

MasterFormat®

Introduction and
Applications Guide



The Construction Specifications Institute, Inc.
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Introduction and Applications Guide

Introduction

MasterFormat is a standard list of numbers and titles identifying work results and construction practices, primarily used to organize project manuals and detailed cost information and to relate drawing notations to specifications.

Construction projects use many kinds of delivery methods, products, and installation methods, but one thing is common to all—the need for effective teamwork by the many parties involved to ensure the correct and timely completion of work. The successful completion of projects requires not only effective communication among the participants involved but also easy access to essential project information. Efficient information organization and retrieval is enhanced significantly when a standard organizational framework is used by everyone. *MasterFormat* provides such a standard framework for use throughout the construction industry.

This new edition of *MasterFormat* includes changes and enhancements made for the 2020 edition and replaces all previous updates and editions. It is produced jointly by the Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC).

Why *MasterFormat*?

MasterFormat is a standardized arrangement of work results provided to enhance the speed and quality of communication by professionals participating on a construction project team. Though it was initially designed for use in traditional commercial and institutional building construction, it has since been expanded to fully address the needs of heavy civil, roadway, process, and industrial construction projects—indeed, *MasterFormat* can now be used for any type of construction.

The work results in *MasterFormat* are organized in a series of hierarchies so that users can easily find the information they need for the purpose of bidding, understanding the design intent and quality requirements of any assembly to be installed or constructed, and estimating the costs of facility construction and maintenance, among many other

possible uses. *MasterFormat* has been in use and continuous refinement for more than 55 years, and the familiarity of its structure has provided users with a reliable starting point for the often high-pressure, short deadline work they must perform when participating in a construction project.

MasterFormat Development History

Beginning with the 2004 edition, the numbering scheme was revised to more adequately cover the subjects of *MasterFormat* and to provide room for the addition of new subjects without the need to restructure the system contents, as had been done many times in the years prior to 2004. The previous five-digit numbers were expanded to allow for more subjects at each level of classification and thereby accommodate more consistent classification. The five-digit numbers had limitations resulting from the way in which each digit was employed. Because only a single digit was assigned for each Level after the Division, the number of possible Level 2 Subdivisions within each Division was held to nine. Similarly, the number of categories available at Level 3 was also limited to nine. There were no standardized Level 4 numbers in *MasterFormat* prior to 2004.

In many Divisions, the amount of space available for information was too limiting, and *MasterFormat* could not properly address each topic. This lack of room often resulted in the inconsistent classification of information, with the insertion of topics like Fire Suppression, Detection and Alarm, and Solar and Wind Energy Equipment into Division 13 when they should be placed in another location. Rather than each topic being placed in a more appropriate location, they were placed in Division 13 because there was no room available elsewhere.

In order to work around these limitations a sixth digit was added in 2004, and the six digits were arranged into three sets of paired numbers. Arranging the numbers in this way allowed for the use of similar numbers to those of the 1995 edition for many Level 2 topics, making the transition easier for longtime users of the 1995 and previous editions. Using pairs of numbers allows for many more items at each level, and the main six-digit

number represents three levels of subordination, as the published numbers in previous editions of *MasterFormat* had done with the first four digits of their five-digit numbers.

A comparison between the five-digit numbering system used in *MasterFormat* 1995 and previous editions and the six-digit numbering system used in the editions of *MasterFormat* published since 2004 is given below:

MasterFormat 1995 and earlier: 07500 — Membrane Roofing: The first two digits (“07”) indicate the Division — Level 1 of the organizational scheme. Each of the next three digits is taken individually and represents Levels 2, 3, and 4, respectively. In the *MasterFormat* 1995 edition, the Level 4 number (the last digit) was typically left unassigned and instead represented by a zero in order to provide flexibility for individual users.

MasterFormat 2004 to present: 07 50 00 — Membrane Roofing: The first two digits (“07”) still indicate the Division, or Level 1. The next pair of numbers, in this case “50”, represents Level 2, and the third pair, “00”, represents Level 3. Because Level 3 is unassigned in this example — represented in *MasterFormat* numbering by a double zero (“00”) — this is a Level 2 number. As such, because a pair of digits represents each Level of classification, there is room to address more than ten times as many subjects at Levels 2 and 3 as there was in the 1995 edition, providing more flexibility and opportunity for future expansion than was possible using the five-digit system.

Industry Acceptance

For more than 55 years, the system of numbers and titles described in *MasterFormat* has been used increasingly by the construction industry. Today, *MasterFormat* is by far the most widely used system for organizing construction project information in North America; its system of organizing construction information into Procurement and Contracting Requirements and technical Divisions of activities and work practices has been applied to every type of information resource used in design and construction.

MasterFormat Revision Process

MasterFormat 2004 edition was developed with the idea that rather than releasing new editions every five to seven years, standards could be maintained on an ongoing basis with new content, new organization, and a new numbering system. In early 2006, CSI and Construction Specifications Canada appointed the *MasterFormat* Maintenance Task Team to conduct this ongoing review and evolutionary addition of numbers and titles to *MasterFormat*, as demanded by industry trends. This effort was augmented by the participation of commercial implementers of *MasterFormat*, including the major master guide specification and product information providers in the United States and Canada. These major master guide specification providers are represented on the *MasterFormat* Maintenance Task Team.

In late 2008, the *MasterFormat* Maintenance Task Team adopted an annual revision process, taking input from users over the course of each year and releasing new editions of *MasterFormat* once annually in response to those proposals. With the 2012 update, this was modified to be a biennial process.

Commentary and proposals for changes or additions to *MasterFormat* can be submitted at the proposal site on the *MasterFormat* section of www.csiresources.org for consideration by the *MasterFormat* Maintenance Task Team during its annual meeting. The deadline for submitting proposals each year is April 30. Any proposals made after April 30 will be considered on a case-by-case basis. If sufficient time remains to properly consider the scope of the proposal, a decision will be made; otherwise the proposal will be added to the queue for the following year’s meeting. New numbers and titles resulting from these meetings are published on www.csiresources.org/standards/masterformat, coincident with the publication of the new edition.

