PROSOCO, Inc

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RE: Division 7, 11 Seminar Topics – HSW Learning Units Available, Provider J388

Cost to You: PROSOCO covers all costs to bring this program into a firm or chapter meeting.

What you provide: Electrical power and a screen for a PowerPoint presentation. The CES presenter supplies the laptop and projector.

PROGRAMS AVAILABLE

1. **Masonry Cleaning: Stain Identification & Removal:**
   Description: A survey of types and causes of staining common to new masonry construction, with recommendations and guidelines for cleaning and product selection.
   Learning Objectives: 1. Explain why masonry cleaning is important. 2. Identify common types and causes of stains. 3. Research and select appropriate masonry cleaners based on substrate and stain identification. 4. Explain the steps for safe, effective cleaning of new masonry construction. (PRO001, 1 HSW unit)

2. **Protective Treatments for Masonry:**
   Description: An overview of the effects of water on masonry architecture. Types of masonry water repellents are compared and contrasted. Application methods are discussed. The program ends with a look at treatments for protecting masonry against non-water threats such as oil and graffiti.
   Learning Objectives: 1. List 6 ways water penetration harms masonry. 2. Identify the 2 main types of protective treatments. 3. Research and select appropriate protective treatments. 4. Describe the general application procedures for protective treatments. (PRO018, 1 HSW unit)

3. **Restoration Cleaning: Turning Back the Hands of Time:**
   Description: A comprehensive look at the tools and techniques of cleaning historic architecture. “Restoration Cleaning” categorizes types of contaminants. It compares and contrasts abrasive, water and chemical cleaning. The program concludes with 10 “must know” tips for successful restoration cleaning.
   Learning Objectives: 1. Identify 4 levels of contaminants. 2. Explain the 3 main methods of restoration cleaning. 3. Name the 4 main types of chemical cleaners. 4. List 10 tips for cleaning historic buildings. (PRO006, 1 HSW unit)

4. **The Role of Air & Water-Resistive Barriers in the Building Envelope:**
   Description: An introduction to air and water-resistive barriers and how they work. They role of air leakage in causing mold in walls and high energy costs is explained. The program includes discussion of the different products on the market. It also explains why contemporary building envelopes need these products now more than ever before.
   Learning Objectives: 1. Identify 9 basic points about air barriers. 2. Describe how air barriers work. 3. Compare/contrast air and vapor barriers. 4. Identify state/federal air barrier initiatives. 5. Identify 4 basics of effective air barriers. 6. Compare/contrast 3 types of air barriers. (PRO007, 1 HSW units)

5. **New Rules for New Construction Cleandown:**
   Description: An overview of how masonry exteriors have changed since 1949, and the challenges and procedures involved in cleaning them correctly.
   Learning Objectives: 1. Explain what new masonry construction cleandown is and why it's important. 2. Explain when clean-down must occur, and why. 3. Name the top three causes of cleaning failure and how to avoid them. 4. Explain why it's important to test cleaning procedures before overall cleaning. 5. Identify the main difference between cleaning clay and concrete masonry. 6. List the seven "new" rules for new masonry construction cleandown. (PRO009, 1 HSW unit)

6. **Troubleshooting Masonry Construction:**
   Description: An overview of procedures for identifying and preventing problems, and maintaining and restoring the appearance and functionality of masonry and the masonry-veneer building envelope.
   Learning Objectives: 1. Troubleshoot the main problems impacting appearance and performance of new masonry. 2. Explain how proper new-construction cleaning prevents problems. 3. Identify problems "breathable" air barriers solve. 4. List ways of solving problems common to existing masonry. 5. Describe the main factors involved in restoring and maintaining the appearance and performance of historic building envelopes. (PRO011, 1 HSW unit)

7. **Finished Concrete Flooring:**
   Description: An overview of the current state-of-the-art of finished concrete flooring, from installation to maintenance. Reviews the chemistry, products and procedures involved. Covers the full spectrum of finished concrete floors, including industrial, institutional, and highly aesthetic.
   Learning Objectives: 1. Explain the benefits of finished concrete flooring. 2. Compare and contrast the 4 types of liquid-applied concrete hardener-densifiers. 3. Match levels of grinding and polishing to appropriate floor types. 4. Compare and contrast types of colorants for finished concrete flooring. 5. Explain the role of testing in assessing appearance and performance. 6. Describe the potential for LEED® points with finished concrete flooring. (PRO01, 1 HSW unit)

8. **Masonry Walls & Concrete Floors in Sustainable Design:**
   Description: An in-depth examination of the roles masonry walls and concrete floors play in building that improve occupant well-being; environmental performance and economic returns.
   Learning Objectives: 1. Name the features that make masonry a sustainable choice. 2. Explain how air barriers reduce energy waste in buildings. 3. List ways that masonry, air barriers, and finished concrete flooring can contribute to LEED® points. 4. Explain how finished concrete flooring can improve building performance. (PRO019, 1 HSW unit)

9. **Managing Condensation, Water Intrusion and Energy in the Real World-1:**
   Description: Window opening air and water leakage has been a difficult problem for the construction industry. This course evaluates building failures, conventional construction approaches, and new developments in waterproofing techniques to show a path forward for designers seeking higher-performing wall assemblies.
   Learning Objectives: 1. Explain why job-site conditions should be used as systems engineering requirements in construction product development. 2. Compare and contrast the similarities and differences between silicone, urethane, and STPE sealants. 3. Describe the multi-step weatherproofing process of conventional window installation and how such installations fare in real-world testing conditions. 4. Explain new window weatherproofing techniques using liquid flashing membranes. 5. Instruct others on construction defect remediation using STPE technology through case-study examples. (PRO014-1, 1 HSW unit, GBCI approved 0920003820)

