

**CON
SPEC
TUS**

®

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



Terumi Woods, CCS®
Specifier
San Francisco, CA

CONTENT SUPPORT



Hana Nguyenky, CCS®
Specifier
Charlottesville, VA

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
3	10/24	Procurement
5	10/31	Analysis

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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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 2: Planning, Development, and Organization



Discover the imperative questions to ask while conducting research on materials and systems for product selection.



Research applicable code requirements, sustainability requirements, and product standards for building materials.



Evaluate product suitability for project conditions and the direct impact these choices can have on creating and maintaining health, safety, and welfare for building occupants.



Review key product selections with product representatives and see how this communication can increase opportunities to help the project reach full potential.

DOMAIN 4:

RESEARCH



- 4A Conduct research on materials and systems for product selection.
- 4B Research applicable code requirements.
- 4C Evaluate product suitability for project conditions.
- 4D Review key product selections with product representatives.
- 4E Research applicable product standards.

DOMAIN 4: RESEARCH



4A Materials & Products.

(What is Possible?)

4B Codes & Regulations.

(What is Required?)

4C Project.

(What is Needed?)

4E Reference Standards.

(What is Standard?)

4D Product Representatives.

RESEARCH INTRODUCTION

LEARNING
OBJECTIVES

WHERE DO WE START?

**Analysis
Paralysis**



**Down the
Rabbit Hole**




POLL

Introduction Questions



Question 1a

How many years of experience do you have in the Design & Construction field?

- 
- A. 1-5 years
 - B. 5-10 years
 - C. 10-20 years
 - D. 20+ years

Question 1b

How much do you enjoy research?

- A. Not at all... (next question, please!)
- B. It's OK... (but I'd rather have a root canal)
- C. It's not for everyone.... (especially not aunts and uncles)
- D. I enjoy it... (but I get bored sometimes)
- E. I love it!.... (sometimes I even research how to research)



Question 1c

**How do you retain and organize information?
(Software platforms?)**



A. _____

Question 1d

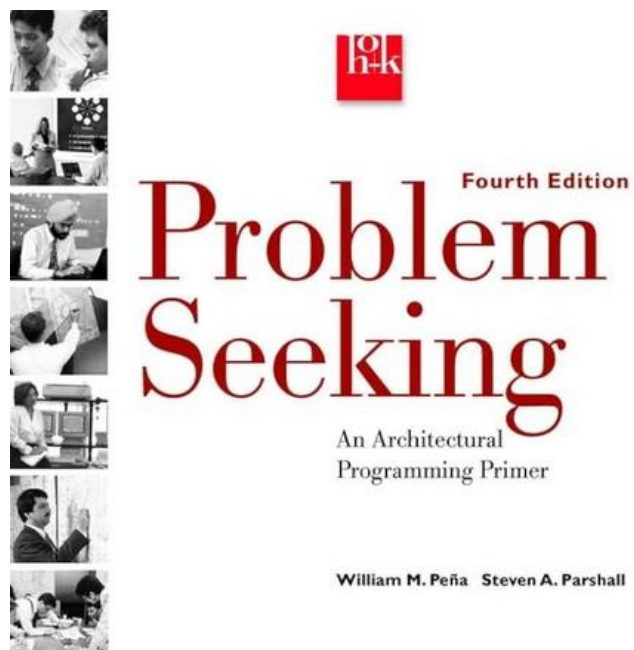
When do you do your research?

- A. Before I get a project.
- B. Programming and Schematic Design.
- C. Design Development and Construction Documentation.
- D. When the contractor asks me to.
- E. When the lawyers ask me to.

Research - General Steps During Programming

Programming Research:

- Establish Goals. (What does the Owner want to achieve?)
- Collect and Analyze Facts. (What is known?)
- Uncover and Test Concepts. (How are the goals achieved?)
- Determine Needs. (What is needed? How much Will it Cost?)
- State the Problem. (What is the direction the design should take?)



Research - General Steps During Design

Design Research (summarized):

- Review Owner's Project Requirements.
- Review AHJ Requirements and Code.
- Propose products.
- Collect Product Information.
- Incorporate Product Information into the Design.
- Document Product Information Technical Aspects.
- Summarize Product Cost and Estimate Project Cost.
- Evaluate Product Sustainability.


Research - General Steps During Product Selection

Product Research (Summarized):

- Identify the type of product required.
- Establish product requirements and performance.
- Research product.
- Identify appropriate products.

4A	Materials & Products.	(What is Possible?)
4B	Codes & Regulations.	(What is Required?)
4C	Project.	(What is Needed?)
4E	Reference Standards.	(What is Standard?)
4D	Product Representatives.	

RESEARCH MATERIALS & PRODUCTS (COMPETENCY 4A)



LEARNING OBJECTIVES

- LO1 List the factors that must be considered when researching materials, products, and systems.
- LO2 Identify common sources and methods of obtaining product information.

Conduct research on materials and systems for product selection.

(WHAT IS POSSIBLE?)

Type of Products

Materials.

Commodities.

Products.

- Standard Products.
- Custom Products.
 - Prepayment.
 - Submittals.
 - Custom Colors.
 - Lead Time.
 - Testing & Certification.
- Proprietary Products.

Assemblies / Fabrications.

Equipment.

Evaluating Products – Consideration Factors

Selection is based on evaluating products against specific criteria derived from the project's requirements, applicable codes, and industry standards.

- Product performance criteria.
- Product quality.
- Manufacturer.
- Installation and code requirements.
- Product availability and project schedule.
- Cost.
- Project conditions.

Evaluating Products – Consideration Factors Cont.

Product Performance Criteria:

- Performance testing.
- Field testing.
- Frequency of testing available.
- Conditions and circumstances of other installations.
- Optimal conditions of use.
- Compatibility with adjacent products.



Evaluating Products – Consideration Factors Cont.

Product Quality:

- Durability.
- Uniformity.
- Site or Field Fabricated.
- Product history and development.
- Length of time on the market.
- Reference Standards.... More to come.



Evaluating Products – Consideration Factors Cont.