MasterFormat Maintenance Task Team Proposal Approval Process

All proposals must pass through a two-stage process before approval. Both stages measure the proposal

as presented against the same set of criteria, but at different levels of detail.

The first stage is an initial screening of the proposal for addition to the task team meeting agenda. This screening measures the proposal as submitted against existing *MasterFormat* numbers and titles, and against similar proposals submitted that year or previously. If upon a cursory examination the proposal is found to meet the decision-making criteria established by the task team (given below), it is added to the meeting agenda for further discussion and decision. If the proposal does not meet those criteria, even at a cursory level, then it is not added to the meeting agenda and the proposer is informed immediately.

The second stage takes place at the task team meetings, when the task team members examine each proposal on the agenda in more depth to determine if it meets the decision-making criteria to a sufficient degree to merit addition or other revision to *MasterFormat*.

MasterFormat Maintenance Task Team Proposal Decision-Making Criteria

All proposals are judged against the following criteria for addition to the annual meeting agenda, and also for approval as revisions to *MasterFormat*. The questions posed by the criteria are considered in the order presented below.

1. Eligibility. “Is the subject matter in question a work result?” Work results are defined as permanent or temporary aspects of construction projects achieved in the production stage or by subsequent alteration, maintenance, or demolition processes, through the application of a particular skill or trade to construction resources. In most cases, “construction resources” are products.

Generally, product-focused proposals are not considered work results. Unless a product-focused proposal is presented by the proposer as representative of a new work result, with new properties and/or new installation requirements previously unanticipated by existing *MasterFormat* numbers and titles, a product-focused proposal will likely be denied.

If the answer to this question is yes, then the decision-making process will proceed to the second question. If the answer to this question is no, then the proposal will be denied.

2. Duplicate of Existing *MasterFormat* Listing.

“Is the subject of the proposal already addressed adequately by an existing number and title?”

Many work results are specified under titles that have broader subject coverage than the work result in question — such a title may consider many possible alternative work results with substantially similar qualities.

If the answer to this question is no, then the decision-making process will proceed to the next question. If yes, then the proposal will be denied.

2.1 Usefulness. If a proposed number and title covers an area of subject matter already addressed by an existing *MasterFormat* number and title, it may still be appropriate for inclusion in *MasterFormat* if the proposed title better defines the subject matter, or the proposed title’s potential usefulness or appropriateness exceeds that of the existing title. As with all considerations in this process, there is a need to balance potential usefulness for the organization of specifications with purity of classification and potential usefulness of *MasterFormat* for other information applications. When applying this exception to the above guideline, it is important to avoid potential confusion in the use of *MasterFormat*, either from potentially duplicative section titles or from section titles that do not accurately convey the subject they are written to express.

3. Prior Action by *MasterFormat* Maintenance Task Team. “Is the subject one that has already been addressed by the task team as a result of an earlier proposal?” If the answer to this question is yes, then the proposal will be denied unless the subject matter of the new proposal is in some way materially different from the earlier proposal or industry use, and circumstances have changed the context of the proposal sufficiently to reconsider the earlier decision.

If the proposal is denied after reexamination, the reasons for denial will depend on the action taken for the earlier proposal: In the case of an

earlier approved proposal, the new proposal will be denied because the subject matter is now covered in *MasterFormat*, per criteria 2 (above). If the earlier proposal was denied, then the new proposal will also be denied in order to maintain consistency in task team decision-making.

4. Documentation. “Is the subject of the proposal adequately documented?” Is there a clear, unambiguous synopsis of the proposal subject in generic, non-proprietary terms showing application of resources, with appropriate illustration or references (e.g. professional/industry input such as guidelines, standards, literature, etc.)? The substance supporting the proposal must be sufficient for task team discussion and decision-making purposes.

If the answer to this question is yes, and the proposal was found to have sufficiently met all other criteria, then it will either be placed on the task team agenda or approved; otherwise, the proposer will be contacted to obtain additional supporting documentation before a decision is made.

5. Minor changes. If the proposal suggests only title or added information changes to existing work results in the current edition of *MasterFormat*, screening factors 1, 2, and 3 will not apply, and only step 4 will apply in determining approval of the item.

Applications Guide

This Applications Guide explains how to use *MasterFormat*.

Application Overview

The principle application for *MasterFormat* is titling and arranging the parts of project manuals that contain combinations of procurement requirements, contracting requirements, and construction specifications.

Participants in the construction process may use *MasterFormat* for other applications by adapting the organizing principles and taxonomy to those applications. Examples of other *MasterFormat*

applications include organizing sets of information, such as construction cost databases, collections of technical data, and construction market data, and tagging individual information objects like drawing notations and their coordination with specifications, BIM objects, and facilities asset information.

Although *MasterFormat* provides a detailed and standard listing of potential titles, *MasterFormat* is designed to maximize flexibility for individual users. For any given project, a user is free to assign new numbers for new titles in appropriate locations.

Users will note that some examples provided in the Applications Guide compare usage in 1995 and earlier editions with recommended usage in the current edition. These comparisons recognize the significant changes in the structure of *MasterFormat*, and the results such changes have on recommended practice, starting with the 2004 edition.

MasterFormat Structure

Groups and Subgroups

All the following *MasterFormat* Groups and Subgroups can be included in project manuals:

Procurement and Contracting Requirements Group (Division 00) contains:

- Introductory Information: Indexing and general information documents are found at the beginning of project manuals.
- Procurement and Contracting Requirements: Division 00 content is used to identify sections and contract documents that define relationships, processes, and responsibilities for project team members.

Specifications Group: This Group contains five Subgroups. Each Subgroup is broken down into Divisions as listed. This Group has 49 Divisions total, 34 of which are in use and 15 of which are reserved for future expansion.

