



CONSTRUCTION SPECIFICATION WRITING STUDY SESSION



Presented by:

Conspectus, Inc.



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Conspectus, Inc. is a national specification consultancy, employing 16 specifiers, providing high quality, [industry-leading specifications](#) and related consulting services on thousands of projects for some of the most prestigious design and engineering firms, government agencies, and private entities domestically and internationally.



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KNOWLEDGE AREAS

Domains:

1	9/11	Planning, Development & Organization
4	9/18	Research
2	09/25	Coordination
6	10/02	Production, Part 1
6	10/09	Production, Part 2
5	10/23	Analysis and Evaluation
3	10/30	Procurement

ITEMS TO NOTE



GENERAL FYI

- No CDT[®] certification - highly advisable to **also read Project Delivery Practice Guide (PDPG)**.
- Yes CDT[®] certification - brush up on the PDPG.
- Exam is based on CSI[®] **Construction Specifications Practice Guide (CSPG)** content, and may not always reflect the real world; we will note items which may not align.
- Those who wrote the CSPG are not the same as the exam writers; study guides have divided the source material - **read the entire book**.
- We encourage interaction in the chat and will also provide time for Q&A at the end of each session.

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Construction Specification Writing Session 4:

Production – Part One



Determine style of specifications for systems, assemblies, and materials (i.e., descriptive, reference standard, proprietary, performance).



Determine what submittals are required to ensure quality installation and adequate project record documents for more sustainable project results for better welfare of building occupants and ease of Owner maintenance leading to better occupant welfare and safety conditions over the life of the building.



Learn to prepare and edit technical specifications sections for a project manual, specify preparation and finishing requirements for products to provide the highest quality result for building occupants. The critical quality information within specifications can only directly and specifically ensure the health, safety and welfare of the occupants of the built environment if the process is clearly understood and performed correctly.



Review and comment on specification sections written by others for alignment of project goals and to reduce duplications, omissions, and ‘scope gap’ within the project manual. Understand how clarity in contract document scope is critical to avoid disasters which could compromise health and safety of building occupants.

DOMAIN 6:

PRODUCTION – PART ONE



- 6C Determine style of specifications for systems, assemblies, and materials (i.e., descriptive, reference standard, proprietary, performance).
- 6F Determine what submittals are required to ensure quality installation and adequate project documentation (i.e., record documents).
- 6G Specify preparation and finishing requirements for the product.
- 6H Review and comment on specification sections written by others.
- 6I Prepare and edit specifications sections.

DOMAIN 6:

PRODUCTION – PART ONE



COMPETENCIES

- 6C Specification Styles.
- 6F Submittals:
 - QA Submittals.
 - QC Submittals.
 - Closeout Submittals.
- 6G Preparation & Finishing.
- 6H Specifications by Others.
- 6I Writing and Editing Specifications.

PRODUCTION INTRODUCTION

WHERE DO WE START?

470-399 BC

The beginning of
wisdom is the
definition of terms.

Socrates

428-348 BC

The right question is usually more
important than the right answer.

