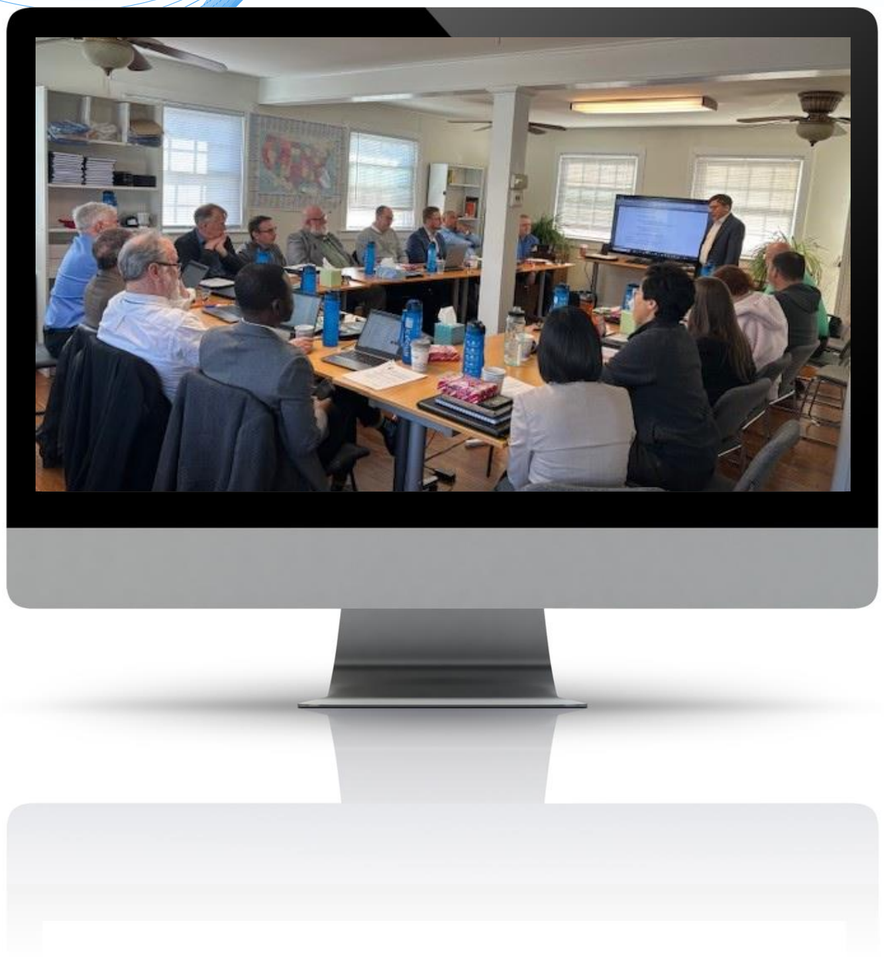
CONSPECTUS®

CONSTRUCTION SPECIFICATION WRITING STUDY SESSION

Presented by:

Conspectus, Inc.



WHO IS CONSPECTUS?

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.

INSTRUCTORS

Melody Fontenot, CCS®
Senior Specifier
Portland, OR

Chris Ricke, CCS®
Senior Specifier
Topeka, KS

Steve Gantner, CCS®
Senior Specifier, EVP
St. Louis, MO

David Stutzman, CCS®
Senior Specifier, President
Tuckahoe, NJ

CONTENT SUPPORT

Terumi Woods, CCS®
Senior Specifier
San Francisco, CA

Hana Nguyenky, CCS®
Specifier
Charlottesville, VA

CONSPECTUS®

KNOWLEDGE AREAS

Domains:

1	~~9/12~~	~~Planning, Development & Organization~~
4	~~9/19~~	~~Research~~
2	~~09/26~~	~~Coordination~~
6	~~10/03~~	~~Production, Part 1~~
6	~~10/10~~	~~Production, Part 2~~
5	**10/24**	**Analysis**
3	10/31	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.

CONSPECTUS®

AIA Continuing Education

Conspectus, Inc. is a registered provider of AIA-approved continuing education under Provider Number 40103229. All registered AIA CES Providers must comply with the AIA Standards for Continuing Education Programs. Any questions or concerns about this provider or this learning program may be sent to AIA CES (cessupport@aia.org or (800) AIA 3837, Option 3).

This learning program is registered with AIA CES for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product. AIA continuing education credit has been reviewed and approved by AIA CES. Learners must complete the entire learning program to receive continuing education credit.

AIA continuing education Learning Units earned upon completion of this course will be reported to AIA CES for AIA members. Certificates of Completion for both AIA members and non-AIA members are available upon request.

Construction Specification Writing Session 6:

Analysis & Evaluation

AIA LO1

Analyze drawings for systems, assemblies, and materials. Evaluate proposed items to verify compliance with design intent, code, sustainability, and other project requirements.

AIA LO2

Evaluate products and systems for constructability and sequencing in project locale and verify proposed construction will meet warranty requirements. Review and incorporate results of value engineering decisions.

AIA LO3

Assess environmental conditions and interior uses for impact on materials, installation methods, maintenance, and life cycles.

AIA LO4

Obtain, evaluate, and review reference standards and information from technical and professional societies; verify appropriateness and necessary options to select.

CONSPECTUS®

DOMAIN 5:

ANALYSIS & EVALUATION

COMPETENCIES

5A Align the specifications to project delivery method and schedule.

5B Evaluate systems, assemblies, and materials being proposed for the project.

5C Verify that systems, assemblies, and materials meet project requirements.

5D Analyze drawings for systems, assemblies, and materials.

5E Evaluate products for code requirements.

5F Assess interior climate conditions for impact on materials and methods (e.g., pool, sauna, clean room).

5G Assess environmental conditions for impact on materials and methods (e.g., weather, humidity, seismic).

5H Evaluate products and systems for constructability and sequencing in project locale.

CONSPECTUS®

DOMAIN 5:
ANALYSIS & EVALUATION

COMPETENCIES

5I Evaluate and select products for compliance with design intent (e.g., cost, quality, aesthetics).

5J Obtain and evaluate standards and information from technical and professional societies.

5K Review reference standards for appropriateness (e.g., ASTM, AWWA).

5L Verify that necessary reference standards options have been selected.

5M Review and incorporate results of value engineering decisions.

5N Verify proposed construction meets the manufacturer's warranty requirements.

