*
- 20-20-50 Regional official administrative complexes
  - 20-20-50-xx *Regional (e.g. state) governmental agencies*
  - 20-20-50-xx *Regional (e.g. state) ministries*
- 20-20-70 Local official administrative complexes
  - 20-20-70-xx *County council offices*
  - 20-20-70-xx *City council offices*
  - 20-20-70-xx *Town council offices*
  - 20-20-70-xx *Municipal council offices*
- 20-20-95 Temporary secular administrative complexes

# *Uniclass2 Manual*

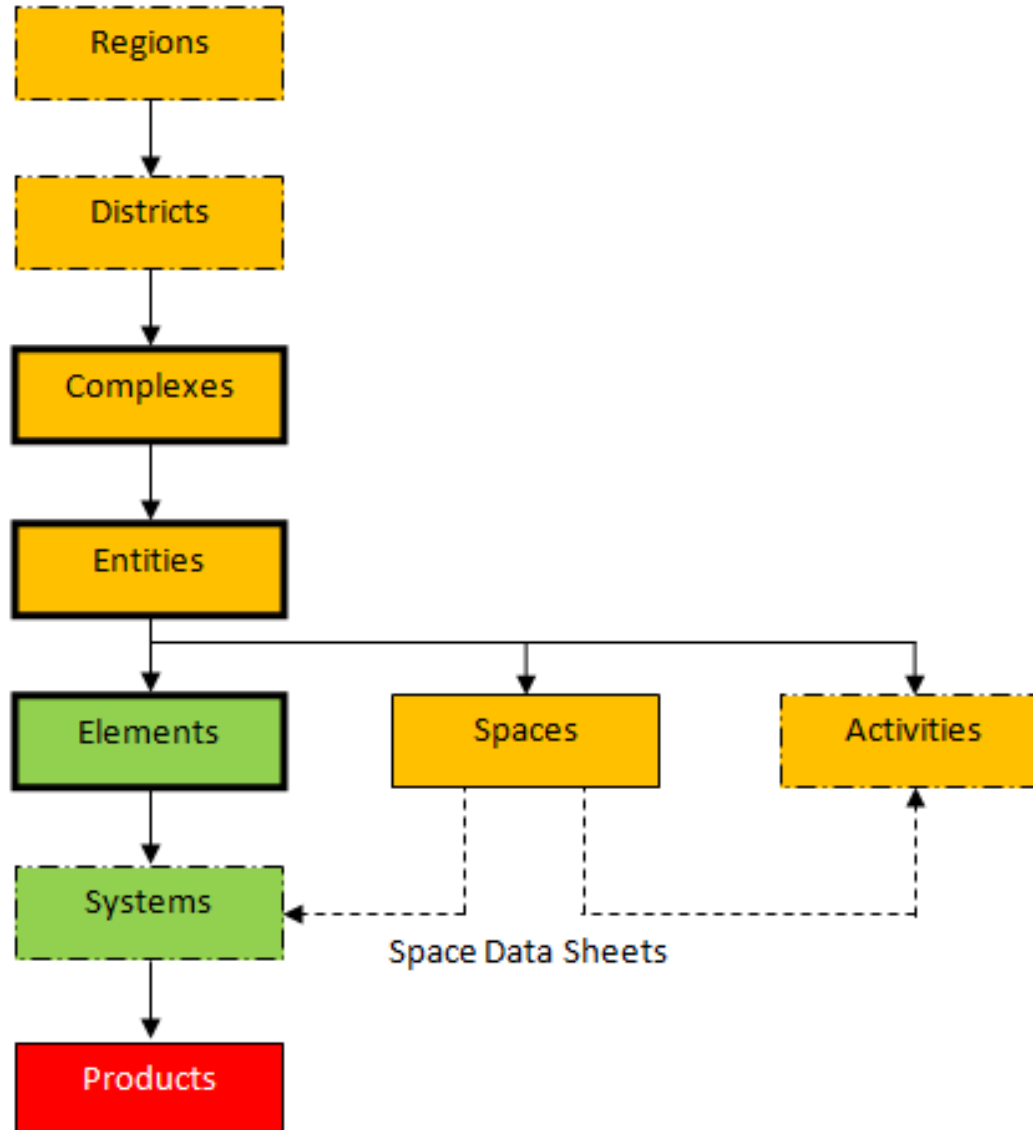
Alignment	Extension	Mapping: NRM 1 2012	Reports from Uniclass2
Ambiguity	Facilities	Mapping: NRM 2 2012	RFID tags
Annotation	Geometry	Mapping: OmniClass 2014	Scale
Applications	Granularity	Mapping: RFID tags	Schedules
Assembly	iCIM and IMPACT	Mapping: Standards	Schema
Attributes	IFCs (Industry Foundation Classes)	Mapping: Uniclass 1997	Scope
Barcodes	Implementation	Methods of measurement	Search and allocation
Benchmarking	Instance schedules	Mixed-use	Sectors and silos
BuildingSMART Data Dictionary (bSDD)	Integral and on-integral	Modelling (compositional)	Semantic web
Built-environment Information Modelling (BIM)	International	Modelling (performance)	Sequence
Chain links	Interpretation	Multiple classifications	Single children
Chains (linear modelling)	ISO/DIS 12006-2	Multiple parents	Soft FM
Classes, types and instances	Keywords in NBS Create	Naming	Source classification systems
COBie	Levels	Networks (reticulated objects)	Spaces table – by degree of enclosure
Coding	Library objects	Numbering	Specification
Completeness	LOI (Level of Information)	Object class schema	Synonyms
Congruence at Group level	Maintenance	Objects	Syntax
Congruence below Group level	Manufacturers	Occupancy phase	Taxonomy
Connotation and denotation	Mapping	Old and new construction	Terminology
Consistency	Mapping: Barcodes	Other	Timeline (life cycle)
Cost of Uniclass2	Mapping: CESMM4 2012	Overseas	Title (heading) sequences
Definitions	Mapping: CI/SfB 1976	Plan of Work	Trades
Depth	Mapping: Create 2012	Pre-configured objects	TSB (Technology Strategy Board)
Disciplines		Procurement	Type-of and Part-of
Dynamic		Properties	Versioning
Ease of use		Proprietary objects	Work results table
Environmental assessment		Recoding NBS Create	Work to existing
		Redundant classes	