Manufacturers:

- History / Record of production?
- Warranty terms.
- Certification of Installers.
- Responsiveness before, after, and during construction.
- Location.
- Distribution network to suppliers.
- Product Representatives.... More to come!



Evaluating Products – Consideration Factors Cont.

Installation and Code Requirements:

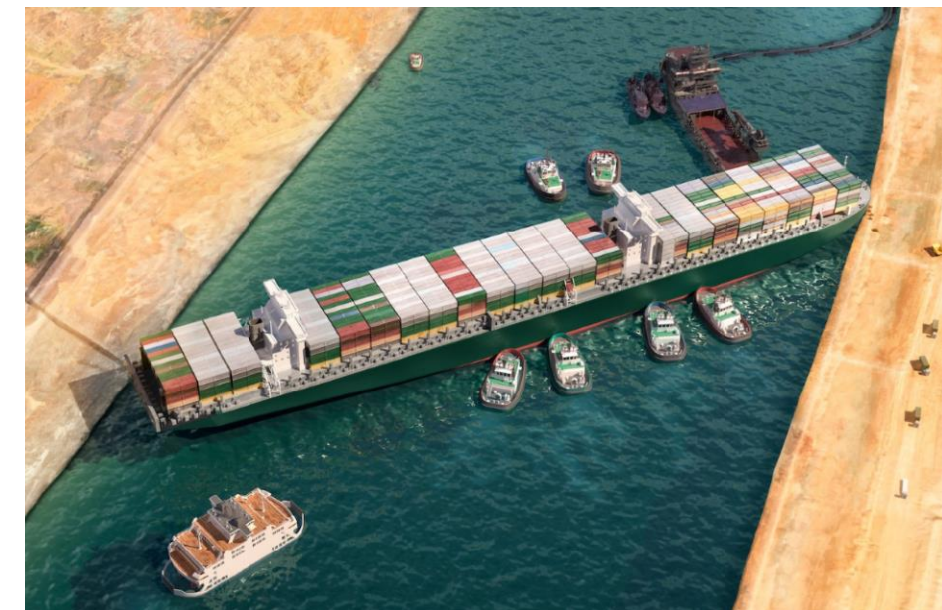
- Authority Having Jurisdiction (AHJ).
- OSHA Requirements.
- ADA Requirements.
- ... more to come.



Evaluating Products – Consideration Factors Cont.

Product Availability and Project Schedule:

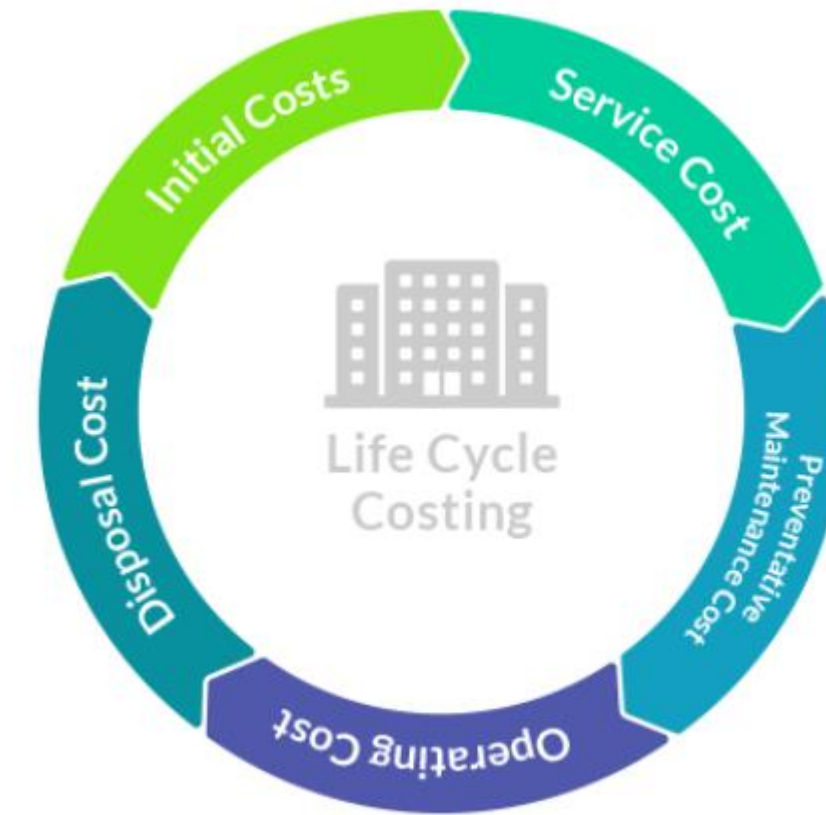
- Number of Manufacturers available.
- Supply Chain issues.
- Fabrications times.



Evaluating Products – Consideration Factors Cont.

Cost:

- Initial Cost.
- Maintenance Costs.
- Replacement Costs.
- Operating Costs.



Evaluating Products – Consideration Factors Cont.

Project Conditions:

- Owner's Project Requirements.
- Renovation or New Building?
- Public or Private project?
 - Open Bid or Negotiated Bid?



Sources of Product Information

Today, most product information is readily available online from:

- Manufacturer's Websites.
- Authorities having jurisdiction (AHJ).
 - Jurisdiction website, UpCodes, Code Development Agency Website.
- Product standards websites.
 - ANSI, ASTM, ASME, ASHRAE, and more; MADCAD.
- Printed catalogs.
- Product datasheets.
 - Contains Testing, Performance, Reference Standard and product options.
- Trade shows.
 - CSI, AIA, DBIA, and more; World of Concrete.
- Product Representatives.

Schedules For Documentation

After product evaluation, an approved product data schedule is included in the specifications section or on the drawings.

- When placed in a specification section, schedules are included at the end of PART 3—EXECUTION.
- Schedules that include materials from multiple specification sections should be included in the drawings or included in a separate specification.