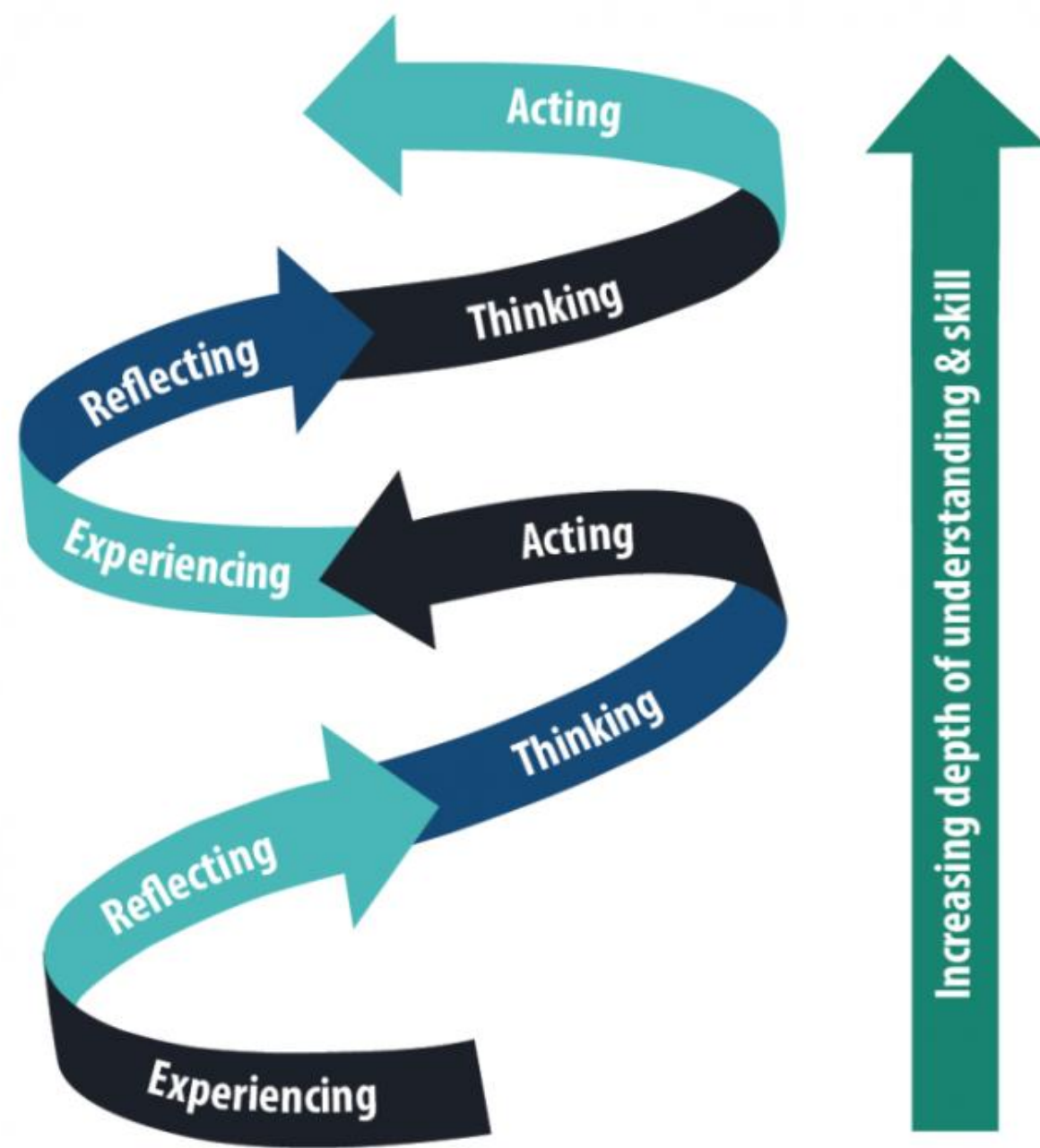
— *Plato* —

384-322 BC

“Those **who know, do.**
Those that **understand, teach.**”

- *Aristotle*

ANCIENT GREEK PHILOSOPHERS



Just keep going...

Do your best.

POLL

Introduction Questions

PRODUCTION SPECIFICATION STYLES (COMPETENCY 6C)



LEARNING OBJECTIVES

LO1 Differentiate between the four methods of specifying.

Determine style of specifications for systems, assemblies, and materials (i.e., descriptive, reference standard, proprietary, performance).

Specification Styles

Restrictive

Non-Restrictive

Descriptive Specification

Performance Specification

Reference Standard

Proprietary

Both

Both

Both

Restrictive Only

Specification Styles - Descriptive

Descriptive Specification:

A detailed written description of required properties.