ANALYSIS & EVALUATION

“The specification details allow the specifier to evaluate and select products according to the project’s design intent. The specifier analyzes the products, especially for complex equipment and new technologies, to ensure they are appropriate for the project.”

-CSPG

ANALYSIS & EVALUATION

COMPETENCY 5A

LEARNING OBJECTIVES

LO1 Identify variations that occur in the construction documents based on the project delivery method being used.

Align the specifications to project delivery method and schedule.

Variations for Design-Bid-Build

Document Variations for D-B-B method via procurement:

- Competitive bid.
- Competitive proposal - additional docs submitted compared to bid.
- Negotiation - during DD leading to GMP.
- Project Manual Variation: Arch is not sole decision maker.

Division 00 Variations from D-B-B:

- Proposal forms and docs instead of bid forms and docs.
- Separate MF titles for proposal process.
- AE may not prepare docs but should coordinate with Division 01.
- Monitor Conditions for changes as contract is negotiated.
- Review non-industry standard Conditions for impact on Division 01.

Division 01 & Tech Specs Variations from D-B-B:

- Bespoke agreements and conditions of contract will have an impact.
- Little to no impact on tech specs.

Variations for Construction Manager at Risk

Document Variations for CMAR:

- CM prepares procurement docs.
- AE not sole decision maker for project manual.
- AE has little involvement in Division 00 and already set before project manual.
- May include multiple work packages. Div 01 may be its own package.
- Tech section detail may be impacted by CM.
- Conformed docs may be required after all packages are issued.

Variations for Construction Management as Advisor/Agent

Document Variations for CMa as advisor or agent:

- CM will prepare procurement docs.
- AE not sole decision maker for project manual.
- Info flow is always through CM.
- Procurement may occur while design is still underway.
- Conditions will require mutual responsibility among all prime contractors.
- Involve CM in Division 01 prep and coordination for multiple contracts.
- Assign Div 01 responsibilities to specific contractors.
- All work packages may be combined into one set of specs.

Variations for Integrated Project Delivery

Document Variations for IPD:

- Agreements:
    - Multi-party agreement.
    - Tripartite agreement.
- Single purpose agreement IFOA.
- Collaborative process. AE not sole decision maker.
- Little AE involvement in Division 00.
- Division 01 to accommodate multiple packages.

Variations for Design-Build

Document Variations for Design-Build:

- OPR and RFP by owner.
- Specs and drawings by builder, usually not contract docs.
- Builder prepares procurement docs for subcontract bid or negotiation.
- Division 01 assign contract responsibilities.
- Tech section detail may be impacted by delivery method.

Variations for Owner-Build

Document Variations for Owner-Build:

- Use any delivery method.
- Project manual is similar to other methods.
- Division 00 can vary substantially.
- Coordinate Div 01 with agreement and conditions.

ANALYSIS & EVALUATION

COMPETENCY 5B

LEARNING OBJECTIVES

LO1 Summarize the primary goal of evaluating systems, assemblies, and materials.

LO2 Identify the primary project components against which systems, assemblies, and materials are evaluated.

Evaluate systems, assemblies, and materials being proposed for the project.

CONSPECTUS®

Evaluation Goals

Besides the design intent, the proposed systems are evaluated against:

- Code Requirements.
- Climate Conditions.
- Constructability.
- Reference Standards.
- Quality.
- Cost.

Evaluating Primary Project Components

Systems, assemblies, and materials are evaluated with the following project components:

- Compliance with project requirements and design intent.
- Consistency with project drawings.
- Compliance with code requirements.
- Compatibility with desired constructability and construction sequence.

ANALYSIS & EVALUATION

COMPETENCY 5C

LEARNING OBJECTIVES

LO1 Summarize the typical series of activities required for thorough evaluation of systems, assemblies, and materials.

LO2 Evaluate product performance attributes.

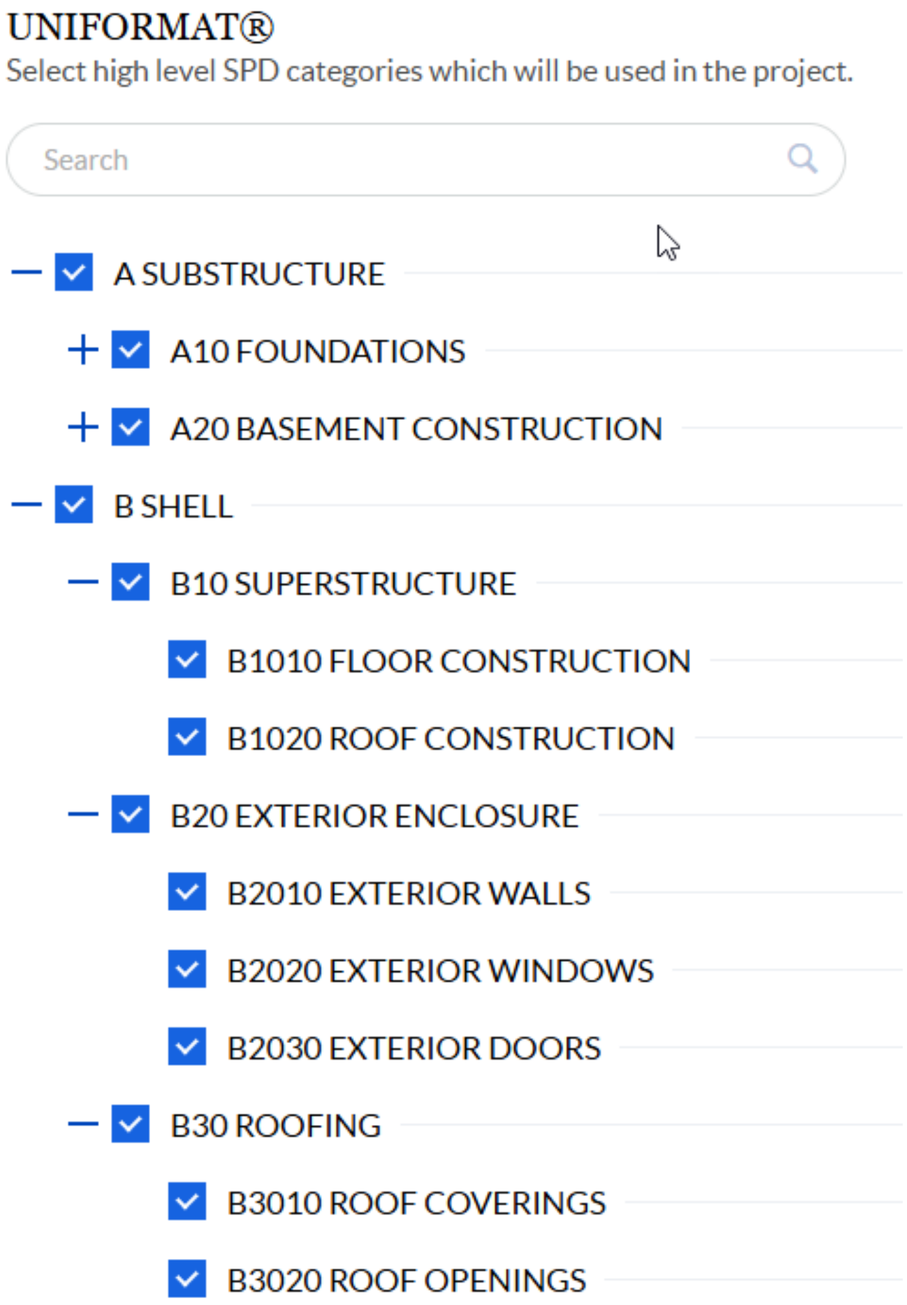
LO3 Confirm selected products satisfy the project requirements.