ACOUSTIC PANEL CEILING		
APC-1	MANUFACTURER:	ARMSTRONG
	PRODUCT:	OPTIMA PB - TEGULAR
	SIZE:	24" X 24" X 1" IN 15/16" GRID
	COLOR:	WHITE
	APPLICATION:	TYPICAL CEILING TILE
APC-2	MANUFACTURER:	ARMSTRONG
	PRODUCT:	OPTIMA PB HEALTHZONE - TEGULAR
	SIZE:	24" X 24" X 1" IN 15/16" GRID
	COLOR:	WHITE
	APPLICATION:	SCRUBBABLE CEILING TILE - LABS
APC-3	MANUFACTURER:	ARMSTRONG
	PRODUCT:	ULTIMA HIGH NRC - TEGULAR
	SIZE:	24" X 72" X 7/8" IN 15/16" GRID
	COLOR:	WHITE
	APPLICATION:	CORRIDOR CEILING TILE
APC-4	MANUFACTURER:	ARMSTRONG
	PRODUCT:	OPTIMA PB - TEGULAR
	SIZE:	48" X 48" X 1" IN 15/16" GRID
	COLOR:	WHITE
	APPLICATION:	LOBBY CEILING TILE
APC-5	MANUFACTURER:	ARMSTRONG
	PRODUCT:	ULTIMA HEALTHZONE HIGH NRC
	SIZE:	24" X 24" X 7/8" IN 15/16" ALUMINUM GRID
	COLOR:	WHITE
	APPLICATION:	WASHABLE, FOOD GRADE
APC-6	MANUFACTURER:	ARMSTRONG
	PRODUCT:	KITCHEN ZONE - SQUARE LAY IN
	SIZE:	24" X 24" X 5/8" IN 15/16" GRID
	COLOR:	WHITE
	APPLICATION:	RESTROOMS AND AS INDICATED

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Material/Product Questions

Question 1

Which of the following is not a common product research source and method?

- A. Manufacturer's website.
- B. Manufacturer's guide specification.
- C. Product presentations.
- D. Trade show.
- E. Conferences.

Question 2

Which of the following is a consideration factor when evaluating products?


- A. Product performance.
- B. Product quality.
- C. Product Warranty.
- D. Product cost.

Question 3

When placed in a specification section, schedules are included at the end of _____.

- A. Part 1 – General
- B. Part 2 – Products
- C. Part 3 – Execution
- D. Its own specification section.

RESEARCH CODE & REGULATIONS (COMPETENCY 4B)



LEARNING OBJECTIVES

- L01 Identify requirements that must be met for a project to comply with applicable federal, state, and local codes.
- L02 Select products that meet applicable code requirements.
- L03 Determine whether a meeting with AHJs is necessary for code modification requests or interpretations.

Research applicable code requirements.

(WHAT IS REQUIRED?)

Type of Regulations

Regulations:

- Building Codes.
- Land Development Regulations (Zoning).
- Accessibility (Law).
- Federal Emergency Management Administration (FEMA).

Authorities Having Jurisdictions:

- Federal Agency.
- State Agency.
- Locality.

Research Applicable Code Requirements

The A/E needs to understand federal, state, and local codes applicable to the design.

- There might be instances where some codes create conflicts that require interpretation by the AHJ.
 - AHJs are the organizations, agencies, or departments that have control over an aspect of construction within an area in which they are given responsibility.

Code Compliance For Projects

Verify that code requirements and product performance align.

- How do you know that a product is compliant?
 - Compare code requirement with product performance and testing.

Example – Interior Finish

2021 International Building Code (IBC)

803.1.2 Interior wall and ceiling finish materials tested in accordance with ASTM E84 or UL 723.

Interior wall and ceiling finish materials shall be classified in accordance with ASTM E84 or UL 723. Such interior finish materials shall be grouped in the following classes in accordance with their flame spread and smoke-developed indices.

Class A = Flame spread index 0–25; smoke-developed index 0–450.

Class B = Flame spread index 26–75; smoke developed index 0–450.

Class C = Flame spread index 76–200; smoke-developed index 0–450.

Exception: Materials tested in accordance with Section 803.1.1 and as indicated in Sections 803.1.3 through 803.13.

<https://codes.iccsafe.org/content/IBC2021P2/chapter-8-interior-finishes>

Example – Interior Finish

2021 International Building Code

TABLE 803.13 INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY^k

GROUP	SPRINKLERED ^l			NONSPRINKLERED		
	Interior exit stairways and ramps and exit passageways ^{a, b}	Corridors and enclosure for exit access stairways and ramps	Rooms and enclosed spaces ^c	Interior exit stairways and ramps and exit passageways ^{a, b}	Corridors and enclosure for exit access stairways and ramps	Rooms and enclosed spaces ^c
A-1 & A-2	B	B	C	A	A ^d	B ^e
A-3 ^f , A-4, A-5	B	B	C	A	A ^d	G
B, E, M, R-1	B	C ^m	C	A	B	G
R-4	B	C	C	A	B	B
F	C	C	C	B	C	G
H	B	B	C ^g	A	A	B
I-1	B	C	C	A	B	B
I-2	B	B	B ^{h, i}	A	A	B
I-3	A	A ⁱ	C	A	A	B
I-4	B	B	B ^{h, i}	A	A	B
R-2	C	C	C	B	B	C
R-3	C	C	C	C	C	C
S	C	C	C	B	B	C
U	No restrictions			No restrictions		

Felt Wallcovering Product Data Sheet

WEIGHT 25 oz/ly (775 g/lm)

WIDTH 63" (160 cm)

CONTENTS 100% recycled polyester

RECYCLED CONTENT 95% post-consumer recycled content by weight

BACKING Fused polyester

THICKNESS 0.12" (0.3 cm)

PATTERN MATCH Non-reverse hang, random match

FIRE TEST ASTM E84 Tunnel Test Adhered: Class A, flame spread 5, smoke developed 10 (test procedure is comparable to UL 723, NFPA 255 and UBC 8-1)

ASTM E84 Tunnel Test Unadhered: Class A, flame spread 0, smoke developed 90 (test procedure is comparable to UL 723)

CAN/ULC S102 Tunnel Test: flame spread 15, smoke developed 45

HEALTH STANDARDS
California Section 01350
Health Product Declaration (HPD)

<https://codes.iccsafe.org/content/IBC2021P2/chapter-8-interior-finishes>

Meetings With AJHs

If the A/E anticipates a need for an interpretation, the information should be forwarded to the AHJ for review before the meeting and may required the following:

- Design Drawings.
- References.
- Product literature.
- Material ratings.
- Product certifications.

