Construction Specifications Canada

P<small>RODUCT</small>F<small>ORMAT</small>© 2008

Digicon Information Inc.

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Preface

PRODUCTFORMAT is the culmination of over 20 years of effort; it is the result of ongoing services provided to North American manufacturers since the 1980s, initially by W2 Consultants Ltd, and later by Digicon until the present. The task requested by the manufacturer clients was to develop technical literature that would be structured in a manner which was friendlier to their users, primarily specifiers. The result is this PRODUCTFORMAT approach of paralleling the source information with the order of subjects in the specification.

In 2006, Construction Specifications Canada (CSC) was approached by Digicon with a view to formalizing the ProductFormat approach into a standard for organizing product literature; a standard which complements the existing CSC standards for specifications. CSC agreed, and this PRODUCTFORMAT standard is the resulting publication.

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DEFINITIONS/SOURCE DOCUMENTS

CSC/CSI

Construction Specifications Canada (CSC) is the professional organization for individuals dedicated to the continuing development and establishment of industry accepted documentation for the commercial construction industry.

Construction Specifications Institute (CSI) is a similar organization to CSC, based in the United States.

CSC and CSI publish most of the standards related to specifications, including MasterFormat, SectionFormat, and PageFormat

Project Manual

The project manual is the final document used for bidding purposes as well as during the complete construction phase of a project. It includes all contractual documents, bidding information, and product focused specifications.

MasterFormat

CSC/CSI MasterFormat is a standard for organizing the sections of a specification, or Project Manual. MasterFormat is essentially a list of standardized numbers and titles for all products specified in a construction project. Standardizing the numbers and titles of specification sections ensures that all users know where to find information relevant to their discipline within a specification.

For more information about CSC/CSI MasterFormat, refer to CSC's marketing web site at http://www.spex.ca.

OmniClass

OmniClass is an open-source standard for classifying construction information of all types, for all reasons. In the context of ProductFormat, OmniClass Table 23 - Products offers a classification table exclusively for "products", which may be used by consultants for organizing their product information libraries.

For more information about OmniClass, or to download a free copy, browse to http://www.omniclass.ca.

INTRODUCTION

Today, nearly all consultants in North America have adopted the *CSC/CSI MasterFormat* standard for numbering specification sections, as well as the *CSC/CSI SectionFormat* standard for organizing the internal structure within a specification section. However, there is no widespread standard for organization of product information, which leads to difficulties by specifiers and consultants to find the details they require, quickly and efficiently.

In the commercial construction industry, a specifier, architect or engineer develops one or more specification sections for each product, or a small collection of products, used on a project. This specification is used for design team coordination, bidding, contracting, acquiring and installing, product commissioning and project administration. As an integral part of a construction contract, specifications are read and interpreted by contractors and subcontractors in order to provide the specified quality of product.

Historically, the technical product data developed and published by manufacturers has been based on their desire to provide all potentially relevant information that may be important for consultants. While the quantity of information published can be extensive, inconsistent organization of that information leads to a dependence on specifier users to spend precious time searching for their project specific requirements. As a result, a specifier may have a great deal of difficulty finding the exact information needed to make an informed decision regarding products being considered and once selected, to specify them.

This discrepancy between the specific needs of the user and the information provided by manufacturers has increased as the commercial construction industry has developed and adopted increasingly standardized approaches to the development of project specifications.

Establishing a direct relationship between the organization of a specification section and that of the product information is both logical and necessary. This *PRODUCTFORMAT* standard seeks to support this relationship by establishing a standard for the development of detailed product information to complement a specification.

PURPOSE

WHY A PRODUCT INFORMATION FORMAT?

The purpose of manufacturer's technical documentation is to inform the users (owners, the architectural and engineering community, design professionals, specifiers, and contractors) of their products' technical and functional qualities. These users require organized technical information in order to:
- select one or more products for their project from a range of available manufacturers, and once selected,
- to specify a product or products in a Project Manual.

When consultants accept any product for use on a project, they are accepting legal liability for that product's "suitability for purpose". To assume this liability, they require clear and accurate technical product information in order to render an informed decision on the suitability of a product for the project. The greater the clarity and accuracy of technical documentation, organized in a manner to minimize effort by the users to select and then specify a product, the greater the potential for the product to be specified and eventually used in a project.