- General Requirements Subgroup: Division 01.
- Facility Construction Subgroup: Divisions 02–19.
- Facility Services Subgroup: Divisions 20–29.

- Site and Infrastructure Subgroup: Divisions 30–39.
- Process Equipment Subgroup: Divisions 40–49.

Groups are not numbered, but may be divided into Subgroups. Subgroups are not numbered, but are divided into numbered Divisions. Divisions are the top Level (Level 1) in the numbered taxonomy of *MasterFormat*. The Divisions include sets of numbered Titles (Levels 2–4). When used for organizing specifications in a project manual, the titles are referred to as “sections” that specify work results (Levels 2–4).

CSI defines work results as aspects of construction projects achieved through the application of a particular skill or trade to construction resources in the construction stage or by subsequent alteration, maintenance, or demolition processes. Construction resources may include products such as carpet, padding, and adhesive in a carpeting work result; however, it is possible to have a work result that does not include products among its construction resources.

In short, work results are the result evidenced in the facility after work has been completed.

A complete listing of the Groups, Subgroups, and Divisions that make up the highest level of organization of *MasterFormat* is provided at the end of the Introduction and Applications Guide.

MasterFormat Numbers, Titles, and Content

Standard Assigned Numbers

In order to continue to help those updating their information from previous editions and to provide familiarity, numbers and titles have been assigned where possible to correspond with the location of a subject in *MasterFormat* 1995. For instance, 09650 Resilient Flooring is now 09 65 00 Resilient Flooring, 14240 Hydraulic Elevators is 14 24 00 Hydraulic Elevators, and 16540 Classified Location Lighting is 26 54 00 Classified Location Lighting.

The following conventions have been used in assigning numbers:

- The numbers 00–09 at Levels 3 and 4 are generally left unassigned.
- Numbers ending in zero; 10, 20, 30, 40, 50, 60, 70, 80, and 90 at Levels 3 and 4 are generally left unassigned to avoid the tendency to imply a hierarchy that does not exist at the Level in question (i.e. the incorrect implication that “11 14 43” is a specialization falling under “11 14 40”).
- In most Divisions, title and number assignments at Levels 3 and 4 have been allocated in spaced groups that generally follow this pattern: 13, 16, 19, then 23, 26, 29, and so on. This was done to provide adequate spacing between titles and numbers. The choice of these specific numbers has no meaning beyond spacing.
- As sections have been added over time (see also *MasterFormat* Revision Process), new numbers have been assigned in a way that avoids reuse of number and title pairs that have been recently deprecated or moved.

A user does not need to follow the above conventions and is free to use any appropriate number in the assignment of new numbers for new titles, provided the following requirements are met:

- The title and number are appropriately located within a Division and section area that corresponds with the subject matter the user wishes to insert.
- The title, or a similar title, does not already have an assigned number.
- The number chosen by the user has not already been assigned to a standard title.
- The number is not within a Division that has been designated as reserved for future expansion.

Special Level 2 Numbers

Some Level 2 numbers in *MasterFormat* are used to group related Level 2 subjects so that the organization of the classification is more easily understood and is easier for users to navigate. These Level 2 numbers have a zero for the second of the Level 2 pair of numbers (XX X0 00).

In the example given in the paragraphs above, 07 50 00 Membrane Roofing is such a number. 42 10 00 Process Heating Equipment and 42 30 00 Process Drying Equipment are also examples of this use of Level 2 numbers. Each of these numbers and titles serves to group related subjects, listing a selection of more detailed Level 2 titles below them. In the case of the Division 42 titles directly above, the various types of heating or drying equipment are organized under each of those broader organizational titles.

Although the main purpose of Level 2 numbers and titles is to make the organizational structure easier to browse and use, Level 2 numbers and titles may also be used as a section title in a project manual like any other number and title, regardless of level.

Level 4 and 5 Numbers

In some cases, a Level 4 pair of numbers is added to give a more uniform and standardized definition of the subject matter. Editions of *MasterFormat* published prior to 2004 often provided unnumbered Level 4 titles as examples; however, where any work result has been assigned in the current edition of *MasterFormat*, a specific number has also been assigned to facilitate improved consistent communication about more detailed subjects. The following illustrates an example of Level 2–4 titles and numbers that fall under 07 50 00 Membrane Roofing:

- 07 51 00 Built-Up Bituminous Roofing (Level 2)
- 07 51 13 Built-Up Asphalt Roofing (Level 3)
- 07 51 13.13 Cold-Applied Built-Up Asphalt Roofing (Level 4)

Further subordination and subdivision of subject matter is often appropriate when there is need to assign numbers to specify or use some subjects in more detail or there is need for the ability to add user-defined subjects under numbers assigned in *MasterFormat*. In addition to a sixth digit, the new numbering scheme allows for the addition of a delimiter—in this case, a decimal point (“.”) and two more digits. In addition to providing users with another level of numbering to address specialized topics, this supplementary pair of digits also accommodates the assignment of standardized Level 4 numbers to detailed subjects in *MasterFormat*.

Although use of a decimal point delimiter and additional numbers goes back as far as the 1995 edition, where it was used to assign additional characters to signify user-defined Level 5 numbers, the addition of a decimal point and two digits to signify Level 4 numbers differs from the earlier practice in several ways:

1. The current Level 4 digits are fixed at two digits.
2. These digits are always numbers.
3. Some of these digits are published and assigned as standard numbers in *MasterFormat*.

When applying Level 5 numbers, users may assign additional characters as needed after a second decimal point to code for user-defined differences between titles. These may be assigned by users for a variety of reasons, such as to indicate a client, a project type, or a specific project, or to differ between product grades included in variations of an otherwise similar specification section.