10. **Managing Condensation, Water Intrusion and Energy in the Real World-2:**
    Description: Window opening air and water leakage has been a difficult problem for the construction industry. This course evaluates building failures, conventional construction approaches, and new developments in waterproofing techniques to show a path forward for designers seeking higher-performing wall assemblies. The presentation concludes with illustrations of how quick change test chambers can be used to conduct preconstruction design verification testing. This allows full scale mock ups to be tested, refined and then re-tested until sustainable performance is achieved.
    Learning Objectives: 1. Explain why job-site conditions should be used as systems engineering requirements in construction product development. 2. Compare and contrast the similarities and differences between silicone, urethane, and STPE sealants. 3. Describe the multi-step weatherproofing process of conventional window installation and how such installations fare in real-world testing conditions. 4. Explain new window weatherproofing techniques using liquid flashing membranes. 5. Instruct others on construction defect remediation using STPE technology through case-study examples. 6. Describe the use of test chambers to verify designs prior to construction. (PRO014, 2 HSW units)

11. **Refining Construction Details through Design Verification Testing-1:**
    Description: The current drive for "sustainable" construction emphasizes environmentally responsible building materials, but sometimes overlooks the need for durability. Impractical industry "best practices" and low performance expectations are often at the root of damage from common weather conditions. Based on decades of forensic investigation and repair of small and large coastal properties, this presentation offers detailed case studies and explains the value of design verification testing in achieving true sustainable building performance.
    Learning Objectives: 1. Name the critical first step to achieving sustainable construction. 2. Explain why current "best practices" for controlling unwanted movement of air, water and energy through the building envelope often fall short. 3. Describe how common performance standards do and do not simulate conditions that lead to premature building failures. Explain how design verification testing can help refine construction details and eliminate many recurring causes of building failure. (PRODVT-1, 1HSW unit)

12. **Refining Construction Details through Design Verification Testing-2:**
    Description: The drive for more "sustainable" construction puts a lot of emphasis on the use of environmentally responsible building materials. Too little emphasis, however, is placed in constructible design details that can withstand moderate and severe weather conditions. This shortcoming is fostered by industry-sanctioned "best practices" that are impractical to build, and performance expectations that consistently underestimate the damage that common weather conditions wreak havoc on conditioned building spaces. The presentation is based on decades of forensic investigation and repair of small and large coastal properties that show evidence of water leakage and structural damage within 5 years of completion. Three case studies are evaluated in detail. The presentation concludes with illustrations of how quick change test chambers can be used to conduct pre-construction design verification testing. This allows full scale mock ups to be tested, refined and then re-tested until sustainable performance is achieved.
    Learning Objectives: 1. Name the critical first step to achieving sustainable construction. 2. Explain why current "best practices" for controlling unwanted movement of air, water and energy through the building envelope often fall short. 3. Describe how common performance standards do and do not simulate conditions that lead to premature building failures. Explain how design verification testing can help refine construction details and eliminate many recurring causes of building failure. (PRODVT-2, 2HSW unit)

13. **Sealants – A to Z:**
    Description: A basic understanding of how sealants work, how they should be installed and why, and a guide to potential failures.
    Learning Objectives: 1. The basic chemical make-up of common sealants types on the market, and why this is important to you. 2. A sealants' goals in life, what they do, why they can do it, things that they cannot do, and why they fail. 3. Important sealant properties and why you should be aware of these including potential aesthetic changes in substrates and sealants. 4. The Big Six of Sealant Installation (Clean, prime, back, shoot, tool, and quality control) and why you should care. (PRO021, 1HSW unit)

14. **Managing Project-Specific Details – Real-time Collaboration Between the Design Professional and Product Specialists:**
    Description: A depiction and analysis of unusual and problematic detailing conditions from specific projects that go beyond use of a manufacturer's standard details for common conditions. This shows how fluid-applied flashing and detailing products rather than peel & stick membranes can be successfully used to handle particularly challenging conditions and how manufacturers can interact with manufacturers to obtain this detailing support.
    Learning Objectives: 1. Explain how architectural drawings are sometimes lacking in structure amenable to waterproofing and air-barrier detailing. 2. Demonstrate how simple modifications can greatly enhance constructability and detailing to prevent water intrusion and air leakage. 3. Show how to draw air / water barrier details to facilitate use of fluid-applied products rather than self-adhered membranes and building wrap. 4. Explain how to work with manufacturers to optimize preparation of details for implementation by contractors. (PRO020, 1HSW unit)

15. **Improving the Performance of Finished Concrete Flooring:**
    Description: This overview of concrete floor basics shows participants how to get the most from finished concrete floors. Along the way it discusses levels of finish, hardening-densifying and other aspects of finished concrete flooring not commonly known. The program also shows how to protect and maintain finished concrete flooring. It includes tips for protecting finished floors from damage during building construction.
    Learning Objectives: 1. List two ways finished concrete floors "perform" that contribute to sustainability. 2. Compare the waste-generation characteristics of lithium-silicate hardener/densifiers to older potassium- and sodium-silicate hardener/densifiers. 3. Explain how regular maintenance contributes to sustainability of polished concrete floors. 4. Estimate the expected service life of a finished concrete floor and rate it for sustainability on a scale of "good-fair-poor." (PRO016, 1HSW unit, GBCI approved 0920003819)

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