Understanding the Value of Classification -- OmniClass™

NBIMS-US: V2 Impact and V3 Potential

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Topics

→ What is OmniClass?
→ Why Classification?
→ OmniClass 101
→ OmniClass in NBIMS
→ Looking Ahead
So what is *OmniClass*?

→ 15 table faceted classification system
→ In development since 2001
→ North American in focus
→ Designed to classify objects in all types of construction through the full facility life cycle
**OmniClass Tables:**

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Const. Entities by Function</td>
<td>31</td>
<td>Phases</td>
</tr>
<tr>
<td>12</td>
<td>Const. Entities by Form</td>
<td>32</td>
<td>Services</td>
</tr>
<tr>
<td>13</td>
<td>Spaces by Function</td>
<td>33</td>
<td>Disciplines</td>
</tr>
<tr>
<td>14</td>
<td>Spaces by Form</td>
<td>34</td>
<td>Organizational Roles</td>
</tr>
<tr>
<td>21</td>
<td>Elements – <em>(UniFormat)</em></td>
<td>35</td>
<td>Tools</td>
</tr>
<tr>
<td>22</td>
<td>Work Results – <em>(MasterFormat)</em></td>
<td>36</td>
<td>Information</td>
</tr>
<tr>
<td>23</td>
<td>Products</td>
<td>41</td>
<td>Materials</td>
</tr>
<tr>
<td>41</td>
<td>Materials</td>
<td>49</td>
<td>Properties</td>
</tr>
</tbody>
</table>
Why Classification?

Classification Uses:

- Storage
- Retrieval
- Analysis
- Presentation

Classification’s value comes from the order it provides to information – the “human-facing side of BIM”
Classification Basics

→ Classification is the **grouping of like concepts and their arrangement into a hierarchy** – broader concepts (parents) to narrower concepts (children)

→ Two basic types:
  - **Enumerative**
  - **Faceted**
Enumerative Classification

All concepts are arranged in a single hierarchical listing

→ More traditional and common (Dewey Decimal, Library of Congress)
→ Considered easier to use
→ Fundamentally “flat” architecture
→ More prone to conflict
→ Less flexible
Enumerative Classification

[Diagram of animal classification]

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Family: Felidae
Genus: Felis
Species: margus

Family: Canidae
Genus: Canis
Species: familiaris

Family: Ursidae
Genus: Ursus
Species: arctos

Faceted Classification

Concepts are arranged in multiple parallel hierarchies that view the subject area from a variety of perspectives or “facets”

→ Individual tables tend to be smaller and simpler
→ Multi-table architecture makes it far more useful in databases
→ Far more flexible
→ Less prone to conflict
→ Less commonly used
→ Sometimes difficult for users
Faceted Classification

Color Table
- PARENT CONCEPT
  - Child Concept
    - Child of Child Concept
    - Child of Child Concept
    - Child of Child Concept
    - Child of Child Concept

Shape Table
- PARENT CONCEPT
  - Child Concept
    - Child of Child Concept
    - Child of Child Concept
    - Child of Child Concept
    - Child of Child Concept

Materials Table
- PARENT CONCEPT
  - Child Concept
    - Child of Child Concept
    - Child of Child Concept
    - Child of Child Concept
    - Child of Child Concept

Object = Red Rubber Ball

EXAMPLE
OmniClass 101
Roots of OmniClass Table Concept

Classification of Information in the Construction Industry

→ ISO TC59/SC13/WG2:
OmniClass Administration

→ OmniClass administered by CSI and Construction Specifications Canada (CSC)

→ OmniClass content developed by an all-volunteer cross-industry committee (OmniClass Development Committee)
  – Content is reviewed in alternating two-year cycles
  – Committee membership open to all
Table reviews scheduled:


Tables are occasionally moved between review cycles as needed.
OmniClass and buildingSMART Data Dictionary (bSDD)

→ CSI is US partner for bSDD

→ OmniClass Tables added to bSDD after successful balloting in NBIMS-US consensus process

→ Six Tables currently in bSDD:
  • 13 – Spaces by Function
  • 21 – Elements
  • 22 – Work Results
  • 23 – Products
  • 32 – Services
  • 36 – Information
OmniClass in NBIMS-US
OmniClass Tables:

11 Const. Entities by Function
12 Const. Entities by Form
13 Spaces by Function
14 Spaces by Form
21 Elements – (UniFormat)
22 Work Results – (MasterFormat)
23 Products

31 Phases
32 Services
33 Disciplines
34 Organizational Roles
35 Tools
36 Information
41 Materials
49 Properties
OmniClass Tables:

11 Const. Entities by Function
12 Const. Entities by Form
13 Spaces by Function
14 Spaces by Form
21 Elements – (UniFormat)
22 Work Results – (MasterFormat) (revisions balloted in v3.0)
23 Products

Balloted with NBIMS-US v2.0
Being Balloted with NBIMS-US v3.0
To be Balloted for a future version of NBIMS-US
OmniClass Status

→ **2012-2014 Review Cycle underway now.**
→ **Working Groups charged:**
  – **Spaces** (Tables 13 – Spaces by Function and 14 – Spaces by Form)
  – **Products** (Table 23 – Products)
  – **Activities and Process** (Tables 32 – Services, 36 – Information, and 35 – Tools)
→ **Intent is to continue refinement and add content**
→ **Review Cycle scheduled to complete in June 2014**
Looking Ahead
Using OmniClass

→ OmniClass implementation

  – Education available from CSI in calendar 2014

  – End users will primarily access through other tools – software, information resources, etc.