Non-Restrictive

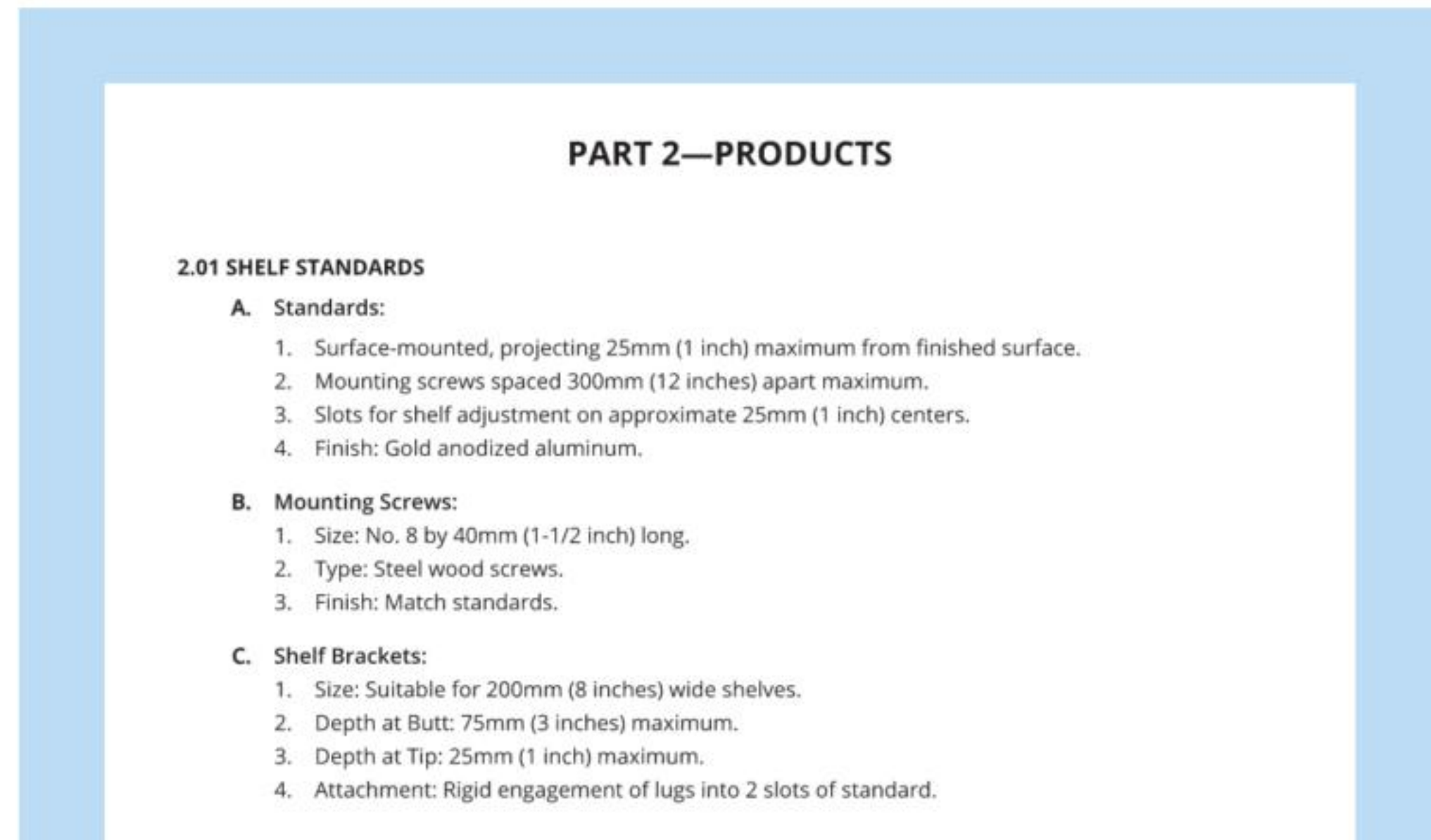


Figure 14.1
Sample of a
Descriptive
Specification

Specification Styles - Performance

Performance Specification:

“A statement of required results (state result)
with criteria for verifying compliance, (clear measurement criteria)
but without unnecessary limitations on the methods for achieving the required results.” (No stated means or time of measurement)

- Field Measurement
- Factory
- After install

Example:

Concrete Strength: 3000 psi

Non-Restrictive

Specification Styles – Reference Standard

Reference Standard Specification:

Established material, product, or installation requirements by referencing an industry-accepted standard

Components:

- Name of issuing organization
- Number of the standard.
- Title of the standard.
- Date of issue of the standard.
- Citation of applicable requirement, unless entire standard is required.

Rules:

- Dates:
 - Option 1: Include date.
 - Option 2: State use of latest Date in Division 01.
- Draft Standards: Not Good Practice.
- Quoting: Not Good Practice.
- Enforcement: Good Idea.

KNOW IT

INCORPORATE IT

ENFORCE IT

Specification Styles – Reference Standard

Reference Standard Specification:

Established material, product, or installation requirements by referencing an industry-accepted standard

Example:

- Name of Issuing Organization**
Number of Standard
Applicable Requirement
- A. Unfaced Glass-Fiber Blankets: ASTM C665, Type I.
2. Surface Burning Characteristics: ASTM E84:
- a. Flame Spread Index: 25, maximum.
- b. Smoke Developed Index: 50, maximum.
3. Combustion: Passes ASTM E136.

Date?

Title?

Non-Restrictive (?)

Specification Styles – Reference Standard

Reference Standard Specification:

Established material, product, or installation requirements by referencing an industry-accepted standard

Example:

SECTION 014000

QUALITY REQUIREMENTS

1.7 REFERENCE STANDARDS

- A. Abbreviations and Acronyms: Names of trade associations, standards generating organizations, governing authorities, and other entities are frequently referred to in Contract Documents by acronyms and abbreviations. Request explanation of unknown terms from Architect.
- C. Follow reference standards by date of issue current on date of Contract Documents, except where specific edition date is required by code.

Name of Issuing Organization

Date

Specification Styles – Proprietary

Proprietary Specification:

Identify the desired product by manufacturer's name, brand, model, type, or product characteristics.

Example:

A. Unfaced Glass-Fiber Blankets: ASTM C665, Type I.

1. Manufacturers and Products:

- a. CertainTeed Corporation Fiber Glass Building Insulation.
- b. Johns Manville Unfaced Fiber Glass Batts.
- c. Knauf Insulation EcoBatt Insulation.
- d. Owens Corning EcoTouch Pink.

2. Surface Burning Characteristics: ASTM E84:

- a. Flame Spread Index: 25, maximum.
- b. Smoke Developed Index: 50, maximum.

3. Combustion: Passes ASTM E136.

Proprietary Specification

Closed: Only named list

Open: Allow Substitutions

“Or approved equal”

Restrictive

POLL Specification Styles



Which of the of the following is a restrictive specification.

Choose all that apply

- A. A reference standard.
-  B. A proprietary specification.
- C. A performance specification.
- D. A descriptive specification.

 Which of the of the following is a reference standard?

Choose all that apply

-  A. Steel Shapes: ASTM A36.
B. Install following ASTM C676 requirements.
C. Fully Loaded Deflection: 1/360, maximum.
D. Seismic Design Criteria: See Structural Drawings.

PRODUCTION SUBMITTALS (COMPETENCY 6F)



LEARNING OBJECTIVES

- LO1 Identify common quality assurance and quality control submittals.
- LO2 Identify common closeout submittals.
- LO3 Coordinate submittal information between Division 01 and Divisions 02 through 49.

Determine what submittals are required to ensure quality installation and adequate project documentation (i.e., record documents).

Submittals

What is a Submittal?

(See AIA A201, Paragraph 3.12.4 for more)

- A document demonstrating how the Contractor proposes to conform.
- Not a Contract Document!

Quality Assurance (QA)
Quality Control (QC)

(How am I doing?)
(How did I do?)

(Present Status)
(Measured Result)

Closeout Submittal

(What I did.)

(Record or Reference)

Quality Assurance Submittals

Certificates

Qualifications

Product Data

Samples

Mockups

Shop Drawings

Waste Management Plans

Delegated Design Submittals

Project Manual References:

- Division 01:
 - 013300 Submittal Procedures
 - 014000 Quality Requirements
- Part 1 – General, of each Section.