Since a PRODUCTFORMAT document enables a consultant/specifier to assess and accept or reject a product for their project, it also services as a reference to a:
- specifier, who must generate a project specification for bid, contract, and construction,
- contractor, who may require technical data to successfully install or operate the product,

- owner, who must refer to the data during the maintenance phase of a facility.

PRODUCTFORMAT:
- assists in the organization of construction product information, used in the development of specifications,
- improves the simplicity and effectiveness of specifier generated Project Manuals,
- enables simple filing of product information and related technical data,
- enhances construction market data, and
- increases the compatibility and comparability of product data with newer building information modeling (BIM) technologies.

Developing technical product literature organized to PRODUCTFORMAT offers several advantages:
- enables product manufacturers to provide current product information to specifiers and technical personnel in a format that is familiar and most useful,
- permits software programmers to enhance computer search capabilities for finding products with either ordinary or unique qualities,
- permits designers, contractors and specifiers to quickly find and identify products that meet a project's needs,
- permits owners to quickly identify relevant details or features of products selected by designers or contractors.

PRODUCTFORMAT is a standard that manufacturers can use to organize their literature to communicate technical data to the users who need it, clearly and accurately.

PRODUCTFORMAT DOCUMENTS

PRODUCTFORMAT documents are a form of product literature in which the technical aspects of a product are structured in accordance with this PRODUCTFORMAT standard, and which parallels the CSC standard for the structure of specifications. PRODUCTFORMAT documents describe products in pure technical terms, enabling a manufacturer to communicate detailed technical product information to consultants/specifiers in a clear, unambiguous way.

A *PRODUCTFORMAT* document describes:
- a product,
- its intended uses,
- its properties and characteristics,
- its quality level,
- the standards it meets,
- conformance to relevant tests, and
- its limitations.

SPECIFICATION SECTIONS

A specification section as a part of a Project Manual is a specific, <u>contractually enforceable</u> document which must be drafted by a design professional - a consultant or a specifier. Its purpose is to identify (by specifying) product requirements that a contractor must fulfill for a construction project.

A design professional may choose to specify products by any one of three common specification methods:
- proprietary - a product is named by manufacturer(s) and model or type,
- prescriptive - a product is described by its physical attributes, and
- performance - a product is described by its functional attributes plus what and how it must perform).

The proprietary method of specifying, in its purest form, identifies products by their trade names. The prescriptive method of specifying is the most common (especially in government specifications), and includes a list of tangible requirements and related properties which make up the product. Specifying by performance criteria describes how the product will perform when installed and what is expected of it in terms of durability and quality.

Product Master Specification Sections

Product master specification sections are templates which have been written to assist a specifier to edit a specification section about a specific product for a project. The text includes only products, options, and properties which are available in the subject product, and by extension, omits those options and properties which cannot be provided.

Product master specifications can be a powerful marketing tool for manufacturers to ease the process of specifying their product. ProductFormat documents can support this process by providing a valuable reference listing of attributes, which are structured in parallel to the specification section.

WHY PARALLEL PRODUCTFORMAT DOCUMENTS WITH SPECIFICATION SECTIONS?

Commercial and industrial product manufacturers depend largely on design consultants' acceptance before they can be used on projects. Every project requires a specification, which identifies the minimum requirements for every product in the project design. As stated previously, design consultants undertake two tasks during this process:
- product selection (between manufacturers, or between products), and
- product specification (specifying a selected product).

The process of selecting a product involves investigating the properties of products from many competing manufacturers. Incomplete or disorganized product literature or unsubstantiated sales hype hinders this process considerably. Consequently, the danger of a product (or product manufacturer) not being selected can be minimized if the manufacturer develops concise and complete technical information, in a format which enables users to find and locate their relevant data.

Once a product has been selected, the task of ensuring that the selected product actually arrives on site, must be accomplished through a process of identifying and specifying its requirements (usually minimum requirements) in a project specification. This specification forms part of the contract which legally binds a contractor to providing a product to meet those requirements.

BASIC ORGANIZATION

THREE PRIMARY GROUPS

PRODUCTFORMAT documents are fundamentally divided into three distinct groups, which parallel the widely-adopted 3-part *CSC/CSI SectionFormat* standard for specifications:

PRODUCTFORMAT	CSC/CSI SectionFormat
Product Features	Part 1 - General
Product Properties	Part 2 - Products
Product Placement	Part 3 - Execution

Product Features

This group is designed to convey general or administrative information about products; anything which does not expressly relate to a product's composition or placement. The subheadings recommended for this heading generally inform the reader:

- What the product is (what type of product, its generic and its marketing name)
- Where it is typically used,
- What distinguishing features or qualifications it has that may influence a decision to select this product,
- How it performs (by itself or as part of an assembly).