POLL

Code & Regulation Questions

Question 1

Compare _____ requirements with product performance and testing.

- A. Code.
- B. Regulation.
- C. Law.
- D. Standard.

Question 2

What information should be sent to AHJ prior to meeting with them for interpretations?

- A. Building Code.
- B. Design Drawings.
- C. Product literature.
- D. Material ratings.

Question 3

The _____ needs to understand federal, state, and local codes applicable to the design.

- A. Architect.
- B. Contractor.
- C. Engineer.
- D. Owner.

RESEARCH PROJECT (COMPETENCY 4C)



LEARNING OBJECTIVES

- LO1 Evaluate product suitability against the owner's requirements and the design intent.
- LO2 Compare products from multiple manufacturers to determine product acceptability.
- LO3 Determine a product's expected performance based on prevailing project site conditions.

Evaluate product suitability for project conditions.

(WHAT IS NEEDED?)

Evaluate Product Suitability

What is the rubric for a successful product?

Design Objectives – Owner Project Requirements:

- Historic Preservation.
- Aesthetics.
- Cost Effectiveness.
 - Life Cycle Cost.
 - Available Funding.
- Functional / Operational.
- Productive.
- Safe/Secure.
- Sustainable.
- Resilience.
- Accessible.

Product Comparisons

If the product type is available from more than one manufacturer, investigate several manufacturers to determine acceptability.

- Find product data for both (websites and product data sheets and cut sheets).
- Verify criteria are aligned with the same test.
- Verify code minimum requirements.
- Verify Owner's minimum requirements.



Product Comparisons - Example

Felt Wallcovering Product Data Sheet

WEIGHT 25 oz/ly (775 g/lm)

WIDTH 63" (160 cm)

CONTENTS 100% recycled polyester

RECYCLED CONTENT 95% post-consumer recycled content by weight

BACKING Fused polyester

THICKNESS 0.12" (0.3 cm)

PATTERN MATCH Non-reverse hang, random match

FIRE TEST ASTM E84 Tunnel Test Adhered: Class A, flame spread 5, smoke developed 10 (test procedure is comparable to UL 723, NFPA 255 and UBC 8-1)

ASTM E84 Tunnel Test Unadhered: Class A, flame spread 0, smoke developed 90 (test procedure is comparable to UL 723)

CAN/ULC S102 Tunnel Test: flame spread 15, smoke developed 45

HEALTH STANDARDS
California Section 01350
Health Product Declaration (HPD)

Vinyl Wallcovering Product Data Sheet

Physical Properties	Results
Product Weight	20oz. per lineal yd.
Vinyl Weight	17oz. per lineal yd.
Fabric Weight	3oz. per lineal yd.
Thickness*	0.015 to 0.030 in.
Fabric(base/backer)	Poly-Cotton Osaburg (standard) or Polyester Nonwoven (special order)
Breaking Strengths lbs. force	Results
Machine Direction-warp	Exceeds Type II minimum of 50lbs.
Cross Machine Direction-fill	Exceeds Type II minimum of 55lbs.
Tearing Strength, Scale	Results
Machine Direction-warp	Exceeds Type II minimum of 25lbs.
Cross Machine Direction-fill	Exceeds Type II minimum of 25lbs.
Temperature	Results
Cold Crack resistance @ 20 °F	No change
Heat Aging (7 days at 158 °F)	Does not become stiff, brittle, discolored, or show loss of grain
Specifications / Testing / Certification	Results
Federal Specifications	CCC-408-D Type II Class A
CFFA Specification	CFFA-W-101-D Type II Class A
Fire Testing	Results
ASTM-E84 Tunnel Test Class A	Meets or exceeds requirements for flame spread, smoke developments and flashover
NFPA286 Corner Burn Test Class A	Meets or exceeds requirements for flame spread, smoke developments and flashover
NFPA265 Corner Burn Test Class A	Meets or exceeds requirements for flame spread, smoke developments and flashover
BS476 Part 6&7	Meets or exceeds requirements for flame spread, smoke developments and flashover