Verify that systems, assemblies, and materials meet project requirements.

CONSPECTUS®

Evaluation Activities

- Evaluate major systems first.
- Then evaluate system components.
- Confirm products meet project requirements and design intent.



Think Checklist
Is it part of the project?

When should each system be decided?

What do you know about each system?

CONSPECTUS®

Product Performance Attributes

- Check products for code compliance.
- Evaluate product data for performance compliance.
- Identify reference standards to specify performance.
- Evaluate performance with quality and budget.

Confirm Products Meets Project Requirements

- Start early – continuous and progressive throughout design
- Confirm products meet owner project requirements
- Identify attributes are required to meet design intent
- Evaluate product appropriateness
- Develop specifications AFTER confirming compliance

ANALYSIS & EVALUATION

COMPETENCY 5D

LEARNING OBJECTIVES

LO1 Review project drawings for information regarding systems, assemblies, and materials.

LO2 Coordinate product information between the drawings and the specifications.

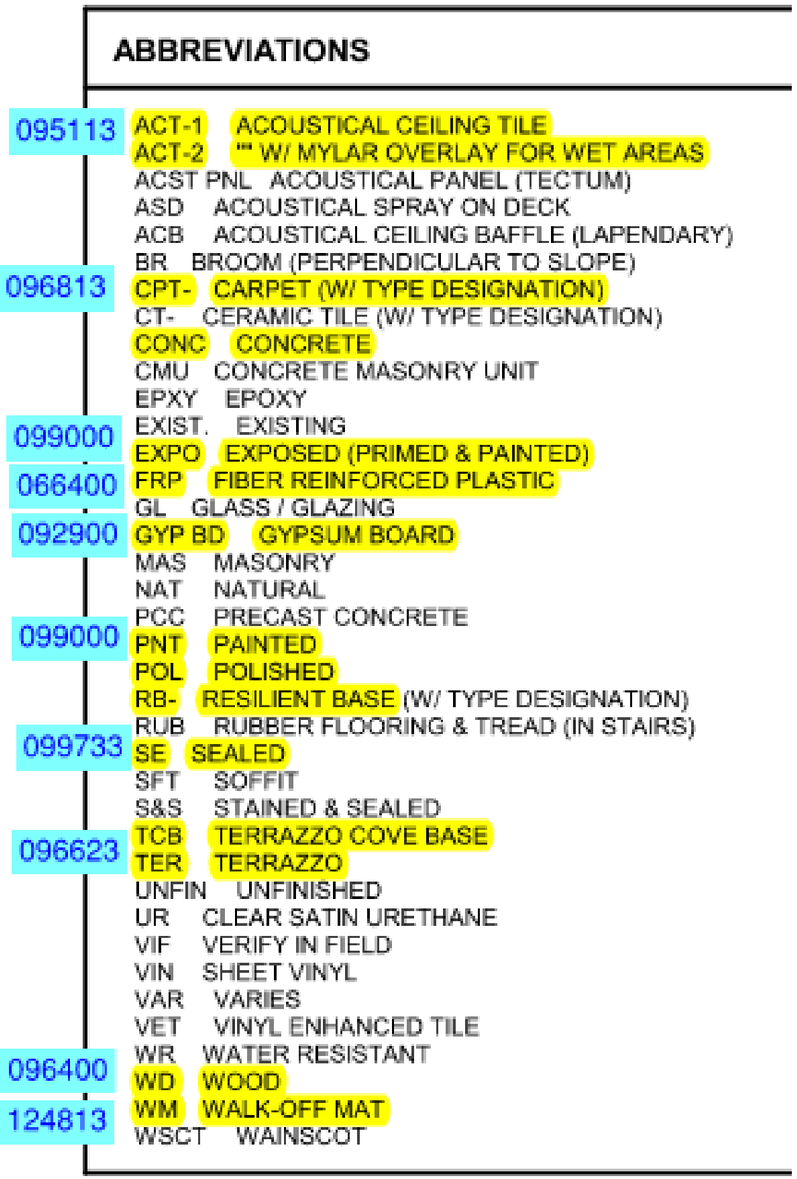
Analyze drawings for systems, assemblies, and materials.

Project Drawings

- Confirm systems and assemblies and materials are specified.
- Use generic notes on drawings - minimize change impact.
- Use generic material Type tags to label multiple types of same material.
- Do not use proprietary names on drawings.
- Do not define scope per trade or contractor.
- Show extent of alternates, phasing, limits or work.
- Possibly show scope for separate contracts.

Coordinate Product Information

- Coordinate installation methods and accessories.
- Coordinate terminology.
- Avoid generic reference to spec or see spec.