Product Properties

This group describes what the product is made from, and any relevant aspects about the fabrication of the product in the factory. This loosely corresponds to the Materials and Fabrication articles in SectionFormat.

Product Placement

This group contains information relevant to the installation of the product on a project site, and startup and maintenance procedures related to the installed product. This section does not duplicate an "installation manual" (a separate document), but contain aspects of the installation that a consultant or specifier would need to know in order to make an informed decision about selecting the product, or to sufficiently specify fundamental installation requirements.

ORGANIZATION OF HEADINGS

Although the subheadings used in PRODUCTFORMAT are designed to parallel the CSC/CSI SectionFormat standard, they sometimes differ. The information contained in a ProductFormat document should encompass all of the relevant possibilities and options associated with the product, whereas a specification is designed to narrow that list down to a set of requirements for one or few products destined for a particular project.

Two subheadings listed near the bottom of a PRODUCTFORMAT document include MasterFormat and OmniClass classification codes. These reference numbers and titles convey to the users who are familiar with those classes, which specification sections the product may apply to, and offer classification codes for filing and retrieval purposes.

Numbering / Bullets

It is common practice to number specification text statements (either numeric or alpha-numeric) due to their primary role as contract documents, and a need for external referencing. Further, the actual numbers used for articles and paragraphs in any given specification are NOT standardized (in fact, they are sequential, and only articles that are used on a project are so numbered).

Since the role of PRODUCTFORMAT documents is to inform the reader of product technical data, and the order of subheadings within a PRODUCTFORMAT document is well established, and to further distinguish a PRODUCTFORMAT document from a specification, the use of bullets (•) to distinguish subheadings is recommended.

The PRODUCTFORMAT heading layout that follows in this document consist of small round bullets. The emphasis when developing a PRODUCTFORMAT document must be placed on the order of subheadings; any form of bullets may be used. Inapplicable subheadings may be omitted from the PRODUCTFORMAT document.

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> [Product Name]   [Manufacturers Logo]
> [Manufacturer's Name]   [Page Number]
> [Date of Publication]
>
> [OmniClass Classification - number/name]
> [MasterFormat Classification - number/name]

SPECIAL NOTE: The following text is NOT intended to be used as the basis for a specification - only the order of topics is similar.

PRODUCT FEATURES

- DESCRIPTION
  Describes the product in brief, by descriptive, generic terms.
      Example: "Perforated, stainless steel metal ceiling panel."

- USES
  Identifies specific uses of the product in generic terms, listing primary uses first and then secondary uses. Do NOT identify the product's proprietary (trade) name here; proprietary names should be located in Product Properties (below) only.
      Example: Used in suspended ceilings, fire rated and unrated.

- PRODUCT ATTRIBUTES AND CHARACTERISTICS
  Identifies important attributes and characteristics of the product - properties that make the product important for a specifier to consider and select for a project specification. Specific detailed product properties will be covered in Product Properties (below).
      Example: Excellent sound attenuation and reverberation control

- SELECTION CRITERIA
  Identifies the performance and operational criteria that will encourage a specifier to select this product. It is not a list of inherent attributes, but rather a list of potential benefits in particular applications.
      Example: Supports greater structural ceiling loads than acoustic tile.

- SUSTAINABILITY CRITERIA
  Itemizes criteria for product consideration under sustainability requirements according to an agency recognized for its obligations to project-wide sustainability - such as LEED. Recycle attributes should also be stated. The sum total of the credits toward sustainability criteria should be documented and confirmed by appropriate authoritative project-wide substantiation. This criteria can be documented, tracked and summarized through the design and construction processes, electronically. Tracking can begin with a designers product selection through to a builder's document submittals and potentially by a third-

party confirmation process.
> *Examples:*
>> *Made from minimum xx% recycled steel.*
>> *Meets LEED NC Credit 3.2 when ...*

- APPLICABLE STANDARDS, RELATED REFERENCES
  Summarizes all standards and industry references that apply to this product, and are cited in this document. Sustainability standards and certifications by third party organizations should also be stated.
  > *Example: ASTM A635 - xxxx.*

- PERFORMANCE CRITERIA
  Identifies product performance or operation criteria. Sustainability criteria as it affects the product applications should be stated.
  > *Example: Capable of supporting normal lighting and ceiling loads*