For example:

Standard Level 4 Title: 08 11 13.16 Custom Hollow Metal Doors and Frames

User-defined Level 5 Title: 08 11 13.16.ABC1
(for ABC Brand Custom Hollow Metal Doors and Frames)

If a Level 5 number was to be applied to a Level 3 or higher *MasterFormat* number, it could be done so by inserting a decimal and two zeroes (“00”) before the Level 5 designation in the following fashion:

Standard Level 3 Title: 10 51 13 Metal Lockers

User-defined Level 5 Title: 10 51 13.00.XY12B
(for XY Project Metal Lockers)

As detailed in the paragraphs above, *Level 5 numbers and titles are only for internal use*; titles and numbers included in project manuals and other applications are to be limited to Levels 1–4.

Title Terminology

Titles in *MasterFormat* use terminology that more consistently reflects classifying work results than products. For example, a title like Concrete Reinforcing reflects the combination of skilled work

and materials better than the earlier title, Concrete Reinforcement, which largely reflects just the product. Similar examples include Steel Joist Framing rather than Steel Joists, and Painting rather than Paints.

In some cases, a work result title is the same as the product, and the titles have remained the same. Examples include titles like Sheathing, Traffic Doors, and Specialty Casework.

Division Level Titles

The number XX 00 00 is listed in every Division and represents a Division level section with a title the same as the Division title. These titles have been included to provide users preparing project manuals the flexibility to write Division level sections if called for. For example, in a very simple or small-scale project, this title flexibility allows users to write broad and simple sections.

Designated Locations For Subject Matter

Some subjects that are repeated in most Divisions have been located in a consistent manner at the

beginning of each Division. These subjects include Operations and Maintenance, Common Work Results, Schedules, and Commissioning.

Operations and Maintenance includes subjects that take place after initial handover of the facility, including periodic maintenance, repair, rehabilitation, replacement, and restoration.

These numbers and titles are applicable when operation and maintenance is the focus of the work results included in the project manual, especially in cases where operations and maintenance activities apply to many sections within a division. In instances where operations and maintenance outcomes are not the central focus of the work result, but are rather aspects of another work result section, the user should reference the CSI/CSC publication *SectionFormat* for instructions on the inclusion of operations and maintenance information and requirements as a part of the section that is the focus of the work result.

XX 01 00 Operations and Maintenance— Work results related to Operations and Maintenance are consistently located at XX 01 00 in each Division as shown in the following example:

22 01 00	Operation and Maintenance of Plumbing
22 01 10	Operation and Maintenance of Plumbing Piping and Pumps
22 01 10.16	Video Piping Inspections
22 01 10.51	Plumbing Piping Cleaning
22 01 10.61	Plumbing Piping Repairs
22 01 10.62	Plumbing Piping Relining
22 01 30	Operation and Maintenance of Plumbing Equipment
22 01 40	Operation and Maintenance of Plumbing Fixtures
22 01 50	Operation and Maintenance of Pool and Fountain Plumbing Systems
22 01 60	Operation and Maintenance of Laboratory and Healthcare Systems

All titles and numbers within the range of XX 01 00 to XX 01 99 should relate to operations and maintenance of subjects of that Division. The Explanation Column in each Division includes

a recommended Level 4 numbering scheme for Operation and Maintenance subjects.

XX 05 00 Common Work Results— Work results pertaining to subjects referenced by or included in multiple titles within a Division are located at XX 05 00 in that Division. For example:

22 05 00	Common Work Results for Plumbing
22 05 05	Selective Demolition for Plumbing
22 05 13	Common Motor Requirements for Plumbing Equipment
22 05 16	Expansion Fittings and Loops for Plumbing Piping
22 05 17	Sleeves and Sleeve Seals for Plumbing Piping
22 05 19	Meters and Gauges for Plumbing Piping
22 05 23	General-Duty Valves for Plumbing Piping
22 05 26	Hangers and Supports for Plumbing Piping and Equipment
22 05 33	Heat Tracing for Plumbing Piping
22 05 43	Vibration and Seismic Control for Plumbing Piping and Equipment
22 05 48.13	Vibration Controls for Plumbing Piping and Equipment
22 05 53	Identification for Plumbing Piping and Equipment
22 05 73	Facility Drainage Manholes
22 05 76	Facility Drainage Piping Cleanouts

All titles and numbers within the range of XX 05 00 to XX 05 99 should relate to work results common to or referenced by more than one title within that Division.

In a project manual application, other technical sections that include the common work results can reference the related Common Work Results section, allowing for a single location to house this information. These titles and numbers can also be used for the classification of products or assemblies that are common to multiple titles within a Division.

XX 06 00 Schedules— In a project manual application, schedules that relate to the work of only one section should be located within that section.

Schedules that reference work results described by multiple sections within a Division are consistently located at XX 06 00, as shown in the following example:

25 06 00	Schedules for Integrated Automation
25 06 11	Schedules for Integrated Automation Network
25 06 12	Schedules for Integrated Automation Network Gateways
25 06 13	Schedules for Integrated Automation Control and Monitoring Network
25 06 14	Schedules for Integrated Automation Local Control Units
25 06 30	Schedules for Integrated Automation Instrumentation and Terminal Devices

All titles and numbers within the range of XX 06 00 to XX 06 99 should relate to schedules for subjects that apply to multiple sections of that Division.

XX 08 00 Commissioning— Commissioning work results that apply to multiple titles from multiple Divisions should be located at 01 91 00 Commissioning in Division 01.

Work results related to Commissioning that apply to multiple titles within a single Division should follow any requirements established in 01 91 00 and be located within XX 08 00, as shown in the following example:

34 08 00	Commissioning of Transportation
34 08 13	Commissioning of Roadways
34 08 23	Commissioning of Railways
34 08 33	Commissioning of Airfields
34 08 43	Commissioning of Bridges

All titles and numbers within the range of XX 08 00 to XX 08 99 should relate to the commissioning of subjects that apply to multiple titles of that Division.

Facility Services Titles

Some subjects repeated in multiple Divisions of the Facility Services Subgroup also have similar consistently designated locations at the beginning of those Divisions in that Subgroup:

- 2X 07 00 <SUBJECT> Insulation
- 2X 09 00 Instrumentation and Control for <SUBJECT>

Process Equipment Commissioning

Because the Process Equipment Subgroup is organized somewhat differently, the Divisions in this Subgroup also have an additional designated location of 40 80 00 Commissioning of Process Systems that applies to all the subjects within the Process Equipment Subgroup. This location supplements the 4X 08 00 location for commissioning that only relates to multiple titles within a single Division of that Subgroup.