Project Site Conditions

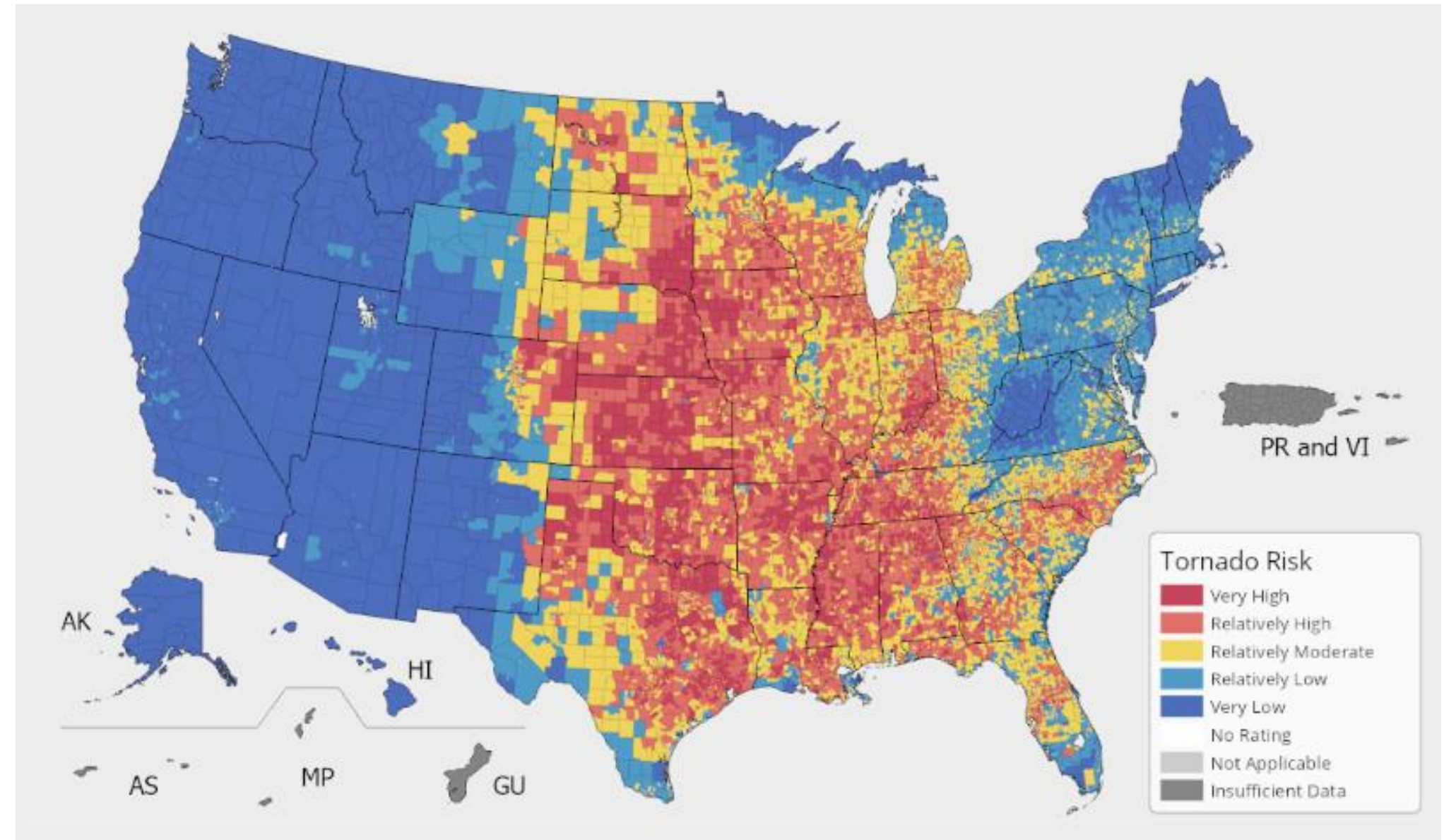
The specifier should ascertain the other consultants' determinations of characteristics of the project site.

- Environmental severity classification.
- Energy code climate zone.
- Wind loads calculations.
- Salt exposure.

Project Site Conditions

Environmental Severity Classification:

- Seismic Class.
- Tornado Risk.
- Flooding Risk.
- Snow Load Issues.
- Rainfall Amounts.
- Wildfire Risk.

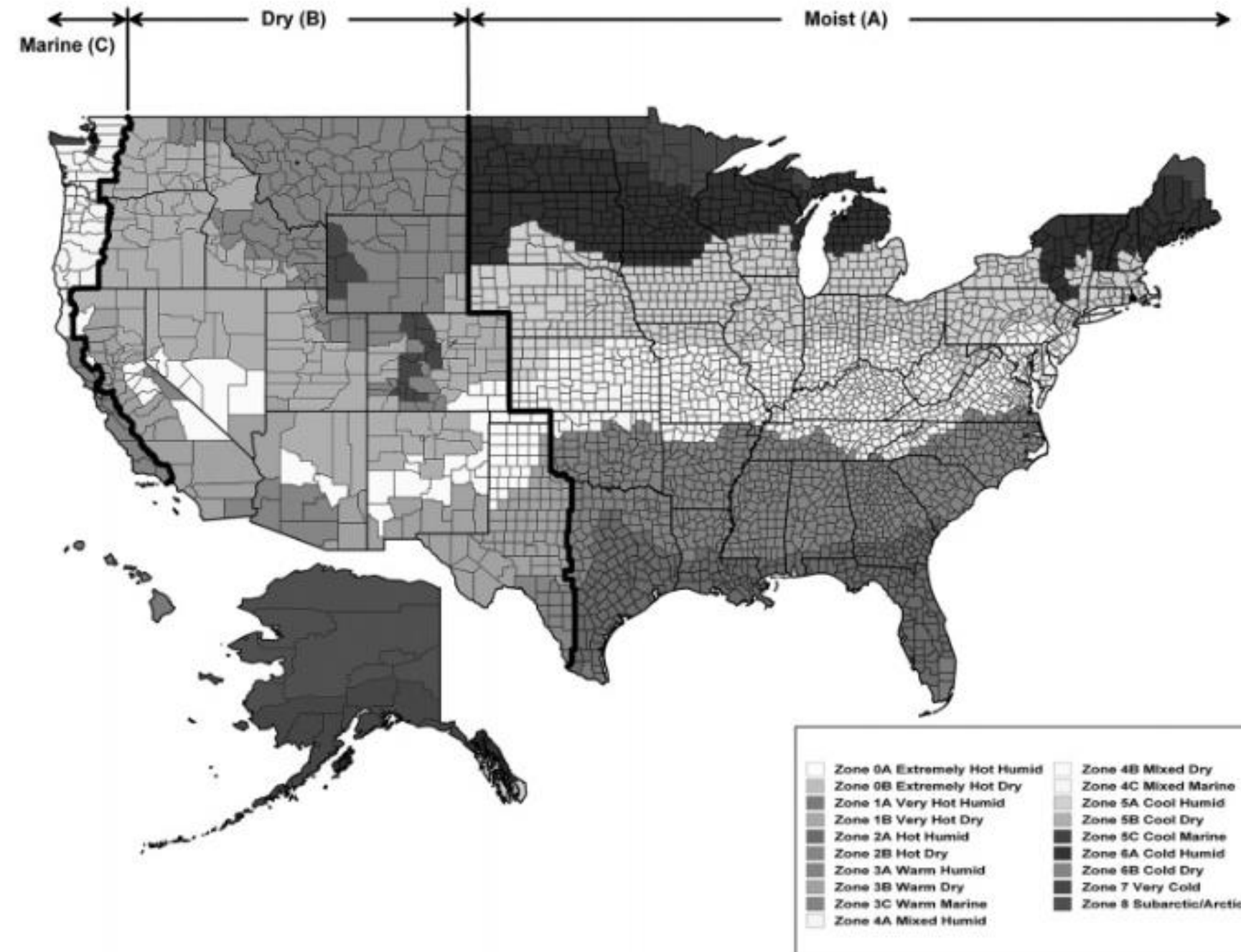


<https://hazards.fema.gov/nri/tornado>

Project Site Conditions

Energy Code Climate Zone:

- International Energy Conservation Code (IECC).