Quality Control Submittals

Field Tests

Source or Laboratory Testing

Manufacturer Tests or Inspections

Code Required Inspections

Performance Testing

Partial Survey (Concrete or Earthwork)

Project Manual References:

- Division 01:
 - 013300 Submittal Procedures
 - 014000 Quality Requirements
 - 019100 Commissioning
- Part 1 – General, of each Section.
- Part 3 – Execution, of each Section.

Closeout Submittals

Operation and Maintenance Data

Warranties and Bonds

Record Documents

Final Survey

Maintenance Materials (Parts, Tools, Extra Supplies)

Keys

AHJ Permits (Certificate of Occupancy)

System Startup Procedures

Emergency Manuals

Final Payment Waivers

Project Manual References:

- Division 01:
 - 017000 Execution and Closeout Requirements
- Part 1 – General, of each Section.
- Part 3 – Execution, of each Section.

Division 01 vs Part 01 Requirements

SECTION 014000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.10 FIELD SAMPLES

- A. Definition:
 - 1. Field samples are assemblies constructed to demonstrate materials and workmanship for review by Architect and Owner.
 - a. Construct field samples in final locations in sizes described in technical Specifications sections.
- B. Construct field samples in compliance with applicable Specification sections.
- C. Approved field samples establish Work results standard.
- D. Protect field samples against damage until Substantial Completion.
- E. Approved, undamaged field samples may remain as part of the Work unless designated in individual Specification sections.

SECTION 034900

GLASS-FIBER-REINFORCED CONCRETE

PART 1 GENERAL

1.6 QUALITY ASSURANCE

- B. Field Samples: Construct GFRC Panel, 24 by 24 inch, minimum size. Demonstrate texture, color, or pattern.

SECTION 084113

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 GENERAL

1.7 QUALITY ASSURANCE

- C. Field Samples: Construct aluminum framed storefront, 100 sf, minimum size.
 - 1. Photograph installation of sill flashing with end dams and other concealed components. Provide access to record photographs when requested by Architect.
 - 2. Field Samples are subject to Field Quality Control testing to verify performance.
 - 3. Approved Samples establish Work results standard.

POLL Submittals



Which of the of the following is a quality assurance submittal?

Choose all that apply

A. Reference Standard.



B. Shop Drawings.

C. Field Quality Control Test.



D. Product Data Sheet.



Which of the of the following is a quality control submittal?

Choose all that apply

- A. Field Sample
- B. Mockup
-  C. Manufacturer field inspections.
- D. Laboratory Testing Results.



Which of the of the following is a closeout submittal?

Choose all that apply

-  A. Certificate of occupancy.
-  B. Project record documents.
-  C. Code review compliance submittals
-  D. Operation and system manuals.

PRODUCTION PREPARATION AND FINISHING (COMPETENCY 6G)



LEARNING OBJECTIVES

- LO1 Organize preparation requirements appropriately in specification sections.
- LO2 Coordinate preparation requirements with Section 017100 – Examination and Preparation.
- LO3 Organize finishing requirements appropriately in specification sections.

Specify preparation and finishing requirements for the product.

Finishing - Part 2 Requirements

Finishes (State finishes required)

2.17 STEEL FINISHES

- A. Prepare surfaces to be primed per SSPC SP 2.
- B. Clean surfaces of rust, scale, grease, and foreign matter before finishing.
- C. Do not prime surfaces in direct contact with concrete or where field welding is required.
- D. Prime paint items in fabrication shop with one coat except where galvanizing is specified.
- E. Galvanizing: ASTM A123; hot-dip galvanize after fabrication.
- F. Galvanizing for Fasteners, Connectors, and Anchors:
 - 1. Hot-Dip Galvanizing: ASTM A153.
 - 2. Mechanical Galvanizing: ASTM B695; Class 50 minimum.

2.18 STAINLESS STEEL FINISHES

- A. Stainless Steel: NAAMM AMP 503, Number 4 satin directional polish.

2.19 ALUMINUM FINISHES

- A. Metallic Coating: Three or Four coat fluoropolymer finish with minimum 70 percent PVDF resin by weight in color coat and clear coat; AAMA 2605.
 - 1. Color and Gloss: Architect selected.

Finishing - Part 3 Requirements

**Examination
Preparation
Installation**

**(On Your Mark)
(Get Set)
(Go!)**

Formed Metal Wall Panels

PART 3 EXECUTION

3.1 EXAMINATION

A. Verification of Conditions:

1. Verify framing members are ready to receive panel systems.
2. Verify penetrating items are ready for cladding system installation.

3.2 PREPARATION

- A. Cold-Formed Metal Girt System: Install per ASTM C754 in orientation, sizes, and locations shown on shop drawings.
- B. Support Girt System: Install in orientation, sizes, and locations shown on Shop Drawings. Coordinate with continuous insulation.

3.3 INSTALLATION

- A. Fasten panel support assembly to girt system.
- B. Install panels in locations, spacings, and orientation shown on Drawings. Anchor panels securely.
- C. Accommodate thermal and structural movement without failure.
- D. Flashing and Trim: Install with concealed fasteners for secure, waterproof performance. Direct water to exterior.
- E. Erection Tolerances:
1. Offset Between Adjacent Members: 1/16 inch, maximum.
 2. Variation from Plane or Location: 1/8 inch in 20 feet, maximum.