→ Tables available at www.omniclass.org
New version of *OmniClass* website in beta now, intended outcomes:

- Web services for software
- More formats for table distribution
- Easier participation for current and new ODC members

[http://beta.omniclass.org](http://beta.omniclass.org) (still many broken links on site, but please visit)
OmniClass is a comprehensive classification system for the construction industry. OmniClass can be used for many applications, such as organizing library materials, product literature, and project information, but its chief applications will be in providing a classification structure for electronic databases and software that implements them, to enrich the information available from those resources. It incorporates other extant systems currently in use as the basis of some of its Tables — such as MasterFormat® for work results and UniFormat™ for elements.

OmniClass is designed to provide a standardized basis for classifying information created and used by the North American architectural, engineering, and construction industry, throughout the full facility life cycle from conception to demolition or reuse, and encompassing all of the different types of construction that make up the built environment. OmniClass is intended to be the means for organizing, sorting, and retrieving information, and standardizing digital data exchanges.

OmniClass Beta Site
### Table 13

<table>
<thead>
<tr>
<th>Status</th>
<th>Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Standard</td>
<td>2012-08-16</td>
</tr>
</tbody>
</table>

Spaces by Function are basic units of the built environment delineated by physical or abstract boundaries and characterized by function.

- 13-11 00 00 Space Planning Types
- 13-13 00 00 Void Areas
- 13-15 00 00 Wall Spaces
- 13-17 00 00 Encroachment Spaces
- 13-21 00 00 Parking Spaces
- 13-23 00 00 Facility Service Spaces
- 13-25 00 00 Circulation Spaces
- 13-31 00 00 Education and Training Spaces
- 13-33 00 00 Recreation Spaces
- 13-35 00 00 Government Spaces
- 13-37 00 00 Artistic Spaces
- 13-41 00 00 Museum Spaces
- 13-45 00 00 Library Spaces
- 13-47 00 00 Spiritual Spaces
- 13-49 00 00 Environmentally Controlled Spaces
- 13-51 00 00 Healthcare Spaces
- 13-53 00 00 Laboratory Spaces
- 13-55 00 00 Commerce Activity Spaces
- 13-57 00 00 Service Activity Spaces
- 13-59 00 00 Production, Fabrication, and Maintenance Spaces
- 13-61 00 00 Protective Spaces
- 13-63 00 00 Storage Spaces
**OmniClass Beta Site**

Please note: This is a beta version of the official OmniClass site. Information provided on this site is for testing and development purposes only. **Please do not rely upon or implement any information presented on beta.omniclass.org.** For official versions of the tables and associated information, please go to www.omniclass.org. Thank you.

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### Table 13

<table>
<thead>
<tr>
<th>Status</th>
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</tr>
</thead>
<tbody>
<tr>
<td>OmniClass</td>
<td>2012-05-16</td>
</tr>
</tbody>
</table>

Spaces by Function are basic units of the built environment delineated by physical or abstract boundaries and characterized by function.

#### 13-23 15 00 Loading Dock

518EACE-CEBA-499D-B702-8791E7F1CF76

**Definition(s):** A secondary building entrance space used to accommodate shipping and delivery of bulk materials to the structure.

- 13-23 11 00 Vertical Penetration
- 13-23 12 00 Horizontal Infrastructure/Service Space, Non-Occupied
- 13-23 13 00 Control Room
- 13-23 16 00 Loading Dock
- 13-23 17 00 Restroom
- 13-23 19 00 Utility Equipment Room
- 13-23 21 00 Waste and Recycling Spaces
- 13-23 23 00 Building Service Support Spaces
- 13-23 25 00 Equipment Platform
- 13-23 27 00 Interstitial Space
- 13-23 29 00 Unimproved Shell
- 13-23 31 00 Alteration or Conversion Space
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<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-37 69 23</td>
<td>Loading Platform/Ramp</td>
<td>A structure from which trucks or rail cars can be loaded or unloaded by moving the load directly up or down.</td>
</tr>
<tr>
<td>11-51 34 23</td>
<td>Airfield Apron</td>
<td>An area provided for aircraft parking, servicing, and loading.</td>
</tr>
<tr>
<td>13-21 11 00</td>
<td>Exterior Parking Spaces</td>
<td>Outdoor area used for transient storage of motor vehicles, not including loading docks, sa...</td>
</tr>
<tr>
<td>13-23 15 00</td>
<td>Loading Dock</td>
<td>A secondary building entrance space used to accommodate shipping and delivery of bulk mater...</td>
</tr>
<tr>
<td>13-63 13 25</td>
<td>Consolidation/Containerization Point</td>
<td>Space for outloading, stuffing, and receiving containers.</td>
</tr>
<tr>
<td>21-04 10 30 60</td>
<td>Passenger Loading Bridges</td>
<td></td>
</tr>
<tr>
<td>21-05 10 10 00</td>
<td>Loading Dock Equipment</td>
<td></td>
</tr>
<tr>
<td>22-11 13 00</td>
<td>Loading Dock Equipment</td>
<td></td>
</tr>
<tr>
<td>22-11 13 00</td>
<td>Loading Dock Equipment</td>
<td></td>
</tr>
<tr>
<td>22-11 13 13</td>
<td>Loading Dock Bumpers</td>
<td></td>
</tr>
<tr>
<td>22-11 13 13</td>
<td>Loading Dock Bumpers</td>
<td></td>
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<tr>
<td>22-11 13 16</td>
<td>Loading Dock Seals and Shelters</td>
<td></td>
</tr>
<tr>
<td>22-11 13 16</td>
<td>Loading Dock Seals and Shelters</td>
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<tr>
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<td>Loading Dock Seals</td>
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<td>Loading Dock Shelters</td>
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Interested?

For more information: www.omniclass.org

To join the OmniClass Development Committee, send an email to: omniclass@csinet.org
Thanks

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