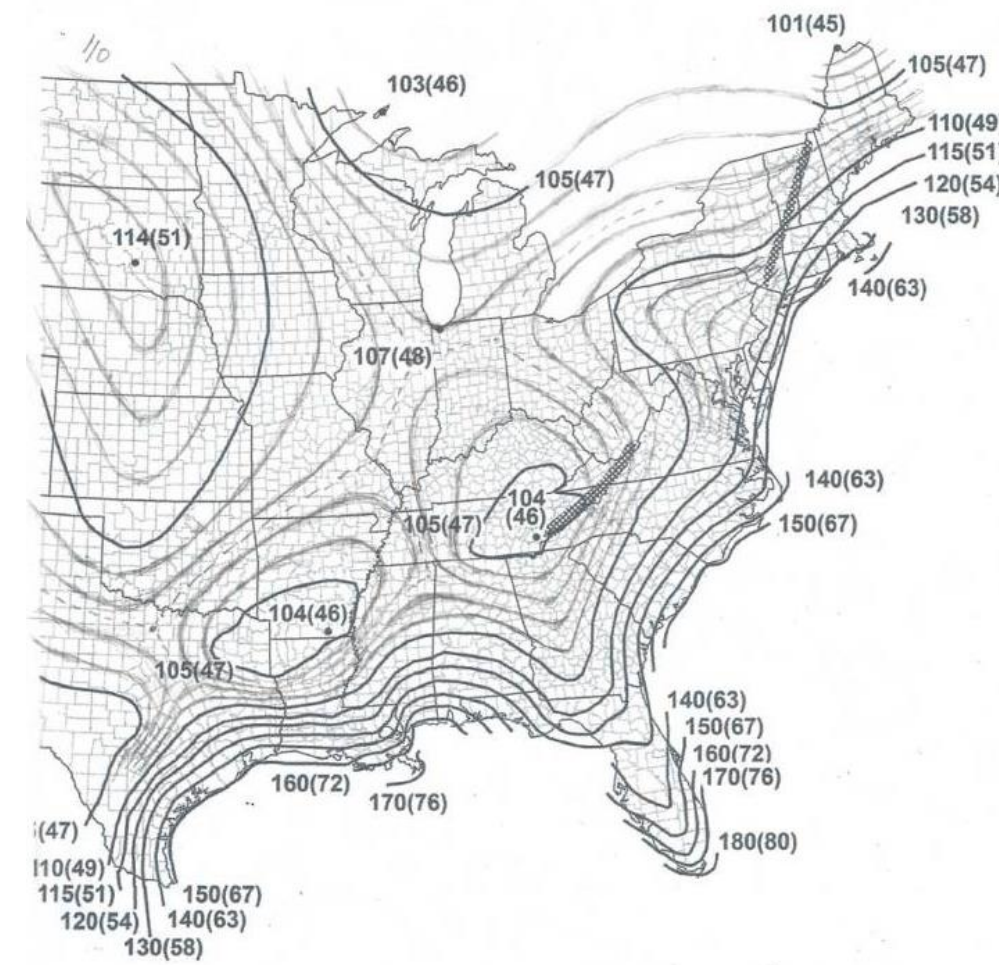
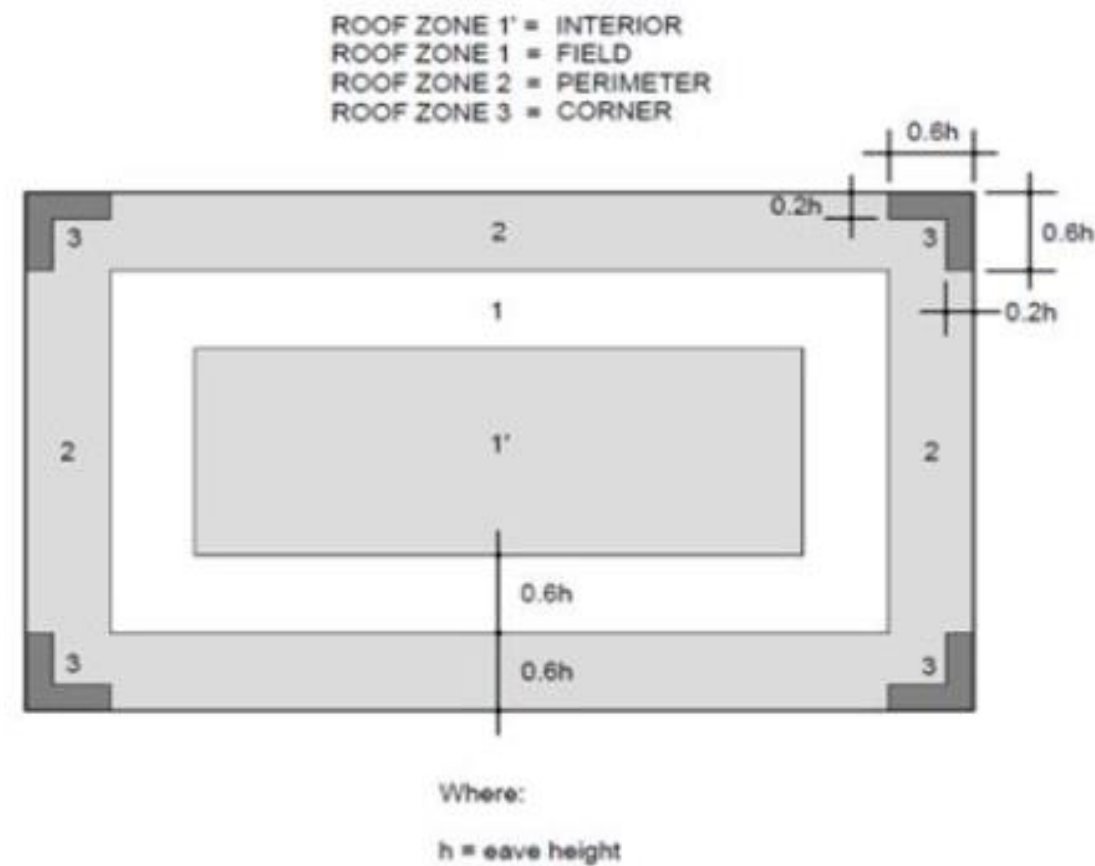


<https://codes.iccsafe.org/content/IECC2021P2/chapter-3-ce-general-requirements>

Project Site Conditions

Wind Load Calculations:

- ASCE 7 – Minimum Design Loads and Associated Criteria for Buildings and Other Structures.
- Contains many other environmental severity classifications, too.