The Process Equipment Subgroup also has a reserved number and title, 40 90 00 Primary Control Devices, for devices that adjust industrial process variables across entire process equipment systems. Work results described under 40 90 00 are typically for projects where the entire facility has distinct process instrumentation or control requirements central to the performance of the facility.

Selecting *MasterFormat* Titles

Proper selection of titles based on their relative hierarchy and location helps users make inferences about the scope of documents, files, and line items. Consider this sample of titles in Division 07:

07 40 00	Roofing and Siding Panels	(Level 2)
07 41 00	Roof Panels	(Level 2)
07 42 00	Wall Panels	(Level 2)
07 42 13	Metal Wall Panels	(Level 3)
07 42 13.13	Formed Metal Wall Panels	(Level 4)
07 42 13.16	Metal Plate Wall Panels	(Level 4)
07 42 13.19	Insulated Metal Wall Panels	(Level 4)
07 42 13.23	Metal Composite Material Wall Panels	(Level 4)
07 42 23	Wood Wall Panels	(Level 3)
07 42 26	Tile Wall Panels	(Level 3)
07 42 29	Terra Cotta Wall Panels	(Level 3)
07 42 33	Plastic Wall Panels	(Level 3)
07 42 43	Composite Wall Panels	(Level 3)
07 42 46	Cementitious Wall Panels	(Level 3)
07 42 63	Fabricated Wall Panel Assemblies	(Level 3)
07 42 93	Soffit Panels	(Level 3)

In order to take full advantage of *MasterFormat* as an industry standard, and to facilitate communications, the assigned numbers and titles should be used as much as possible. Following the guidelines given below, users may develop new additional titles to better reflect the required work results for a particular project.

Assigning *MasterFormat* Numbers

In addition to using the numbers and titles as presented by the standard, a user may also wish

to create a new user-defined number and title for certain applications. For example, in context of the wall panel sections presented above, a user may wish to create a section for a panel model being used for both roof and wall applications.

A good choice for such a new number and title would be 07 43 00 Roof and Wall Panels (a Level 2 number that is currently unused). If they are metal panels, the choice could be extended to a Level 3 number titled 07 43 13 Metal Roof and Wall Panels.

A user may also wish to create a new section title and number for a type of wall panel that is not yet included in *MasterFormat*.

For example, this new section could be used to describe another material, such as fiber-cement. In that case, a user could assign the title “Fiber-Cement Wall Panel” to the unused Level 3 number 07 42 51.

Finally, a user may wish to create a Level 4 number for a specific type of Metal Wall Panel. In that case, the title “Aluminum Metal Wall Panels” could be created beneath 07 42 13 Metal Wall Panels and given the Level 4 number 07 42 13.11. Except for the existing numbers used by the standard Level 4 specializations of 07 42 13 Metal Wall Panels, the number chosen as the fourth pair of numbers for a user-created number could be any number between 01 and 99, depending on the wishes of the user.

In addition to the Level 4 example given above, unassigned numbers are available for users to assign to undesignated subjects not yet included in *MasterFormat* at any level.

Users should not assign titles to any Divisions that are currently reserved for future expansion. New Groups, Subgroups, or Divisions should not be created by users.

An assigned number in *MasterFormat* should always be used with its associated assigned title, and exclusively that title, regardless of whether the assigned number is a six-digit Level 2 or 3 number or an eight-digit Level 4 number. If a title is modified or a new Level 2, 3, or 4 title is created, then a number should be selected that places the subject among similar existing assigned numbers and titles. These user-defined titles should relate to the coverage explained in the right-hand column of the master list of titles and numbers and should be consistent in structure with titles in that area of *MasterFormat*.

MasterFormat titles are numbered consistently with six digits at Levels 1, 2, and 3, and where further definition is accommodated with eight digits at Level 4. *User-defined numbers should be consistent with this numbering system.*

Display of *MasterFormat* Numbers

When displayed in master guide specifications, project manuals, and elsewhere, it is recommended that delimiters be used between pairs of numbers to enhance readability. *MasterFormat* recommends that a space be used as the delimiter between Level

1 and Level 2, and again between Level 2 and Level 3, but a decimal point should be used between Level 3 and Level 4, as well as any additional Levels that individual users may add beyond Level 4 for use in their own systems.

There are several options available for graphic display of the first four Levels within the system, as follows:

11 22 33.44 (*Recommended*)

11 2233.44

112233.44

(The digits 1 through 4 in these examples indicate the Level represented by each pair of digits.)

Regardless of which of these spacing options is used, the delimiter between Levels 3 and 4 should always be a decimal point. If using decimal points in file naming presents issues in the software application being used, other delimiters, such as a dash or underscore (or no delimiter at all), may be substituted for the purposes of the application. If such an approach is followed, the substitution should be carried out consistently, and affected project team members should be made aware of this decision.

Explanations

The explanations in the *MasterFormat* Master List of Numbers, Titles, and Explanations use standard reference terms as added entries to clarify the scope and range of titles. These explanations include descriptions of what is or may be included in a section, commonly used abbreviations and alternate terms, and lists of related *MasterFormat* subjects and their numbered locations.

MasterFormat uses preferred, non-trademarked terminology in its titles. Non-preferred terminology that is in common use is listed in the explanations under *Alternate Terms/Abbreviations* to assist users in finding the proper location in *MasterFormat* for subject matter.

MasterFormat avoids the use of abbreviations in its titles. Widely accepted and commonly understood abbreviations are listed in the explanations under *Alternate Terms/Abbreviations* to assist users in finding the proper location in *MasterFormat* for the commonly abbreviated subject matter.