# Congruence

Code	Regions	Districts	Complexes	Entities	Activities	Spaces	Elements	Systems	Products	
05	<i>Not used</i>									
10										
15										
20	Administrative, commercial and protective service						Whole-entity structural	Structure and general		
25	Cultural, educational, scientific and information						Wall and barrier	Skin		
30	Industrial						Roof, floor and paving	Opening		
35	Medical, health and welfare						Fixed access, tunnel, shaft, vessel and tower	Covering and finish		
40	Recreational						Signage and fittings, furnishings and equipment (FF&E)			
45	Residential						Flora and fauna			
50	Disposal							Fabric accessory		
55	Piped supply							<i>Not used</i>		
60	Heating, cooling and refrigeration							Services source		
65	Ventilation and air conditioning							Services distribution		
70	Electrical							Services outlet		
75	Communications, security, safety and protection							Services control		
80	Rail						Transport	Services accessory		
81	Road									
82	Marine and water									
83	Tram and cable									
84	Aerospace									
85	Process engineering									
90	<i>Not used</i>						Soft facility management			

# *Uniclass2 schema*





# Proprietary objects

	Uniclass2 object		
	Ex-catalogue	Custom-made <i>ex situ</i>	Custom-made <i>in situ</i>
Regions	Never	Never	Universal
Districts	Never	Never	Universal
Complexes	Rare	Rare	Very common
Entities	Uncommon	Rare	Very common
Activities	-	-	-
Spaces	Uncommon	Uncommon	Very common
Elements	Uncommon	Uncommon	Common
Systems	Common	Uncommon	Common
Products	Very common	Common	Uncommon

# ***Ss-25-30-20 Door, shutter and hatch systems schedule***

Extended Uniclass2 code	Instance	Dimension type	Door, shutter and hatch system	Door, shutter and hatch type	Instance variants, e.g. colour
Ss-25-30-20-30-A-G01	DG01	A	Frame and door leaf system	A	Blue
Ss-25-30-20-30-A-G02	DG02	B	Frame and door leaf system	A	Green
Ss-25-30-20-30-B-G03	DG03	B	Frame and door leaf system	B	Green
Ss-25-30-20-30-C-G04	DG04	C	Frame and door leaf system	C	Pink
Ss-25-30-20-62-A-G05	DG05	D	Pivot <u>doorset</u> system	A	Blue
Ss-25-30-20-30-B-G06	DG06	A	Frame and door leaf system	B	Cerise
Ss-25-30-20-93-A-G07	DG07	E	Up-and-over <u>doorset</u> system	A	Beige
Source of information:	Geometry		Specification		Schedule

# ***Project Phases & Management***

## Project Phases (*commissions*)

- 05 Pre-project
- 10 Feasibility
- 15 Briefing
- 20 Concept design
- 30 Design development
- 40 Technical design
- 50 Documentation
- 60 Construction
- 70 Contractor O&M
- 75 Owner O&M
- 90 Closure
- 95 Post-project

## Sub-phases & Management

- Contracts
- Procurement

- 
- Mobilization
  - Execution
  - Verification
  - Payment
  - Completion

# *Mappings underway*

- CESMM4 to/from Uniclass2 **Systems**
- CI/SfB **Elements** to/from Uniclass2 **Elements**
- NBS Create **Systems** to Uniclass2 **Systems**
- NRM 1 to Uniclass2
- NRM 2 **Work Sections** to Uniclass2 **Systems**
- OmniClass **Elements** to/from Uniclass2 **Elements**
- Uniclass 1997 **Work Sections** to Uniclass2 **Systems**

# ***ISO 12006-2***

- 16 March: Comments closed on DIS.
- 9 June: Review of comments (web).
- 1 July: FDIS published (not necessary?).
- 26-27 October: ISO TC59/SC13/WG02 meeting, Toronto.
- ISO 12006-2:2015, hopefully.



# U2 Modelling table vs ISO/DIS

U2 Modelling table/NBS Create section substructure		ISO 12006-2 Pre-design	ISO 12006-2 Design	ISO 12006-2 Production	ISO 12006-2 Maintenance				
Region/ District/ Complex/ Entity/ Activity/ Space/ Element/ System	Performance	U2 Project Management table	Design resources		Maintenance results				
			Design processes						
Outline	Design results		Production resources	Maintenance resources					
Product	Products					Production processes			
	Custom-made products			Production results			Maintenance processes		
Region/ District/ Complex/ Entity/ Space/ Element/ System	Execution							Production results	Maintenance results
	Completion								
	Operation and maintenance								

# *Critiques*

- Uniclass 1997
  - Gelder '[Unifying Uniclass](#)' (November 2011)
  - Gelder '[Reclassification](#)' (May 2006)
- OmniClass
  - Gelder '[OmniClass™: a critique](#)' (May 2013)
  - Gelder '[OmniClass™ Work Results: a critique](#)' (May 2013)
- NRM 1 classification
  - Gelder '[NRM1 classification: a critique](#)' (May 2014)

# ***BIM and classification***

- ICIS Project 3 *BIM and classification* underway.
  - More later ...