<https://ascehazardtool.org/>

Project Site Conditions

Salt Exposure:

- Coastal Salt Water.
- De-Icing Chemicals.



Product's Expected Performance

Products are designed and manufactured to withstand a limited set of project conditions, including the following:

- Installed location on site.
- Temperature.
- Humidity.
- Wind and solar exposure.
- Seismic risks.
- Atmospheric pressure.
- Exposure to corrosive gases, hazardous chemicals, or possible contamination.
- Interior applications.
- Exterior applications.
- Space constraints.
- Frequency of use.
- Security, vandalism, or theft concerns.
- Owner's or manufacturer's maintenance program.

TIP! Review project site conditions with product performance testing.

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Project Questions

Question 1

Product suitability is based on evaluating the products against specific criteria derived from the owner's _____.

- A. requirements and the design intent.
- B. requirements and budget.
- C. budget and standards.
- D. requirements and standards.

Question 2

What are characteristics of a project site?

- A. Environmental severity classification.
- B. Population density.
- C. Wind loads calculations.
- D. Salt Exposure.

Question 3

If the product type is available from more than one manufacturer, what must be investigated to determine acceptability?

- A. Product data.
- B. Aligned criteria when tested with same test.
- C. Code minimum requirements.
- D. Owner's minimum requirements.

RESEARCH REFERENCE STANDARDS (COMPETENCY 4E)



LEARNING OBJECTIVES

- LO1 Distinguish between reference standards and codes.
- LO2 Recognize the advantages of using reference standards.
- LO3 Identify duplications and conflicts when two or more standards are used for a given product.
- LO4 Identify the sustainability metrics of products.
- LO5 Determine if a more sustainable product can achieve the project goals.

Research applicable product standards.

(WHAT IS STANDARD?)

Reference Standards, Code, and Law

Reference Standards:



Codes:



Law:



CDT and PDPG Definitions

Codes, regulations, and standards

Codes, regulations, and reference standards establish minimum requirements for the design and construction buildings and structures that compose the built environment.

Codes

- Mandatory
- Developed and maintained by model code-writing organizations with industry input
- Enforceable after adopted by local authority having jurisdiction

Regulations

- Mandatory
- Developed and written by authorities having jurisdiction for specific purpose
- Unlike code, may impose fines for failing to comply

Standards

- Voluntary
- Some reference standards adopted by codes and regulations
- Based on considerable amounts of research and testing by private organizations

Type of Reference Standards

Material Standards.

Product Standards.

Design Standards.

Test Method Standards.

Installation Standards.

Performance Standards.

Reference Standards - Advantages

There are many advantages for the use of reference standards, including the following:

- Quality assurance. (Associations know their industry.)
- Uniformity. (Consensus among the industry.)
- Reduced conflict and duplication. (Documents are reviewed by industry experts.)
- Reduced work. (References reduce verbiage.)

Reference Standards - Cautions

Users of reference standards should be familiar with the following issues:

- Applicability. (Does it apply?)
- Quality. (Is the minimum standard enough?)
- Design criteria. (Is the minimum standard too high?)
- Availability. (Is the standard well-known in the industry?)
- Duplication and conflict. (If using two, where do they conflict?)
- Optional provisions. (Did you select from the options listed?)
- Multiple standards. (Are multiple standards listed?)

Sustainability Metrics - General

Sustainability Design:

- Site Optimization.
- Energy Performance and Conservation.
- Water Use and Conservation.
- Materials and Resources.
 - Reduce / Reuse / Recycle.
 - Regional Materials.
 - Rapidly Renewable Materials.
- Environmental Quality.
 - Air Quality (Low VOC / High Ventilation).
 - Acoustic Quality.
 - Thermal Comfort.
 - Daylighting.
- Historic Preservation and Rehabilitation.



Sustainability Metrics

The A/E also should understand the sustainability and environmental impact of the products being evaluated.

- Ecolabels: Identify sustainability performance.



Sustainable Goals

The sustainability of a product over the product's entire anticipated lifespan should be evaluated during product selection.

- Sustainability Standards: Evaluate environmental performance.



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Reference Standard Questions



Question 1

What is a reference standard?

- A. A method of specifying that establishes material, product, and installation requirements by referencing an industry-accepted standard.
- B. A document established by consensus that provides rules, guidelines or characteristics for activities or results.
- C. A reference incorporated into a document by referring to its developing association name, number, title or other commonly used designation.
- D. A research method using a standard set of reference documents.

Question 2

Codes and regulations: Mandatory

Reference standards: _____

- A. Are never code
- B. Voluntary
- C. Government authored
- D. Marketing

Question 3

What are potential issues of reference standards?

- A. Availability
- B. Duplication
- C. Singular Provisions
- D. A & B
- E. A & C
- F. All of the above

Question 4

There is one sustainability standard for each state.

A. True

 B. False

RESEARCH PRODUCT REPRESENTATIVE (COMPETENCY 4D)



LEARNING OBJECTIVES

- L01 Recognize the value of a manufacturer product representative's role as a consultant.
- L02 Identify the types of information typically available on manufacturer websites.
- L03 Compare a product's documented properties and limitations against the design criteria for a project.
- L04 Analyze product manufacturer guide specifications for biases and accuracy.

Review key product selections with product representatives.

Product Representatives

The product representative is often consulted to determine product details and product viability.