ABBREVIATIONS

095113 ACT-1 ACOUSTICAL CEILING TILE
ACT-2 " W/ MYLAR OVERLAY FOR WET AREAS
ACST PNL ACOUSTICAL PANEL (TECTUM)
ASD ACOUSTICAL SPRAY ON DECK
ACB ACOUSTICAL CEILING BAFFLE (LAPENDARY)
BR BROOM (PERPENDICULAR TO SLOPE)
096813 CPT- CARPET (W/ TYPE DESIGNATION)
CT- CERAMIC TILE (W/ TYPE DESIGNATION)
CONC CONCRETE
CMU CONCRETE MASONRY UNIT
EPXY EPOXY
099000 EXIST. EXISTING
EXPO EXPOSED (PRIMED & PAINTED)
066400 FRP FIBER REINFORCED PLASTIC
GL GLASS / GLAZING
092900 GYP BD GYPSUM BOARD
MAS MASONRY
NAT NATURAL
PCC PRECAST CONCRETE
099000 PNT PAINTED
POL POLISHED
RB- RESILIENT BASE (W/ TYPE DESIGNATION)
RUB RUBBER FLOORING & TREAD (IN STAIRS)
099733 SE SEALED
SFT SOFFIT
S&S STAINED & SEALED
096623 TCB TERRAZZO COVE BASE
TER TERRAZZO
UNFIN UNFINISHED
UR CLEAR SATIN URETHANE
VIF VERIFY IN FIELD
VIN SHEET VINYL
VAR VARIES
VET VINYL ENHANCED TILE
WR WATER RESISTANT
096400 WD WOOD
124813 WM WALK-OFF MAT
WSCT WAINSCOT

Page Label	Comments	Author
26	092900	David Stutzman
36	092900	David Stutzman
8	095113	David Stutzman
26	095113	David Stutzman
26	095113	David Stutzman
26	096623	David Stutzman
26	096813	David Stutzman
8	098413	David Stutzman

CONSPECTUS

Spec Checklist

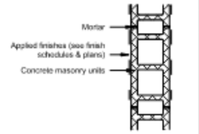
	SECTION	SECTION TITLE	AUTHOR	DD DRAFT YYYY-MM-	DD FINAL YYYY-MM-	SECTION WORK RESULTS	BOD MANUFACTURER/PRODUCT	COMMENTS
						partition bullnose outside corners A811		
Y	096400	WOOD FLOORING	Conspectus	Drafted		Added 2020-10-02 bamboo plywood flooring at tiered seating with wood furring 2/A602 Solid bamboo treads and risers and edging at tiered seating		2020-10-02 Confirm manufacturer and product will be scheduled on drawings 2020-10-02 is bamboo flat grain or edge grain? 2020-10-02 Is wood furring acting as sleepers to support finish floor above concrete. Must furring be preservative treated for direct contact with concrete? 2020-10-02 Is the furring space ventilated or filled with non combustible material such as perlite? 2020-10-02 Is a vapor retarder required over the concrete substrate to protect the wood flooring?
Y	96513 096500	RESILIENT BASE AND ACCESSORIES RESILIENT FLOORING...INCLUDES BASE AND ACCY	Conspectus	Drafted		TP Base 2020-10-02 floor finish reducer strip 1/A812		2022-10-02 What is the tread finish for the metal pan stair? A811 lists rubber in abbreviations, but finish is not scheduled. JB PER AB JOHNSONITE FOLIO TREADS AND TILES, RICE PAPER FINISH
N	096623	RESINOUS MATRIX TERRAZZO FLOORING	Conspectus	Drafted		2020-10-02 terrazzo flooring and cove base at rest room floors		2020-10-02 is waterproofing required at second floor restroom floors? 2020-10-02 terrazzo cove base is sheduled on A811 at toilet rooms. Elevations on A703 show ceramic tile base, matching wall finish. What base material is requried
Y	096816	SHEET CARPETING	Conspectus	Drafted		Offices, conference room		

Type 3A: Masonry Partition

not found on plans is CMU required?

Studs to structure above (see details)						
	4 HR rated			3A20	3A30	3A40
	3 HR rated			3A21	3A31	3A41
	2 HR rated		3A12	3A22	3A32	3A42
	1 HR rated		3A13	3A23	3A33	3A43
	Non-rated	3A04	3A14	3A24	3A34	3A44
Non-rated to 6" ABV ceiling		3A05	3A15	3A25	3A35	3A45
Non-rated to underside of finished ceiling (see details)		3A06	3A16	3A26	3A36	3A46
Non-rated partial height partition (see details)		3A07	3A17	3A27	3A37	3A47
Concrete Masonry Unit THK		5 5/8"	5 5/8"	7 5/8"	9 5/8"	11 5/8"
Nominal partition THK		4"	6"	8"	10"	12"
S.T.C. acoustical rating: hollow core		40-43	43-46	46-50	49-51	50-53
S.T.C. acoustical rating: solid filled core		45-47	50-52	53-56	56-58	58
U.L. designation (where applicable)		– –	U906: 1-2 HR	U905: 1-2 HR U904: 3 HR U901: 4 HR	U905: 1-2 HR U904: 3 HR U901: 4 HR	U905: 1-2 HR U904: 3 HR U901: 4 HR

Wall Detail: Scale: 1" = 1'-0"



Interior non-structural height limitations

CMU thickness	MAX HT (5 PSF)
3 5/8"	10'-0"
5 5/8"	16'-0"
7 5/8"	22'-0"
9 5/8"	28'-0"
11 5/8"	34'-0"

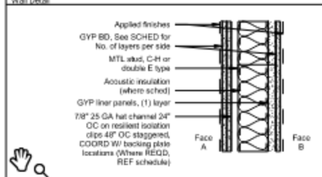
Remarks:
CMU block classifications.
1-2 HR U906: Classification (2hr)
2 HR U905: Classification D-2
3 HR U904: Classification C-3
4 HR U901: Classification B-4

Reference UL Design specifications for complete requirements & eligible manufacturers.