Finishing - Part 1 Requirements

Action Submittals	(Samples)
	(Product Data)
Quality Assurance	(Field Sample)
	(Mockups)

1.3 ACTION SUBMITTALS

- A. Product Data:
 - 1. Panel materials.
 - 2. Installation system components and profiles.
 - 3. Support girt system components.
 - 4. Initial selection color charts or Samples.
- B. Shop Drawings:
 - 1. Fabrication and installation layouts.
 - 2. Edge conditions at openings and corners.
 - 3. Penetration details.
 - 4. Flashing, trim and anchorage.
 - 5. Weep locations.
- C. Samples:
 - 1. Extruded Installation Framing: 12 inch long section.
 - 2. Metal Finish: 3 by 3 inch sample.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Licensed Professionals: Engineer specializing in design of Work specified in this Section, licensed in Kansas.
- B. Field Samples: Install two adjacent metal wall panels. Demonstrate installation method, product interfaces, or color.

Example: Formed Metal Wall Panels

PRODUCTION SPECIFICATIONS BY OTHERS (COMPETENCY 6H)



LEARNING OBJECTIVES

LO1 Coordinate specification sections written by consultants and specialists.

Review and comment on specification sections written by others.

Specifications by Other

Who are the Others?

- Structural Engineers
- Civil Engineers
- Mechanical Engineers
- Plumbing Engineers
- Electrical Engineers
- Lighting Designer
- Building Envelope Consultant
- Theatrical Consultant
- Food Service Consultant
- Elevator Consultant
- Landscape Architect
- Commissioning Agent
- Owner

Specifications by Other

What to coordinate?

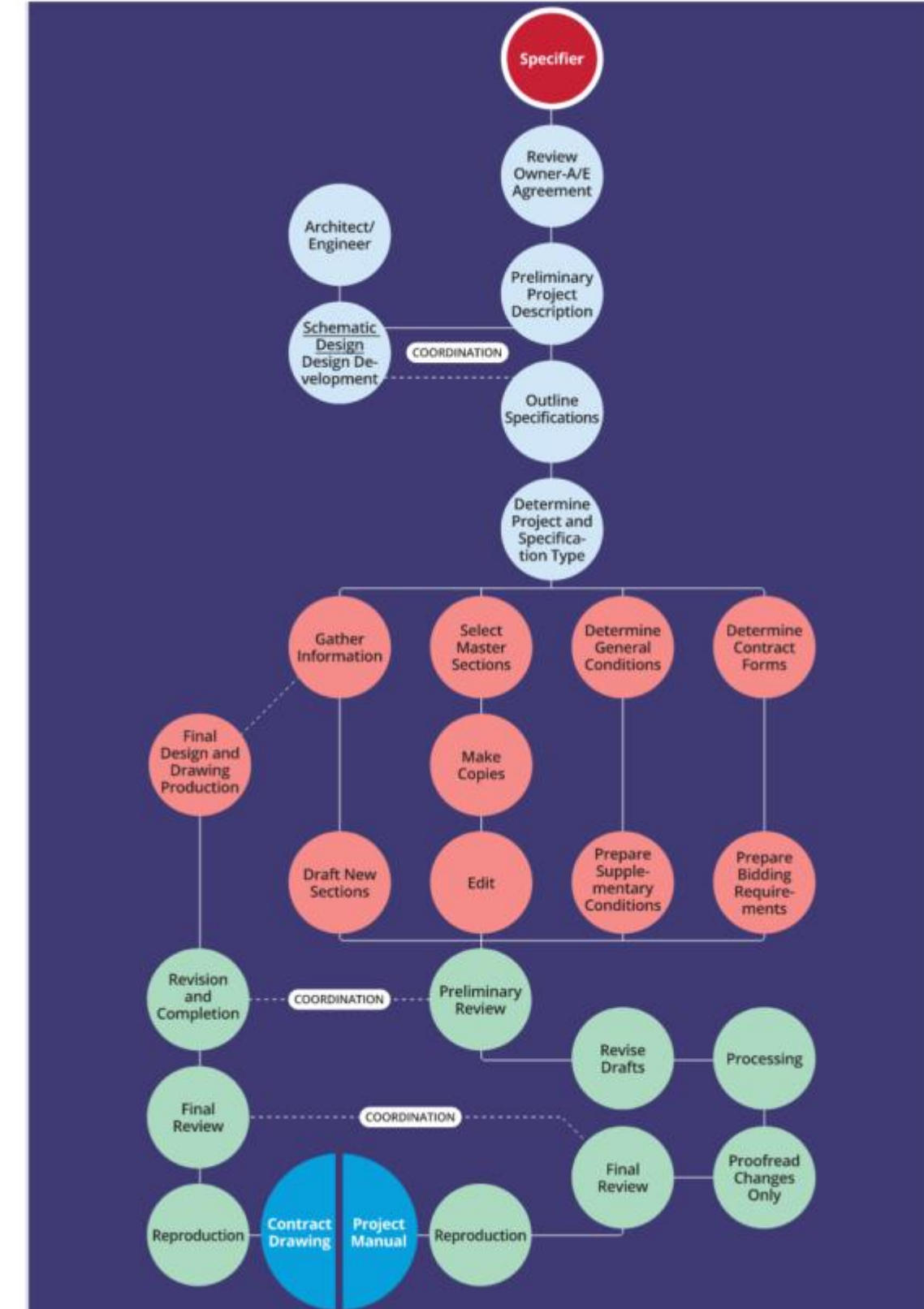
- Table of Contents
- Division 01 Requirements

Specifier has the responsibility for coordination.