- Experts on their Products and Information.
 - Selection Advisor for Design.
 - Solutions Advisor for Construction.
- Current Industry Trends.



Product Representatives - Questions

Questions to ask a product representative as a consultant:

- Would the Product Representative recommend the use of the product for this application?
- Do they train and/or certify installers?
- What issues have they seen in the field?
- Are there changes in production/manufacturing?
- What are the comparable products?
 - They know their own competition.



Product Representatives – Manufacturer Websites

- Catalogs.
- Product datasheets.
- Installation instructions.
- Safety Data Sheets (SDSs).
- Environmental Product Declarations (EPDs).
- Health Product Declarations[®] (HPDs).
- Test reports.
- Evaluation service reports.
- Drawing details and building information model (BIM) objects.
- Manufacturer guide specifications.
- Contact information for product representatives.
- Continuing education presentations, seminars, and whitepapers.

Product Representative - Product Properties

The product's documented properties and limitations should be compared against the design criteria established for the project.

- Ask a Product Representative to help you with this comparison.



TECHNICAL DATA

PROPERTY	TEST METHOD	RESULTS
FLASH POINT	ASTM D-92 CGSB-37.50-M89	≥500°F (260°C)*
PENETRATION	ASTM D-5329 CGSB-37.50-M89	98 mm @77°F (25°C) 187mm @122°F (50°C)
FLOW	ASTM D-5329 CGSB-37.50-M89	1.0 mm @140°F (60°C)
TOUGHNESS	CGSB-37.50-M89	16.0 Joules
RATIO OF TOUGHNESS TO PEAK LOAD	CGSB-37.50-M89	0.069
WATER VAPOR PERMEABILITY	ASTM E-96, Procedure E CGSB-37.50-M89	0.3 ng/Pa(s)m ²
WATER ABSORPTION	CGSB-37.50-M89	0.11 gram weight gain
LOW TEMPERATURE FLEXIBILITY (-25°C)	CGSB-37.50-M89	No delamination, adhesion loss or cracking
LOW TEMPERATURE CRACK BRIDGING (-25°C)	CGSB-37.50-M89	No cracking, adhesion, loss or splitting
HEAT STABILITY	CGSB-37.50-M89	No change in viscosity, penetration, flow or low temperature flexibility
VISCOSITY	CGSB-37.50-M89	11.0 seconds
WATER RESISTANCE (5 days @ 50°C)	CGSB-37.50-M89	No delamination, blistering, emulsification or deterioration
SOFTENING POINT	ASTM D-36	180°F (82°C)
ELONGATION	ASTM D-5329	1000% minimum

*or alternatively not less than 77°F (25°C) above the manufacturer's maximum recommended application temperature.
(values published are min. req)

Manufacturer Guide Specifications

Things to look for when reviewing guide specifications:

- Typos.
- Incorrect, non-applicable, or outdated testing standards.
- Proprietary requirements.
- Specified Means and Methods.

What is the intent of the manufacturer guide spec?

- Marketing.
- Information Listing.
- Legal Protection.
- Detailed Installation Instructions/Data.

SECTION 071418
FLUID-APPLIED WATERPROOFING DECK SYSTEM

PART 1 — GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including General and Supplementary Conditions and Division 1 General Requirements, apply to the work of this section.

1.02 SUMMARY

- A. The work of this section includes, but is not limited to, the following:

1. Fluid applied waterproofing system
2. Prefabricated drainage composite
3. Protection board
4. Insulation

- B. System Description

The fluid applied membrane shall consist of the following:

Vertical Application: Vertical applications at parapet walls, upstands, etc. shall be coated with a minimum thickness of 80 mils applied in two 40 mil layers

Horizontal Application: Horizontal applications shall be coated with a minimum thickness of 80 mils applied in one 80 mil layer.

- C. Related Sections: Other specification sections which directly relate to the work of this section include, but are not limited to, the following:

1. Section 033000 – Cast-In-Place Concrete
2. Section 042000 – Unit Masonry
3. Section 071100 – Dampproofing
4. Section 076000 – Flashing and Sheet Metal
5. Section 079200 – Joint Sealants
6. Section 079500 – Expansion Control
7. Section 334600 – Subdrainage

POLL

Product Representative Questions

Question 1

When comparing a product's properties and project criteria who can give you up to date technical information?

- A. Project engineer.
- B. Third Party Website.
- C. Product representative.
- D. Local contractor.

Question 2

Meeting with Product Representatives are:

- A. An opportunity to have a discussion on the merits of different construction types.
- B. An opportunity to have a free meal and drinks.
- C. An opportunity to discover a new product for a project in construction.
- D. An opportunity to talk about installation of different products.

Question 3

Manufacturer guide specifications are:

- A. A good reference for product handling and attributes.
- B. Usable in any project type.
- C. A & B.
- D. None of the above.

Question 1a

How many years of experience do you have in the Design & Construction field?

- A. 1-5 years
- B. 5-10 years
- C. 10-20 years
- D. 20+ years

Question 1b

How much do you enjoy research?

- A. Not at all... (next question, please!)
- B. It's OK... (but I'd rather have a root canal)
- C. It's not for everyone.... (especially not aunts and uncles)
- D. I enjoy it... (but I get bored sometimes)
- E. I love it!.... (sometimes I even research how to research)



Question 1c

**How do you retain and organize information?
(Software platforms?)**



A. _____

Question 1d

When do you do your research?

- A. Before I get a project.
- B. Programming and Schematic Design.
- C. Design Development and Construction Documentation.
- D. When the contractor asks me to.
- E. When the lawyers ask me to.

RECAP: RESEARCH



COMPETENCIES

- 4A Conduct research on materials and systems for product selection.
- 4B Research applicable code requirements.
- 4C Evaluate product suitability for project conditions.
- 4D Review key product selections with product representatives.
- 4E Research applicable product standards.

QUESTIONS?

CONTACT US



609.628.2390



cricke@conspectusinc.com



<https://www.conspectusinc.com/>

Questions about CEs and recordings:



tmontone@conspectusinc.com



Chris Ricke, CCS®

THANKYOU



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