Type 1M: 2HR Metal Frame Shaft Wall

Studs to structure above (see details)	2 HR rate W/ GYP BD to structure ABV	1M10	1M11	1M12	1M20	1M21	1M22	1M30	1M31	1M32	1M40	1M41	1M42
Stud size		2 1/2"	2 1/2"	2 1/2"	4"	4"	4"	6"(C-H)	6"(C-H)	6"(C-H)	6"(2xE)	6"(2xE)	6"(2xE)
GYP BD thickness		1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
No. of GYP BD layers on face A		2	1	2	2	1	2	2	1	2	2	1	2
No. of GYP BD layers on face B		0	1	0	2*	1	0	0	1	0	0	1	0
Resilient 25 GA furring channels		No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Partition thickness		3 1/2"	3 1/2"	4 3/8"	5"	5"	5 7/8"	7"	7"	7 7/8"	7"	7"	7 7/8"
Acoustical batt insulation		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
S.T.C. acoustical rating		48	48	50	50	50	53	50	50	53	50	50	53
U.L. designation (where applicable)		U419(B)	U415(E)	U415(F)	U415(B)	U415(E)	U415(F)	U415(B)	U415(E)	U415(F)	U415(B)	U415(E)	U415(F)

Wall Detail: Scale: 1 1/2" = 1'-0"



Interior non-structural height limitations

Stud Size		Stud spacing	Composite Table MAX HT (10 PSF)	
Inches	mils (GA)		L/240	L/360
2 1/2"	33 (20)	24" OC	10'-7"	9'-3"
4"	33 (20)	24" OC	14'-5"	12'-7"
6"	33 (20)	24" OC	18'-4"	16'-0"
6"(2xE)	33 (20)	24" OC	24'-0"	21'-0"

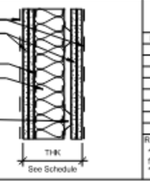
Remarks:
Provide continuous bracing to framing at heights exceeding max. heights per limiting heights table

* (2) Additional layers of gyp bd provided outboard of UL tested assembly for acoustics.

Type 1C: Metal Frame Interior Partition

Studs to structure above (see details)	4 HR rate W/ GYP BD to structure ABV								1C91
	2 HR rate W/ GYP BD to structure ABV			1C20			1C90		
	1 HR rate W/ GYP BD to structure ABV	1C01	1C11	1C31	1C41	1C51	1C71	1C81	
	Non-rated W/ GYP BD to structure ABV	1C02	1C12	1C32	1C42	1C52	1C72	1C82	
	Non-rated W/ GYP BD to 6" ABV ceiling	1C03	1C13	1C33	1C43	1C53	1C73	1C83	
Non-rated W/ GYP BD to finish ceiling (see details)		1C04	1C14	1C34	1C44	1C54	1C74	1C84	
Non-rated partial height partition (see details)		1C05	1C15	1C35	1C45	1C55	1C75	1C85	
Stud size		3 5/8"	3 5/8"	3 5/8"	4"	4"	4"	6"	6"
GYP BD thickness		5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Resilient 25 GA furring channels		No	No	No	No	Yes	No	No	No
Partition thickness		6 1/8"	6 1/8"	6 1/8"	6 1/2"	6 1/2"	6 1/2"	8 1/2"	8 1/2"
Acoustical batt insulation		No	Yes	Yes	No	Yes	Yes	No	Yes
S.T.C. acoustical rating		48	56	56	48	56	63	56	56
U.L. designation (where applicable)		U465*	U465*	U411	U465*	U465*	U451*	U411	U465*	U465*	U411	U419

Wall Detail: Scale: 1 1/2" = 1'-0"



Interior non-structural height limitations

Stud Size		Stud spacing	Composite Table MAX HT (5 PSF)		Non-Composite Table MAX HT (5 PSF)	
Inches	mils (GA)		L/240	L/360	L/240	L/360
2 1/2"	43 (18)	12" OC	15'-9"	13'-9"	--	--
3 5/8"	33 (20)	16" OC	16'-4"	14'-3"	15'-6"	13'-6"
3 5/8"	43 (18)	16" OC	18'-0"	15'-6"	16'-11"	14'-9"
4"	18 (25)	16" OC	15'-4"	--	--	--
4"	33 (20)	16" OC	18'-4"	15'-11"	17'-3"	15'-0"
6"	18 (25)	16" OC	16'-9"	17'-11"	--	--
6"	33 (20)	16" OC	24'-6"	21'-4"	23'-11"	20'-10"
6"	43 (18)	16" OC	28'-3"	24'-8"	26'-0"	22'-9"

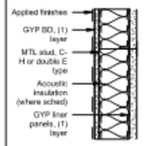
Remarks:
* Additional layer of gyp bd provided outboard of UL tested assembly for acoustics
** 2" min. insulation required to meet fire protection requirements

Type 1L: 1HR Metal Frame Shaft Wall

not found on plans

Studs to structure above (see details)	1 HR rate W/ GYP BD to structure ABV	1L10	1L20	1L30	1L40
Stud size		2 1/2"	4"	6"(C-H)	6"(2xE)
GYP BD thickness		5/8"	5/8"	5/8"	5/8"
Partition thickness		3 1/8"	4 5/8"	6 5/8"	6 5/8"
Acoustical batt insulation		No	No	No	No
S.T.C. acoustical rating		39	39	39	39
U.L. designation (where applicable)		U415(A)	U415(A)	U415(A)	U415(A)

Wall Detail: Scale: 1 1/2" = 1'-0"



Interior non-structural height limitations

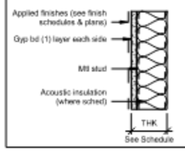
Stud Size		Stud spacing	Composite Table MAX HT (10 PSF)
Inches	mils (GA)		L/240	L/360
2 1/2"	33 (20)	24" OC	10'-7"	9'-3"
4"	33 (20)	24" OC	14'-5"	12'-7"
6"	33 (20)	24" OC	19'-11"	17'-5"
6"(2xE)	33 (20)	24" OC	24'-0"	21'-0"

Remarks:
Provide continuous bracing to framing at heights exceeding max. heights per limiting heights table

Type 1F: Metal Frame Furring Wall

Studs to structure above (see details)	Non-rated W/ GYP BD to structure ABV	1F00	1F10	1F20	1F30	1F40	1F50	1F60
	Non-rated W/ GYP BD to 6" ABV ceiling	1F01	1F11	1F21	1F31	1F41	1F51	1F61
Non-rated W/ GYP BD to finish ceiling (see details)		1F02	1F12	1F22	1F32	1F42	1F52	1F62
Non-rated partial height partition (see details)		1F03	1F13	1F23	1F33	1F43	1F53	1F63
Stud size		2 1/2"	3 5/8"	3 5/8"	4"	4"	6"	6"
GYP BD thickness		5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Partition thickness		3 1/8"	4 1/4"	4 1/4"	4 5/8"	4 5/8"	6 5/8"	6 5/8"
Acoustical batt insulation		No	No	Yes	No	Yes	No	Yes
S.T.C. acoustical rating		--	--	--	--	--	--	--
U.L. designation (where applicable)		--	--	--	--	--	--	--