Specifications by Others - Process

General Specification Process

- 1 Review A/E Agreement
- 2 Gather Information
- 3 Review O/C Agreement
- 4 Review General Conditions
- 5 Prepare Supplementary Conditions
- 6 Prepare Division 01
- 7 Send Division 01..... (To Consultants)
- 8 Prepare Specifications
- 9 Make Decisions
- 10 Develop Specifications
- 11 Prepare Procurement Documents
- 12 Coordinate Specifications & Drawings
- 13 Final Review and Delivery



When should Division 02 through 49 be written?

- A. Concurrently with Division 01
- B. Before finalizing Division 01
- C. After Division 01 is finalized
- D. Before initiating Division 01

PRODUCTION WRITING AND EDITING SPECIFICATIONS (COMPETENCY 6I)



LEARNING OBJECTIVES

- LO1 Use the most effective sequence for preparing a specification section.
- LO2 Edit specification sections to conform to specification writing best practices.

Prepare and edit specifications sections.

Best Sequence for Writing Specifications

Start simple...

Part 2 – Products

(What is it?)

Part 3 – Execution

(How do we do it?)

Part 1 – General

(How do we document and review it?)

Best Sequence for Writing Specifications

Part 2 – Products
Part 3 – Execution
Part 1 – General

ORGANIZATIONAL STRUCTURE OF SECTIONFORMAT®

PART 1 - GENERAL

Summary

Section Includes

- Products Furnished [or] Supplied But Not Installed Under This Section
- Products Installed But Not Furnished [or] Supplied Under This Section Related Requirements

Price and Payment Procedures

- Allowances
- Unit Prices
- Alternates [or] Alternatives Measurement and
- Payment

References

- Abbreviations and Acronyms
- Definitions
- Reference Standards

Administrative Requirements

- Coordination
- Preinstallation Meetings
- Sequencing
- Scheduling

Submittals

Action Submittals

Informational Submittals

- Product Data
- Shop Drawings
- Samples
- Certificates
- Delegated Design Submittals
- Test and Evaluation Reports
- Manufacturing Instructions
- Source Quality Control submittals
- Field [or] Site Quality Control Submittals
- Manufacturer Reports
- Sustainable Design Submittals
- Qualification Statements

Closeout Submittals

- Maintenance Contracts
- Operation and Maintenance Data
- Bonds
- Warranty Documentation
- Record Documentation
- Sustainable Design Closeout Documentation Software

Maintenance Material Submittals

- Spare Parts
- Extra Stock Materials
- Tools

Quality Assurance

- Regulatory Agency Sustainability Approvals Qualifications
- Manufacturers
- Suppliers
- Fabricators/Installers/Applicators/Erectors Testing Agencies
- Licensed Professionals
- Certifications
- Sustainability Standards Certifications
- Preconstruction Testing
- Field [or] Site Samples
- Mock-ups

Delivery, Storage, and Handling

- Delivery and Acceptance Requirements
- Storage and Handling Requirements

Field [or] Site Conditions

- Ambient Conditions
- Existing Conditions

Warranty [or] Bond

- Manufacturer Warranty
- Special warranty
- Extended Correction Period

PART 2 - PRODUCTS

Owner-Furnished [or] Owner-Supplied Products

- New Products
- Existing Products
- [Systems] / [Assemblies] / [Manufactured Units/equipment] / [Components Product Types] / [Materials] \ [User-Defined Heading]

Manufacturers

- Manufacturer List Definitions
- Substitution Limitations
- Product Options

Description

- Regulatory Requirements
- Sustainability Characteristics

Performance/Design Criteria

- Capacities

Operation

- Operators
- Controls
- Operation Sequences

Materials

Assembly [or] Fabrication

- Factory Assembly
- Shop Assembly
- Assembly [or] Fabrication Tolerances

Mixes

Finishes

- Primer Materials
- Finish Materials
- Shop Finishing Methods

Accessories

Source Quality Control

- Test and Inspections
- Non-Conforming Work
- Manufacturer Services
- Coordination of Other Tests and Inspections

PART 3 - EXECUTION

Installers

- Installer List
- Substitution Limitations

Examination

- Verification of Conditions
- Preinstallation Testing
- Evaluation and Assessment

Preparation

- Protection of In-Place Conditions
- Surface Preparation
- Demolition/Removal

Erection/Installation/Application/ [User-Defined Process]

- Special Techniques
- Interface with Other Work
- Systems Integration
- Tolerances

[Repair]/[Restoration]

Re-Installation

Field [or] Site Quality Control

- Field [or] Site Tests and Inspections
- Non-Conforming Work
- Manufacturer Services

System Startup Adjusting Cleaning

- Waste Management

Closeout Activities

- Demonstration
- Training

Protection

Maintenance

Attachments

End of Section

- Schedules
- Tables
- Illustrations
- Forms

POLL

Writing and Editing Specifications

Writing Style

The Four Cs

- Clear
- Concise
- Correct
- Complete

A good writing style has:

- Brevity (Concise)
- Clarity (Clear)
- Accuracy (Correct, Complete)

What is a good writing style characterized by?