In rare exceptions to this rule, *MasterFormat* uses abbreviations in titles provided that 1) the abbreviations are well-known and understood and 2) using a commonly known abbreviation will help maintain a more reasonable length for a title. The definitions of any abbreviations used are listed in the explanations under *Alternate Terms/Abbreviations*. In these cases, it is also recommended that the user include the definition of the abbreviation within the text of the document or specification section.

Relationship to Other Standards

Relationship to *OmniClass*®

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. *OmniClass* classifications encompass all types of construction that make up the built environment.

OmniClass provides a tool for standardizing, organizing, and retrieving information and digital information exchanges. *OmniClass*' scope extends through every scale in the built environment, from completed structures and campuses to individual products and component materials. *OmniClass* also standardizes classifications for actions, people, tools, and information that are part of the design, construction, and maintenance of facilities.

OmniClass Table 22 — Work Results is based upon the content provided in *MasterFormat*. Simultaneously, the indexes and explanations of *MasterFormat* draw information from *OmniClass* Table 23 — Products and Table 21 — Elements, making it an application of *OmniClass*. For more information on *OmniClass*, visit www.csiresources.org/standards/omniclass.

Relationship to *UniFormat*®

CSI/CSC *UniFormat*® is designed to provide a standardized basis for classifying the physical elements of a facility by their primary function without regard to the work results that will be used

to achieve the function. Substructure, shell, interiors, and services are examples of basic functional elements, often referred to as systems or assemblies.

For example, the shell element can be broken down into superstructure (structural frame), exterior vertical enclosures (exterior wall assemblies), and exterior horizontal enclosures (roofing assemblies). The services element can be broken down into conveying (elevator systems), plumbing (domestic water distribution), heating, ventilating, air conditioning (HVAC), fire protection (fire sprinkler systems), and electrical (lighting systems). *UniFormat* is an application of Table 21 — Elements of *OmniClass*, and much as *MasterFormat* provides the basis for *OmniClass* Table 22 — Work Results, *UniFormat* provides the basis for Table 21.

UniFormat is a companion organizational tool to *MasterFormat*. *UniFormat* is most commonly used at the earlier stages of a project before work results have been specified. *UniFormat* provides a means to organize design criteria, performance requirements, cost data, and descriptive requirements for systems and assemblies before the solutions or work results have been selected. *UniFormat* is used to organize preliminary project descriptions, preliminary cost estimates, and reference details. *MasterFormat* is used to organize outline specifications, full specifications, detailed cost data, and drawing notations. It is appropriate to change from *UniFormat* to *MasterFormat* to classify the physical elements of a project when work results are being specified.

MasterFormat has modeled the organizational structure of 01 80 00 Performance Requirements after *UniFormat*. In a project manual application, a user may use this location in *MasterFormat* to provide performance or other requirements for the functional elements of a project that may include elements from multiple titles, multiple Divisions, or both.

Relationship to *SectionFormat*®

CSI/CSC publication *SectionFormat*® provides a uniform approach to organizing specification text within specification sections contained in a project manual. *SectionFormat* is a companion organizational tool to *MasterFormat*.

MasterFormat provides a standardized system for sequence, numbers, titles, and organization of project manual content. *SectionFormat* provides a standardized system to organize the information within each specification section in that project manual.

Using *MasterFormat*

Using *MasterFormat* for Project Manuals

Discipline and Trade Jurisdictions

MasterFormat's organizational structure does not imply how the work specified in a project manual is to be assigned to various design disciplines, trades, or subcontractors. That work is left to the general contractor or design lead to work out with consultants and trade contractors using scope of work or similar documents. *MasterFormat* is not intended to determine which portions of the project manual are prepared by a design discipline, nor is *MasterFormat's* structure intended to determine which trade performs work described by the project manual. A discipline or trade is likely to be responsible for subjects from multiple Divisions, as well as from multiple Subgroups. Local practice or regulation will also likely have an effect on how work is designed and performed.

Contract Documents

MasterFormat's organizational structure does not determine what is and is not a contract document. Generally, the documents included in the Contracting Requirements will include a definition and a listing of the contract documents for a project.

In Procurement Requirements and Contracting Requirements, some owners may use different terminology to refer to documents with established *MasterFormat* titles. Users should alter the *MasterFormat* titles when appropriate and required by the owner. Similarly, it is not necessary to renumber or retitle printed forms and standard contract documents published by various professional societies or contract-issuing bodies to correspond with numbers and titles in this portion of *MasterFormat*.

Project Manual Table of Contents

It is recommended that the table of contents for a project manual list all the *MasterFormat* Groups and Subgroups, regardless of whether the project manual contains any documents or sections within those Groups or Subgroups. If any Division within a Subgroup is used, then all the Divisions of that Subgroup should be listed, with Division numbers not used in the project labeled as "Not Used".

If none of the Divisions within a Subgroup are used, then the Subgroup can be labeled as "Not Used" without separately listing the Divisions within that Subgroup.

The sections should be listed in their numerical order under the appropriate Divisions. Only those sections used in the project manual should be listed; no indication of sections that are not used needs to be included.

Electronic Filing

Although *MasterFormat* recommends delimiters when numbers are displayed graphically, this may not be desirable when used in databases or similar software, depending on rules that may be in place for any given field in which information is stored. The key to effectively using *MasterFormat* numbers to organize electronic information is dependent more on consistency of application than strict adherence to delimiter assignment as recommended in this guide. If delimiters or spaces are to be used, always use the same delimiters and spaces in the same locations in the number structure.

For example:

11 22 16
 11 22 16.13
 11 22 16.16
 or
 112216
 112216.13
 112216.16
 or
 112216
 112216_13
 112216_16

Lower-Level (more detailed) numbers and titles may be used for internal electronic filing purposes. In the case of specifications, a user may have multiple versions of the same specification section for different clients or for different types of projects.