Wall Detail: Scale: 1 1/2" = 1'-0"



Interior non-structural height limitations

Stud Size		Stud spacing	Non-Composite Table MAX HT (5 PSF)	
Inches	mils (GA)		L/240	L/360
2 1/2"	33 (20)	12" OC	11'-7"	10'-1"
3 5/8"	33 (20)	16" OC	15'-6"	13'-6"
3 5/8"	43 (18)	16" OC	16'-11"	14'-9"
4"	33 (20)	16" OC	17'-3"	15'-0"
6"	33 (20)	16" OC	23'-11"	20'-10"
6"	43 (18)	16" OC	26'-0"	22'-9"

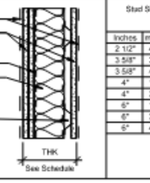
Remarks:

Type 1B: Metal Frame Interior Partition

not found on plans

Studs to structure above (see details)	1 HR rate W/ GYP BD to structure ABV			1B20	1B30	1B40	1B50	1B60	1B70	1B80
	Non-rated W/ GYP BD to 6" ABV ceiling	1B01	1B11	1B21	1B31	1B41	1B51	1B61	1B71	1B81
Non-rated W/ GYP BD to finish ceiling (see details)		1B02	1B12	1B22	1B32	1B42	1B52	1B62	1B72	1B82
Non-rated partial height partition (see details)		1B03	1B13	1B23	1B33	1B43	1B53	1B63	1B73	1B83
		1B04	1B14	1B24	1B34	1B44	1B54	1B64	1B74	1B84
Stud size		2 1/2"	2 1/2"	3 5/8"	3 5/8"	3 5/8"	4"	4"	6"	6"
GYP BD thickness		5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Resilient 25 GA furring channels		No	No	No	No	Yes	No	Yes	No	Yes
Partition thickness		4 3/8"	4 3/8"	5 1/2"	5 1/2"	6 3/8"	5 7/8"	6 3/4"	7 7/8"	8 3/4"
Acoustical batt insulation		No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
S.T.C. acoustical rating		41	50	48	56	58	50	58	50	59
U.L. designation (where applicable)		--	--	U477	U477	U452	U477	U452	U477	U452

Wall Detail: Scale: 1 1/2" = 1'-0"



Interior non-structural height limitations

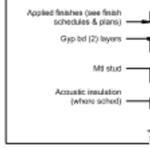
Stud Size		Stud spacing	Composite Table MAX HT (5 PSF)		Non-Composite Table MAX HT (5 PSF)	
Inches	mils (GA)		L/240	L/360	L/240	L/360
2 1/2"	43 (18)	12" OC	15'-9"	13'-9"	--	--
3 5/8"	33 (20)	16" OC	16'-5"	14'-3"	15'-6"	13'-6"
3 5/8"	43 (18)	16" OC	18'-0"	15'-6"	16'-11"	14'-9"
4"	18 (25)	16" OC	15'-4"	--	--	--
4"	33 (20)	16" OC	18'-4"	15'-11"	17'-3"	15'-0"
6"	18 (25)	16" OC	16'-9"	17'-11"	--	--
6"	33 (20)	16" OC	24'-6"	21'-4"	23'-11"	20'-10"
6"	43 (18)	16" OC	28'-3"	24'-8"	26'-0"	22'-9"

Type 1G: Metal Frame Furring Wall

not found on plans

Studs to structure above (see details)	Non-rated W/ GYP BD to structure ABV	1G00	1G10	1G20	1G30	1G40	1G50	1G60
	Non-rated W/ GYP BD to 6" ABV ceiling	1G01	1G11	1G21	1G31	1G41	1G51	1G61
Non-rated W/ GYP BD to finish ceiling (see details)		1G02	1G12	1G22	1G32	1G42	1G52	1G62
Non-rated partial height partition (see details)		1G03	1G13	1G23	1G33	1G43	1G53	1G63
Stud size		2 1/2"	3 5/8"	3 5/8"	4"	4"	6"	6"
GYP BD thickness		5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Partition thickness		3 3/4"	4 7/8"	4 7/8"	5 1/4"	5 1/4"	7 1/4"	7 1/4"
Acoustical batt insulation		No	No	Yes	No	Yes	No	Yes
S.T.C. acoustical rating		--	--	--	--	--	--	--
U.L. designation (where applicable)		--	--	--	--	--	--	--

Wall Detail: Scale: 1 1/2" = 1'-0"



Interior non-structural height limitations

Stud Size		Stud spacing	Non-Composite Table MAX HT (5 PSF)	
Inches	mils (GA)		L/240	L/360
2 1/2"	33 (20)	12" OC	11'-7"	10'-1"
3 5/8"	33 (20)	16" OC	15'-6"	13'-6"
3 5/8"	43 (18)	16" OC	16'-11"	14'-9"
4"	33 (20)	16" OC	17'-3"	15'-0"
6"	33 (20)	16" OC	23'-11"	20'-10"
6"	43 (18)	16" OC	26'-0"	22'-9"

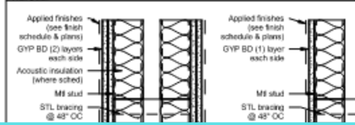
Remarks:

Type 1D: Metal Frame Chase Wall

not found on plans

Studs to structure above (see details)	2 HR rate W/ GYP BD to structure ABV		1D10		1D30		1D50
	1 HR rate W/ GYP BD to structure ABV	1D01		1D21		1D41	
	Non-rated W/ GYP BD to structure ABV	1D02	1D12	1D22		1D42	
	Non-rated W/ GYP BD to 6" ABV ceiling	1D03	1D13	1D23		1D43	
Non-rated W/ GYP BD to finish ceiling (see details)		1D04	1D14	1D34		1D44	
Non-rated partial height partition (see details)		1D05	1D15	1D35		1D45	
Stud size		3 5/8"	3 5/8"	4"	4"	6"	6"
GYP BD thickness		5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
GYP BD layers each side of wall		1	2	1	2	1	2
Partition thickness		See Plan	See Plan	See Plan	See Plan	See Plan	See Plan
Acoustical batt insulation		Yes	Yes	Yes	Yes	Yes	Yes
S.T.C. acoustical rating		52*	52*	52*	52*	52*	52*
U.L. designation (where applicable)		U420	U420	U420	U420	U420	U420