- QUALITY STATEMENT, TESTS, CERTIFICATIONS, AND APPROVALS
  Refer to a quality reference - such as - ISO 9001, ASTM or a Warnoch-Hersey test result.
  > *Example: Flame spread rating of xxxxxx in accordance with ASTM xxxx*

- PACKAGING, HANDLING, PROTECTION, AND DELIVERY INSTRUCTIONS
  Identifies packaging options, environmental limitations for storage or delivery, protection requirements during shipping or storage, over-size loads, over-weight loads, available in long lengths only, etc.
  > *Example: Packages in quantities capable of simple handling, re-cycle-able containers.*

- SPECIAL WARRANTY
  Identify the warranty/guaranty offered by the manufacturer, or by third parties, including duration and coverage, in summary form (users can refer to a printed warranty if necessary).
  > *Example: Warranty offered - two (2) years after installation.*

- LIMITATIONS
  Every product has limitations - identify them here.
  > *Example: Should not be installed in high humidity or damp environments.*

- SAFETY PRECAUTIONS
  State safety concerns of the product itself - or handling or installation precautions.
  > *Example: Simple and straight-forward installation.*

- AVAILABILITY
  Cite national, regional, local, availability in a statement form.
  > *Example: Available across Canada.*

- COST
  State cost in relative terms (compared to a similar product or alternate method), or

indicate where budget costs can be obtained.

Examples:

> *Less expensive than traditional gypsum board equivalents.*
>
> *Varies with substrate condition and configuration, lapped or air-tight sealed joints, sealing requirements to surrounding construction, and relative size of building.*
>
> *Consult manufacturer sales offices or distributors for specific product costs or relative costs.*

PRODUCT PROPERTIES

- MATERIALS, COMPOSITION, PROPERTIES
  Describe the primary component as a material or product, its (animal, vegetable, or mineral) properties and characteristics. For assistance, refer to OmniClass Table 23 - Products and Table 49 - Properties. Composition of the product or its parts as it affects sustainability should be stated.

- ACCESSORIES
  Describe the primary component as a material or product, its (animal, vegetable, or mineral) properties and characteristics. Include accessories required by the primary product.

- SHAPE, MASS, AND DIMENSIONS
  Be descriptive of its appearance and its intrinsic properties. Select the appropriate title to suite the type of product. Consultants may look here to see if equipment will fit a particular space.

- SHOP FABRICATION AND ASSEMBLY
  Indicate shop pre-assembly, knock-down feature for site erection, etc.

- FINISH, COLOURS AND TEXTURES
  Identify available finishes (sheen, etc), colours, textures.

PRODUCT PLACEMENT

- PREPARATION
  Identify special site or product preparations required, surface cleaning and priming required, etc.

- INSTALLATION, ERECTION, APPLICATION, CONSTRUCTION
  Select one of the above terms as an appropriate title, identify significant install

criteria - do not make it look like a Part 3 specification section on "install".

- COVERAGE
  Applicable only to sheet goods, paints or coverings, expressed per unit area or volume.

- START-UP AND OPERATION
  Start-up and operational requirements - sequence of operation, etc.

- WASTE RECYCLING
  Indicate waste collection and recycling requirements and any special considerations that may apply.

- OWNER'S INSTRUCTIONS AND DEMONSTRATION
  Indicate manufacturer's instructions to the contractor during construction and to the owner by providing instructional classes or seminar(s) to the owner's staff.

- MAINTENANCE INSTRUCTIONS AND PROCEDURES
  Indicate periodic inspections and maintenance after start-up, affect on warranty if any, criteria for such after warranty is over, oil the bearings once a month, etc.

Corporate Identification

Indicate primary information as to location and how the reader can contact the company.
[Corporate Name]
[Full Address]
[Phone(s) #]
[Fax #]
[e-mail address - technical support, etc., with live link (underscore)]
[Web home page URL - with live link (underscore)]

Technical Services Available

Indicate information sources / national office / regional offices / representatives / distributors / available contacts.

Classification and Filing

Indicate one or more *OmniClass* and *MasterFormat* numbers and names that apply to the product and its category as it will apply.

OmniClass 2006

Primary product number and generic name (*OmniClass* Table 23)

MasterFormat 2004:

Primary work result specification section number and name - at the option of the manufacturer (usually for marketing reasons).
Also list prominent secondary locations for the subject product. (*MasterFormat*

2004 permits many locations and corresponding numbers for a given product)

END