For example, following the rules provided in this guide under Level 4 and 5 numbers, the standard heading 23 61 16 Reciprocating Refrigerant Compressors could be subdivided into alternate specification sections for different types of projects. The multiple versions of the section would then be identified with appropriately assigned Level 4 or 5 numbers for internal reference. When the sections are used in a project manual, they would be presented to other project team members with the standard number and title 23 61 16 Reciprocating Refrigerant Compressors. The lower-level numbers and titles would only be used for the identification and interfiling of the multiple versions of the same section in a firm or organizational library.

Using *MasterFormat* for Naming Product Data Files

MasterFormat is not intended to provide a technical or product data filing system, as there is often not a single location where a product may be found in *MasterFormat*. Many products are used for multiple purposes or work results and may be found in multiple locations in *MasterFormat*.

This relation between specification sections and products can be useful for providing pointers to products based on their uses, but it can be confusing if used as a primary organizational structure for products.

Names of products may appear in some titles in *MasterFormat* when they are synonymous with the work result, but generally there is a conceptual difference between products and their use in work results. Products which might be included with a work result but are not included in the title are often listed in the Explanations Column for the title, under the heading “Products.”

OmniClass Table 23 — Products provides a tool for classifying products, with single locations provided for any given product class, regardless of the different types of work results in which the product may be employed.

Suppliers’ and subcontractors’ data, such as qualification information or submittals, may be identified by the work result they supply or install. The work of suppliers and subcontractors often transcends Division boundaries, requiring a system for multiple references to *MasterFormat* titles. A recommended alternative solution is to use other *OmniClass* Tables such as Table 33 — Disciplines or Table 32 — Services.

Using *MasterFormat* in Cost Data Applications

Cost analysis requires identification of line items, which are often related to products and activities. An identification scheme based on *MasterFormat* can be as flexible as appropriate for any firm or project’s needs.

OmniClass Table 21 — Elements or CSI/CSC *UniFormat* are also recommended when dealing with construction costing applications in the earlier stages of a project, before work results have been specified.

Organizing unit price databases using the same numbering and titling format used for specifying and naming data files benefits the user through increased uniformity and standardization. Familiarity with *MasterFormat* allows users to relate specification requirements, product information, and cost data to a single organizational standard.

Numbers and titles under “Procurement Requirements” and “Contracting Requirements” in Division 00 identify cost items related to bonds, insurance, permits, fees, and other general items that may be more preliminary in nature.

Numbers and titles in Division 01 identify unit costs for temporary construction facilities and controls, mobilization, project site administration, and other general requirement cost items often related to construction phase activities.

Numbers and titles in the other Subgroups of the Specifications Group identify costs related to work results and their construction or installation.

Organizing and tabulating cost reports may require indicating or summarizing products and activities. Using *MasterFormat* numbers and titles will aid users in making estimates about material costs while analyzing the report.

Using *MasterFormat* for Organizing Drawing and Model Notations

An important strategy for the naming of drawing or BIM objects is related to the need to link requirements between complementary documents. One must examine the entire set of contract documents to determine all the requirements for a single product. Notations on drawings should use terminology consistent with those used in the specifications in order to tie the specified work results and activities to their locations and number as identified by the drawing or model.

Reference keynoting applications have adopted *MasterFormat* as a base numbering system, to enhance cross-referencing and coordination between drawings, BIM objects, and specifications.

Using *MasterFormat* with Construction Market Data

Market data reporting agencies routinely use *MasterFormat* to identify products specified in a project manual during the procurement stage. This practice allows users to quickly identify substitution and sales potential for their products and services.

Using *MasterFormat* for Facility Management

Facility managers use *MasterFormat* numbers and titles to identify products incorporated into their buildings, and for identifying items that may be referenced in several documents.

The *MasterFormat* titles related to operation and maintenance provide a scheme for specifying predictable maintenance at time of installation, and for recording general life cycle maintenance information.

The numbers and titles can be taken from the original project specifications and other documents or used by facility management staff to organize asset maintenance information after construction and handover.

Summary Of Recommendations

SUBJECT	RECOMMENDATIONS	OPTIONS	USE RESTRICTIONS
Groups	Two titled unnumbered Groups.	None.	Do not create new Groups.
Subgroups	Seven titled unnumbered Subgroups.	None.	Do not create new Subgroups.
Divisions	Fifty numbered Divisions. Divisions 00–49.	None.	Do not use Divisions designated as reserved for future expansion. Do not create new Divisions.
Level 2 Numbers	Three pairs of digits ending with 00. (XX XX 00)	None.	Do not use other than the recommended numbering systems for Level 2, Level 3, and Level 4 titles.
Level 3 Numbers	Three pairs of digits. (XX XX XX)	None.	
Level 4 Numbers	Three pairs of digits followed by a decimal point and two more digits. (XX XX XX.XX)	Option for detailed titles.	
Level 5 Numbers	Three pairs of digits followed by a decimal point and two more digits followed by a decimal point and any combination of digits and letters. (XX XX XX.XX.ABCD12)	User option to create titles or versions for internal uses.	Do not use for project manuals or other uses beyond the internal uses of the specific user or firm.
Graphical Display of Numbers	Insert spaces between Level 1, Level 2, and Level 3 pairs of digits. Insert decimal point ahead of Level 4 pair of digits. (XX XX XX.XX)	Insert spaces only between Level 1 and Level 2 pairs of digits (XX XXXX.XX). Keep three pairs of numbers together with no spaces (XXXXXX.XX).	Do not use graphical displays other than the recommended or optional choices.
Electronic File Numbers	Maintain consistency in use or nonuse of delimiters (spaces and decimal points).	Use any of graphical display of numbers options above.	
Additional Titles and Numbers	Comply with above recommendations and restrictions regarding titling and numbering of Groups, Subgroups, Divisions, and Sections. Locate user-created title and number as appropriate within standard titles and numbers.	User option to create. Use any unassigned Level 2, Level 3, or Level 4 number within an assigned Division.	Do not assign a different number to a standard title. Do not assign a different title to a standard number. Do not assign a number within a Division reserved for future expansion.
Terminology	Use assigned titles.	None.	Avoid the use of non-preferred terminology for user-created titles.
Project Manual Table of Contents	List all Groups and Subgroups. Add "Not Used" to Groups and Subgroups not used in the Project Manual. List all Divisions 00–49. Add "Not Used" to Divisions not used within used Subgroups. List only Sections that are used in the Project Manual.	Do not list Divisions within Groups or Subgroups that are noted as "Not Used."	Do not list unused Sections.