Wall Detail: Scale: 1 1/2" = 1'-0"



Interior non-structural height limitations

Stud Size		Stud spacing	Non-Composite Table MAX HT (5 PSF)	
Inches	mils (GA)		L/240	L/360
3 5/8"	33 (20)	16" OC	15'-6"	13'-6"
3 5/8"	43 (18)	16" OC	16'-11"	14'-9"
4"	33 (20)	16" OC	17'-3"	15'-0"
6"	33 (20)	16" OC	23'-11"	20'-10"
6"	43 (18)	16" OC	26'-0"	22'-9"

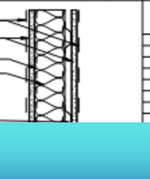
Remarks:

Type 1A: Metal Frame Interior Partition

not found on plans

Studs to structure above (see details)	2 HR rate W/ GYP BD to structure ABV			1A20			1A60			1A90
	1 HR rate W/ GYP BD to structure ABV	1A01	1A11		1A31	1A41	1A51		1A71	1A81	
	Non-rated W/ GYP BD to structure ABV	1A02	1A12		1A32	1A42	1A52		1A72	1A82	
	Non-rated W/ GYP BD to 6" ABV ceiling	1A03	1A13		1A33	1A43	1A53		1A73	1A83	
Non-rated W/ GYP BD to finish ceiling (see details)		1A04	1A14		1A34	1A44	1A54		1A74	1A84	
Non-rated partial height partition (see details)		1A05	1A15		1A35	1A45	1A55		1A75	1A85	
Stud size		3 5/8"	3 5/8"	3 5/8"	4"	4"	4"	4"	6"	6"	6"
GYP BD thickness		5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	3/4"	5/8"	5/8"	3/4"
Resilient 25 GA furring channels		No	No	No	No	No	Yes	No	No	No	No
Partition thickness		4 7/8"	4 7/8"	5 1/8"	5 1/4"	5 1/4"	6 1/8"	5 1/2"	7 1/4"	7 1/4"	7 1/2"
Acoustical batt insulation		No	Yes	Yes*	No	Yes	Yes	Yes*	No	Yes	Yes*
S.T.C. acoustical rating		40	49	50	40	49	54	50	40	49	50
U.L. designation (where applicable)		U465	U465	U419	U465	U465	U451	U419	U465	U465	U419

Wall Detail: Scale: 1 1/2" = 1'-0"



Interior non-structural height limitations

Stud Size		Stud spacing	Composite Table MAX HT (5 PSF)		Non-Composite Table MAX HT (5 PSF)	
Inches	mils (GA)		L/240	L/360	L/240	L/360
2 1/2"	43 (18)	12" OC	15'-9"	13'-9"	--	--
3 5/8"	33 (20)	16" OC	16'-5"	14'-3"	15'-6"	13'-6"
3 5/8"	43 (18)	16" OC	18'-0"	15'-6"	16'-11"	14'-9"
4"	18 (25)	16" OC	15'-4"	--	--	--
4"	33 (20)	16" OC	18'-4"	15'-11"	17'-3"	15'-0"
6"	18 (25)	16" OC	16'-9"	17'-11"	--	--
6"	33 (20)	16" OC	24'-6"	21'-4"	23'-11"	20'-10"

CONSPECTUS®

ANALYSIS & EVALUATION

COMPETENCY 5E

LEARNING OBJECTIVES

LO1 Identify common codes that govern construction projects.

LO2 Analyze products for compliance with applicable codes.

Evaluate products for code requirements.

Common Codes

Regulatory requirements influence product selection by introducing codes and standards that have a direct influence on product selection.

- Eliminate products that create unreasonably hazardous or dangerous conditions.

Product Code Compliance

The Owner and A/E rely on compliance with code requirements to ensure a product is suitable for the project.

- Important to know:
  - Which aspects of the product are covered in the code compliance evaluation.
  - Which standard is referenced in the specifications.

ANALYSIS & EVALUATION

COMPETENCY 5F

LEARNING OBJECTIVES

LO1 Identify common components to evaluate when assessing interior conditions.

LO2 Evaluate material durability within the project's interior conditions.

Assess interior climate conditions for impact on materials and methods (e.g., pool, sauna, clean room).

CONSPECTUS®

Common Interior Evaluations

Components to evaluate when selecting products for interior conditions:

- Quality of the building air.
- Heating.
- Ventilation.
- Lighting.
- Noise.

Material Durability

A/Es should evaluate material durability within the project's interior conditions.

- Prevent materials and products from needing to be replaced too often and becoming costly maintenance items.
- Products could deteriorate and reduce the useful life of the building.
- Products should improve a building's energy efficiency by efficiently reducing the energy needed for heating, lighting, and equipment operation.

ANALYSIS & EVALUATION

COMPETENCY 5G

LEARNING OBJECTIVES

LO1 Identify common components to evaluate when assessing exterior conditions.

LO2 Evaluate material suitability for the project site based on exterior conditions.

Assess environmental conditions for impact on materials and methods (e.g., weather, humidity, seismic).

Common Exterior Evaluations

Evaluate the impacts of the environmental conditions on the products.

- Frequent wet weather events or intense storms.
- Milder climate with high humidity fluctuations.
- High groundwater levels.
- Proximity to water bodies.
- Risk of storm surges.

Material Suitability

Take local environmental conditions into consideration to maintain reliable operation.

- Be compatible with specific regional and local cultural and aesthetic conditions.

ANALYSIS & EVALUATION

COMPETENCY 5H

LEARNING OBJECTIVES

LO1 Recommend product or design modifications based on results from a constructability review.

LO2 Determine whether a product will meet the construction sequence requirements.

Evaluate products and systems for constructability and sequencing in project locale.

Constructability Review

The constructability evaluation must develop a set of dates and milestones for input to the sequence evaluation.

- Utilize the overall project schedule and a list of major equipment.

Construction Sequence Requirements

Product procurement dates and supplier delivery requirements must be evaluated to confirm that the proposed construction sequence requirements are met.

- A/E should also evaluate system commissioning and start-up requirements.
- A/E establishes that the overall project schedule will integrate commissioning and start-up sequencing with design and construction sequencing.

ANALYSIS & EVALUATION

COMPETENCY 5I

LEARNING OBJECTIVES

LO1 Compare product data to determine compliance with project cost, quality, and aesthetic requirements.