Fill in the blanks

A _____
B _____
C _____

Accuracy

Brevity

Clarity

Writing Style

Vocabulary

Spelling

Sentence Structure

Imperative vs Indicative

Abbreviations

Symbols

Numbers

Capitalization

Punctuation

Grammar

Inappropriate Terms

Pronoun Reference

Unnecessary Words

Prepositional Phrases

Streamlining

Specification Detail

Vocabulary

- **Amount vs Quantity**
 - Amount is money.
 - Quantity is number, measure, area, or volume.
- **Either vs Both**
 - Either means a choice.
 - Both means both.
- **Flammable vs Inflammable (Same)**
- **Furnish vs Install vs Provide**
 - Furnish means supply and deliver.
 - Install means place in position for use.
 - Provide means furnish and install.

Vocabulary

- **Insure vs Assure vs Ensure**
 - Insure means procure a policy.
 - Assure means give confidence.
 - Ensure mean to make certain.
- **Observe vs Supervise**
 - Observe means to watch.
 - Supervise means to oversee and direct.
- **Party vs Entity**
 - Party means a signer of a contract.
 - Entity means a general person or company.

Vocabulary

- **Replace vs Remove and Provide New**
 - **Replace could mean reinstallation of existing.**
 - **Remove and Provide New is clearer.**
- **Shall vs Will**
 - **Shall implies a requirement.**
 - **Will is less obligatory.**

What is the correct definition of *ensure*?

Choose all that apply

- A. Issue or procure an insurance policy
- B. Give confidence to or convince a person of something
- C. Make certain in a way that eliminates the possibility of error

Why are *amounts* not typically in specifications?

Choose all that apply

- A. They are linear measurements
- B. They state the volume of liquids
- C. They describe the dollar value
- D. All of the above

Spelling

Use the shortest accepted spelling.

RIGHT

Facia

Molding

Gage

Catalog

Color

WRONG

Fascia

Moulding

Gauge

Catalogue

Colour

Sentence Structure

Be consistent with mood.

Imperative Mood	(Active)	(Verb First)	Do it.
Indicative Mood	(Passive)	(Subject First)	Contractor shall do it.

Note of confusion:

“Shall” is more imperative than “will”, but it is still indicative mood.

Which is preferred?

Choose all that apply

- A. Perform tests to determine strength and to establish quality.
- B. Tests shall be performed to determine strength and to establish quality.
- C. Tests shall be performed to determine strength and establish qualities.
- D. None of the above.

Which is preferred?

Choose all that apply

- A. Lay brick in common bond.
- B. Contractor shall lay brick in common bond.
- C. Brick must be laid in common bond.
- D. None of the above.

 Which sentence is not imperative?

Choose all that apply

- A. Spread adhesive with notched trowel.
- B. Install equipment plumb and level.
- C. Apply two coats of paint to each exposed surface.
-  D. All sentences are in imperative mood.

Which is preferred?

Choose all that apply

- A. Contractor shall bury the body.
- B. Owner must bury the body.
- C. Architect will bury the body.
- D. Bury the body.
- E. None of the above.

Abbreviations

Avoid abbreviations.... “When in doubt, spell it out”

ACCEPTABLE EXCEPTIONS

Names
Times
Time Zones
Temperatures
Units of Measure

RIGHT

ASTM
9 p.m.
EST
80 degrees F
25 psi

WRONG

American Society for Testing Materials
9 Post Meridiem
Eastern Standard Time
80 degrees Farenheit
25 pounds per square inch

Which of the statements below is correct?

Choose all that apply

- A. ASHRAE
- B. Abbreviations should be limited to five or fewer letters.
- C. When in doubt, spell it out.
- D. Ensure abbreviations are consistent between the drawings and the specifications.

Symbols

Avoid symbols.... ! @ # \$ % ^ & * < >

RIGHT

percent

degree

plus

minus

2 by 4

per

at

WRONG

%

°

+

-

2 x 4

/

@

Symbols

Avoid symbols.... ! @ # \$ % ^ & * < >

ACCEPTABLE EXCEPTIONS

Dimensions

RIGHT

8'-2"
8 feet
2 inches
1/2 inch

WRONG

8 feet 2 inches
8'-0" or 8'
0'-2" or 2"
1/2 inch

What symbols should not be used in specifications?

Choose all that apply

A. %

B. °

C. +

D. “”

E. x

F. /

G. ()

The use of $\times$ for by, as in 2×4 and % for percent is not encouraged but is acceptable.

- A. True
- B. False



Illustrations should not be used in specifications.

A. True



B. False

Numbers

Use them! Numbers are our friends.

Omit unneeded zeroes, but keep them before a decimal

ACCEPTABLE EXCEPTIONS

RIGHT

WRONG

Time

9 p.m.

9:00 pm

Quantity of Sized Materials

three 2 by 4s

3 2 by 4s

Decimals

0.25

.25

Fractions

1/4

¼

Choose the correct ways to use Arabic numerals.

Choose all that apply

- A. 12 noon
- B. 3"
- C. .25 inches
- D. 1:00 pm

Capitalization

Acceptable only for this list.