The above table is intended only as a summation of information included throughout this Applications Guide. Users are strongly encouraged to read the Applications Guide in full for a more comprehensive discussion of these recommendations and *MasterFormat* usage.

History

Since it was introduced in 1963, *MasterFormat*, as it is now known, has been widely accepted as a standard format for organizing specifications in the United States and Canada. In the words of its original authors, *MasterFormat* is designed to fulfill, “a pressing need for a national format for construction specifications.” First published as part of the “CSI Format for Construction Specifications,” it was later used as the basis for the “Uniform System for Construction Specifications, Data Filing, and Cost Accounting—Title One Buildings” published in 1966. The “Uniform System” was developed and endorsed by the following organizations:

- American Institute of Architects,
- American Society of Landscape Architects,
- Associated General Contractors of America Inc.,
- Associated Specialty Contractors,
- Construction Products Manufacturing Council,
- National Society of Professional Engineers,
- Construction Specifications Institute.

In 1966, a similar effort in Canada produced “The Building Construction Index” (BCI), based on the 16-Division format that had been introduced by the Specification Writers Association of Canada, renamed Construction Specifications Canada in 1974.

The U.S. and Canadian formats were merged into a single format in 1972 and published as the *Uniform Construction Index* (UCI). The UCI was a comprehensive framework for organizing information contained in project manuals, as well as providing a basis for data filing and project cost classification.

In 1978, Construction Specifications Canada joined with the Construction Specifications Institute to produce the first edition of *MasterFormat*, introduced by CSI as MP-2-1 and by CSC as Document 004E. It incorporated a complete organizational format for project manuals by including bidding requirements, contract forms, and conditions of the contract, in addition to the 16-Division list of five-digit section numbers and titles used primarily for specifications.

The first revised edition of *MasterFormat* was published in 1983. It retained the basic principles of organization contained in the previous edition; however, revisions and additions recognized the needs of the engineering disciplines.

The 1988 edition included revisions and additions needed to recognize new products and developments in the construction industry and was based on input from *MasterFormat* users.

The 1995 edition of *MasterFormat* underwent more extensive public review and coordination with industry users than had any previous edition. It incorporated many minor revisions in section numbers and titles, and several changes in style and presentation. There were also some significant rearrangements of section numbers and titles, particularly in Divisions 1, 2, 13, 15, and 16. This was done largely in an effort to address the overcrowding of these Divisions. The Applications Guide was expanded to provide specific information on proper uses of *MasterFormat*.

The 2004 edition of *MasterFormat* resulted from an unprecedented attempt at obtaining industry-wide participation in the development process carried out by the *MasterFormat* Expansion Task Team (MFETT). This effort drew participants from many parts of the construction industry in North America, including architects, engineers, specifiers, contractors, and subcontractors representing a wide variety of professional, contractor, trade, and manufacturing organizations. Due to the expanded scope of *MasterFormat*, special emphasis was placed on input for highway, telecommunications, and process engineering work. The result was the most dramatic change in the standard’s history, expanding the number of Divisions from 16 to 50, and changing *MasterFormat*’s base numbers from five digits to six.

Since 2006, *MasterFormat* has been on a regular revision schedule, as described in the Application Guide section above titled “*MasterFormat* Revision Process.”

MasterFormat Groups, Subgroups, and Divisions

Procurement and Contracting Requirements Group

Division 00—Procurement and Contracting Requirements

Introductory Information

Procurement Requirements

Contracting Requirements

Specifications Group

General Requirements Subgroup

Division 01—General Requirements

Facility Construction Subgroup

Division 02—Existing Conditions

Division 03—Concrete

Division 04—Masonry

Division 05—Metals

Division 06—Wood, Plastics, and Composites

Division 07—Thermal and Moisture Protection

Division 08—Openings

Division 09—Finishes

Division 10—Specialties

Division 11—Equipment

Division 12—Furnishings

Division 13—Special Construction

Division 14—Conveying Equipment

Division 15—Reserved for Future Expansion

Division 16—Reserved for Future Expansion

Division 17—Reserved for Future Expansion

Division 18—Reserved for Future Expansion

Division 19—Reserved for Future Expansion

Facility Services Subgroup

Division 20—Reserved for Future Expansion

Division 21—Fire Suppression

Division 22—Plumbing

Division 23—Heating, Ventilating, and Air Conditioning (HVAC)

Division 24—Reserved for Future Expansion

Division 25—Integrated Automation

Division 26—Electrical

Division 27—Communications

Division 28—Electronic Safety and Security

Division 29—Reserved for Future Expansion

Site and Infrastructure Subgroup

Division 30—Reserved for Future Expansion

Division 31—Earthwork

Division 32—Exterior Improvements

Division 33—Utilities

Division 34—Transportation

Division 35—Waterway and Marine Construction

Division 36—Reserved for Future Expansion

Division 37—Reserved for Future Expansion

Division 38—Reserved for Future Expansion

Division 39—Reserved for Future Expansion

Process Equipment Subgroup

Division 40—Process Interconnections

Division 41—Material Processing and Handling Equipment

Division 42—Process Heating, Cooling, and Drying Equipment

Division 43—Process Gas and Liquid Handling, Purification, and Storage Equipment

Division 44—Pollution and Waste Control Equipment

Division 45—Industry-Specific Manufacturing Equipment

Division 46—Water and Wastewater Equipment

Division 47—Reserved for Future Expansion

Division 48—Electrical Power Generation

Division 49—Reserved for Future Expansion