Evaluate and select products for compliance with design intent (e.g., cost, quality, aesthetics).

CONSPECTUS®

Product Data Compliance

The product evaluation begins during the schematic design phase.

- Owner sets the requirements that influence product selection decisions.
- A/E evaluates products for compliance with the owner's project requirements.
  - Multi-phased evaluations throughout the design phase.
  - Detailed product information is collected and reviewed.
- A/E develops the specifications and drawings for the selected products.

ANALYSIS & EVALUATION

COMPETENCY 5J

LEARNING OBJECTIVES

LO1 Identify common types of reference standards published by technical and professional societies.

LO2 Incorporate reference standards into specifications.

Obtain and evaluate standards and information from technical and professional societies.

Common Reference Standards

Reference standards include the following types:

- Basic material.
- Product.
- Design.
- Workmanship.
- Test method.
- Codes.
- Installation.
- Performance.
- Life safety.

Incorporating Reference Standards

Reference standards are incorporated into the specifications by referring to a number, title, or other designation.

Some liabilities:

- Inadequate reference standards coexist with stringent ones.
- Can create duplication and contradiction within the contract documents.
- Contain embedded options.
- Standards generally refer to minimum requirements.
- Might contain undesired requirements.
- Various AHJs may enforce different editions of the same standard.

ANALYSIS & EVALUATION

COMPETENCY 5K

LEARNING OBJECTIVES

LO1 Determine whether to define exceptions to reference standards or write original requirements into the specifications when the project requirements are incompatible with a standard.

Review reference standards for appropriateness (e.g., ASTM, AWWA).

Know the Standard

Project requirements must be compatible with the reference standard.

- Standards should be free of duplications and contradictions.
- A/E needs to identify the duplications and ensure the specifications modify the references to eliminate contradictions.
- Do not rely on the statement where there is “a conflict or discrepancy between a reference standard and the specifications or another referenced standard, the more stringent requirements shall apply.”

ANALYSIS & EVALUATION

COMPETENCY 5L

LEARNING OBJECTIVES

LO1 Choose appropriate properties for reference standards that contain embedded options.

Verify that necessary reference standards options have been selected.

CONSPECTUS®

Embedded Options

Embedded options constitute choices that must be identified and modified to prevent discrepancies.

- A/E should evaluate each choice.
- If not specified, the selection is forfeited to the contractor.

ANALYSIS & EVALUATION

COMPETENCY 5M

LEARNING OBJECTIVES

LO1 Outline common considerations of the value analysis process.

LO2 Determine whether value analysis evaluation criteria or decisions need to be adjusted.

Review and incorporate results of value engineering decisions.

CONSPECTUS®

Common Considerations

Value analysis identifies areas of potential cost savings and benefits for the consideration and evaluation by the project team.

- Project information considerations:
  - Quality.
  - Performance.
  - Budget.
  - Schedule of the products.

Determine Adjustments

Factors that vary with each project:

- Budget requirements and maintenance costs.
- Product review time.
- Product delivery time and availability.

ANALYSIS & EVALUATION

COMPETENCY 5N

LEARNING OBJECTIVES

- LO1 Define the two basic types of warranties used in construction projects.
- LO2 Summarize the purpose of construction warranties.
- LO3 Identify common exclusions and limitations of warranties.
- LO4 Compare manufacturer warranties to select appropriate products or systems.

Verify proposed construction meets the manufacturer’s warranty requirements.

CONSPECTUS®

Basic Types of Warranties

Two basic types of warranties used in construction projects:

- Construction warranties or guaranties, which cover products and workmanship.
- Warranties that cover products only.

Purpose of Construction Warranties

Construction warranties are usually required for the following reasons:

- Protect the owner against faults, defects, or failures.
- Provide a remedy to the owner for non-conformance.
- Give the owner recourse against additional parties.
- Extend the manufacturer’s responsibility beyond the end of the correction period.
- Allow a remedy beyond the normal statute of limitations.

Common Exclusions and Limitations

Consider the following exclusions and limitations:

- Language making warranty the exclusive remedy.
- Clauses limiting scope of coverage to materials only.
- Clauses limiting assignability of warranty.
- Requirement stating that owner must sign warranty document.
- Warranties containing a deductible.
- Clauses limiting the time the owner has to take legal action.
- Requirement allowing warrantor to recover legal costs.
- Unfair dispute resolution procedures.
- Clauses that exclude installation of replacement product.

Manufacturer Warranties

Many manufacturers' warranties take away consumer protections customarily included in the Uniform Commercial Code, including implied warranty of merchantability or fitness for a particular purpose.

- May restrict repairs of failures only up to the original installation cost, not replacement costs.
- Little benefit if nothing is covered.
- Compare the clauses and conditions of several warranties and identify those that could cause problems if the need to file a claim arises.
- Examine a manufacturer's ability and willingness to honor its warranties.
- Company business experience.
- Sometimes the warranty provider is a broker, not the manufacturer.

RECAP: ANALYSIS & EVALUATION

COMPETENCIES

- 5A Align the specifications to project delivery method and schedule.
- 5B Evaluate systems, assemblies, and materials being proposed for the project.
- 5C Verify that systems, assemblies, and materials meet project requirements.
- 5D Analyze drawings for systems, assemblies, and materials.
- 5E Evaluate products for code requirements.
- 5F Assess interior climate conditions for impact on materials and methods (e.g., pool, sauna, clean room).
- 5G Assess environmental conditions for impact on materials and methods (e.g., weather, humidity, seismic).
- 5H Evaluate products and systems for constructability and sequencing in project locale.

RECAP: ANALYSIS & EVALUATION

COMPETENCIES

5I Evaluate and select products for compliance with design intent (e.g., cost, quality, aesthetics).

5J Obtain and evaluate standards and information from technical and professional societies.

5K Review reference standards for appropriateness (e.g., ASTM, AWWA).

5L Verify that necessary reference standards options have been selected.

5M Review and incorporate results of value engineering decisions.

5N Verify proposed construction meets the manufacturer's warranty requirements.

QUESTIONS?

CONTACT US

David Stutzman, CCS®

609.628.2390

dstutzman@conspectusinc.com

https://www.conspectusinc.com/

Questions about CEs and recordings:

tmontone@conspectusinc.com

THANKYOU