

# Continuing Education System presentations

presented by



## **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

# Masonry Cleaning: Stain Identification & Removal

<u>Description:</u> A survey of types and causes of staining common to new masonry construction, with recommendations and guidelines for cleaning and product selection.

<u>Learning Objectives:</u> 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, Division 4)

#### **Protective Treatments for Masonry**

<u>Description:</u> 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.

<u>Learning Objectives:</u> 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. (PRO004, 1 HSW unit, Division 4,7)

### Restoration Cleaning: Turning Back the Hands of Time

<u>Description</u>: 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.

<u>Learning Objectives</u>: 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. Division 4)

## The Role of Air & Water-Resistive Barriers in the Building Envelope

<u>Description</u>: 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.

<u>Learning Objectives</u>: 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/SD units, Division 7)

# **PROGRAMS AVAILABLE (cont.)**

#### New Rules for New Construction Cleandown

<u>Description</u>: 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, Division 3,4)

## **Troubleshooting Masonry Construction**

<u>Description</u>: 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.

<u>Learning Objectives</u>: 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, Division 3,4)

## Finished Concrete Flooring

<u>Description</u>: 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.

<u>Learning Objectives</u>: 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 contract 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. (PRO012, 1 HSW/SD unit, Division 3)

## Masonry Walls & Concrete Floors in Sustainable Design

<u>Description</u>: 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.

<u>Learning Objectives</u>: 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. (PRO013, 1 HSW/SD unit, Division 3,4,7)

# Managing Condensation, Water Intrusion and Energy in the Real World

<u>Description</u>: 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.

<u>Learning Objectives</u>: 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 HSW/SD unit, Division 3,4,6,7,9)

# PROGRAMS AVAILABLE (cont.)

# Refining Construction Details through Design Verification Testing -1

<u>Description</u>: 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.

<u>Learning Objectives</u>: 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. (PRODVT-1, 1HSW/SD unit, Division 3,4,7,8,9)

# Refining Construction Details through Design Verification Testing -2

<u>Description</u>: 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 preconstruction design verification testing. This allows full scale mock ups to be tested, refined and then re-tested until sustainable performance is achieved.

<u>Learning Objectives</u>: 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. (PRODVT-2, 2HSW/SD unit, Division 3,4,7,8,9)

# Improving the Performance of Concrete Flooring

<u>Description</u>: An overview of the current state-of-the-art of Finished Concrete Flooring, beyond installation to maintenance guidance of sustainable concrete flooring as a growing trend in the industry. The program also discusses the common problems that occur from improper placement, curing, glossy sealers that provide copycat affects of stain and sealed concrete verses ground, polished and burnished concrete flooring. The program also covers importance of proper maintenance and response to spills that makes concrete a sustainable choice and a low cost maintenance solution compared to vinyl composition tile (vct), natural stone and epoxy flooring options.

Learning Objectives: 1. Explain the performance differences between Stain & Sealed Concrete and Polished Concrete in terms of floor preparation steps and resulting durability. 2. Compare the waste-generation of finished concrete flooring to that of floor coverings taking into account water usage, chemical usage, chemical and floor replacement waste disposal, shipping, and over-all life-cycle waste generation. 3. Provide direction on how to obtain the maximum "clarity of reflection" that many owners seek for aesthetic purposes to provide a basis for not installing floor coverings, and as a basis for reduced lighting through strategic use of grinding, honing, polishing, and burnishing. 4. Educate owners on the trade-offs that come with substituting sustainable finished concrete floors for resource-intensive floor coverings such as the performance capabilities of concrete sealers and densifiers, avoiding and diagnosing problematic circumstances, and floor maintenance requirements including spill response procedures and densifier -based neutral detergents. (PRO015, 1HSW/SD unit, Division 3,4,7,8,9)

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