General

- State
- Room Names
- Work

Party (to the Contract)

- Architect
- Engineer (if a direct party)
- Owner
- Contractor
- Authorities Having Jurisdiction
- Contracting Officer

Document

- Agreement
- Contract
- Specifications
- Drawings
- Section
- Division
- Article
- Paragraph
- Subparagraph



The following statement is correct:

Capitalizing the initial letter of certain specific nouns and proper names defined in the conditions of the contract is not appropriate.

A. True



B. False

Punctuation

Use appropriately.

Simply and avoid possible misunderstandings.

Colon is short for “shall be”

Semicolon separate independent but related sentences.

Examples

Comma Use

Colon

Exclamation Point

RIGHT

Let’s eat, children.

Steel Shapes: ASTM A36.

See Specifications.

WRONG

Let’s eat children.

Steel; ASTM A36.

See Specifications!



What should be used at the end of parent paragraph when it is necessary to link subparagraphs to the parent paragraph?

Choose all that apply

A. Hyphen



B. Colon

C. Period

D. Semicolon

Grammar

Avoid possible misunderstandings.

(Less words means less room for error)

Examples

Subject-Verb Agreement

RIGHT

**Fasteners are stainless steel.
(Stainless steel fasteners.)**

WRONG

Fasteners is stainless steel.

Parallel Construction

**Provide screws. Do not
provide nails.
(Provide screws.)**

**Provide screws and not
nails.**

Inappropriate Terms

Bad Words

- Any
- Must
- Is to
- All
- Such
- As per
- Also
- To the satisfaction of the Architect
- Hereinafter
- As allowed
- As appropriate
- As directed
- As indicated
- As necessary
- As required

Pronoun Reference

Do not use pronouns.

It, he, she, his, and her are all vague.

RIGHT

Maintain equipment above 40 degrees F.

WRONG

Apply coating when it is above 40 degrees F.

Unnecessary Words

Do not use a word if there is already a requirement elsewhere.

RIGHT

Clean weep holes.

WRONG

Contractor shall clean all weep holes.

Follow all requirements in Contract Documents.

Prepositional Phrases

Do not use prepositional phrases.

Reorganize to omit prepositions when possible.

RIGHT

**Manufacturer recommended fasteners.
Concrete slab edge.**

WRONG

**Fasteners recommended by manufacturer.
Edge of concrete slab.**

Streamlining

Use Imperative Mood.... Put Subject first.

2.1 MODULAR FORMED METAL WALL PANELS

- A. Rectangular Modular Metal Wall Panels: Individual panels with folded and lapped edges.
1. Material: Aluminum.
 2. Nominal Thickness: 0.063 inch.
 3. Aluminum Finish: PVDF coating system.
 - a. Color: Architect selected.

Specification Detail

More words does not mean more detail.

Saying more with less often has a greater impact.

WRONG:

Contractor shall provide a complete constructed Work, following the requirements of the authorities having jurisdiction, the requirements of the drawings, specifications, and all associated additional requirements, as per the executed agreement and to the satisfaction of both the Architect and the Owner.

RIGHT:

Follow Contract Documents.

POLL

Last Questions

Review



Which is preferred?

Choose all that apply

- A. One of the elongated central fasteners are to be placed around the eye of the panel and bolted.
-  B. Bolt one elongated central fastener to panel eye.
- C. Place one elongated central fastener around eye of panel and bolt.
- D. None of the above.



The most effective writing sequence for an individual specification section:

- A. PART 2 – PRODUCTS, PART 1 – GENERAL, PART 3 - EXECUTION
-  B. PART 2 – PRODUCTS , PART 3 - EXECUTION, PART 1 – GENERAL
- C. PART 1 – GENERAL, PART 2 – PRODUCTS , PART 3 – EXECUTION
- D. PART 1 – GENERAL, PART 3 - EXECUTION, PART 2 – PRODUCTS

 Which is preferred?

Choose all that apply

- A. Maintain pneumatic equipment above 40 degrees F (5 degrees C).
- B. Apply coating with pneumatic equipment when it is above 40°F.
- C. Apply coating when ambient temperature is above 40 degrees F (5 degrees C).
-  D. None of the above.

Which is preferred?

Choose all that apply

- A. Install bathroom accessories to be purchased under an allowance.
- B. Install bathroom accessories purchased under allowances specified in Section 012100.
- C. Contractor shall install bathroom accessories which are to be purchased under an allowance.
- D. None of the above.



Which is preferred?

Choose all that apply

- A. One of the elongated central fasteners are to be placed around the eye of the panel and bolted.
-  B. Bolt one elongated central fastener to panel eye.
- C. Place one elongated central fastener around eye of panel and bolt.
- D. None of the above.

RECAP: PRODUCTION – PART ONE



COMPETENCIES

- 6C Determine style of specifications for systems, assemblies, and materials (i.e., descriptive, reference standard, proprietary, performance).
- 6F Determine what submittals are required to ensure quality installation and adequate project documentation (i.e., record documents).
- 6G Specify preparation and finishing requirements for the product.
- 6H Review and comment on specification sections written by others.
- 6I Prepare and edit specifications sections.

RECAP: PRODUCTION – PART ONE



COMPETENCIES

- 6C Specification Styles.
- 6F Submittals:
 - QA Submittals.
 - QC Submittals.
 - Closeout Submittals.
- 6G Preparation & Finishing.
- 6H Specifications by Others.
- 6I Writing and Editing Specifications.

QUESTIONS?

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THANKYOU

