



Lunch and Learn Topics

All topics count as a structured hour and certificates will be issued after the session based on attendance.

#1 Masonry Design Review & Winter Construction Code Update

Description:

We will review the physical properties and best practices for specifying both clay and concrete masonry products.

Design details of individual wall components and the current rain screen wall assembly will be reviewed. Recently there were a few (minor) changes to the building code for masonry walls in winter conditions. We will review the new limits and discuss best practices for installing masonry in cold climates.

Learning Objectives:

- Review the physical properties and classifications of both clay and concrete masonry units to ensure proper specifications in the project manual.
- Discuss the difference in masonry unit classification – Type X vs Type S.
- We will examine the difference in masonry pricing and how size will affect the in the wall cost.
- Review design concepts and installation requirements for all components of the masonry wall assembly.
- Discuss the changes and current limits in the building code when considering winter masonry construction.

#2 Clay and Concrete Masonry Plant Tour – “How it’s Made”

Description:

This presentation will take you through a plant tour for both a clay and concrete manufacturing facility. We will start by reviewing the raw material selection and refining process. Then we follow both materials as they make their way through both production lines.

At each critical point in the process we will discuss the standard procedures for manufacturing as well as inspection testing for both clay and concrete products. (Some will be illustrated by short video clips - Like a technical version of a “how it’s made” program.)

Learning Objectives:

- Raw materials, what they are and where they come from.
- How a manufacturer handles and inspects the raw materials.
- Learn all the steps for producing a clay and concrete masonry product. Each process will be explained from the refining of the raw material to the final masonry product.
- Review the strict requirements for Type X vs Type S clay brick production.
- Understand how and why we package each product.

#3 Designing for Moisture Protection in Concrete Masonry Walls

Description:

Provides an overview of the means and effect of moisture ingress, and includes a discussion of design detail options and practical construction techniques for water repellent masonry structures that can be employed by architects and engineers.

Learning Objectives:

- Discuss the effect of water ingress on masonry structures
- State the material components of a water repellent masonry wall
- Explain how to design a water repellent masonry wall system
- Discuss the importance of proper job-site practices and workmanship
- Explain the Spray Bar Test Method used to confirm water repellency performance in CMU (Concrete Masonry Units)

#4 Architectural Initiatives to Reduce the Carbon Footprint of Concrete

Description:

This course addresses the complexity and scale of greenhouse gas emissions produced by the concrete industry and the role architects can play to reduce these emissions. It explores the actions that have been employed by the cement and concrete industries to lower their environmental impact. Market drivers that address materials' environmental footprint such as LEED and the Living Building Challenge will be addressed. Impact measurement tools such as Environmental Product Declarations will be discussed. The course will conclude by exploring emerging innovations to reduce the carbon footprint of concrete.

(This presentation is also approved by AIA for those that wish to collect the credit)

Learning Objectives:

- Describe the production process of concrete and explain how its production impacts greenhouse gas emissions.
- Evaluate changes in the material categories of environmental stewardship programs such as LEED v4 and The Living Building Challenge 2.0.
- Utilize assessment tools such as Environmental Product Declarations in order to understand a material's environmental impact.
- Summarize the International Energy Association's Blue Map Scenario for the concrete industry's carbon emission reduction targets and describe methods that may be employed by architects to help reach these environmental objectives

#5 Masonry Wall Construction

Description:

Construction of standard and lightweight concrete block walls will be reviewed. Individual concrete block components are explained in detail as well as how they fit together to complete a wall assembly. We will also cover how concrete block is connected to precast concrete during construction.

We will review the typical cross sectional details for clay and concrete masonry veneer walls. Rain screen design and continuous insulation details will be discussed.

The final portion will cover the installation of thin veneer products on exterior surfaces. Step by step illustrations as well as their limitations and tolerances are discussed.

Learning Objectives:

- Understand how the components of a masonry wall can influence the wall design.
- Learn all the components to a concrete block wall and how they fit together to complete the total wall assembly.

- Learn how to construct a masonry cavity wall and incorporate continuous insulation on the exterior of the wall.
- Tolerances and best practice for installation of thin veneer masonry products

#6 **Thin Brick In Todays Construction Environment**

Description:

The course will focus on the use of thin brick fired from clay or shale and how it is used to build masonry structures using systems that include thin veneer modular panel component systems, field applied thin and thick set adhesion techniques and precast concrete panel systems.

The course will present the use of various types of form liners to be used in these systems and how to choose and detail the appropriate product.

Discussions will also focus on ASTM and PCI specifications and how to apply them.

(This presentation is also approved by AIA for those that wish to collect the credit)

Learning Objectives:

- Identify and understand various methods of using thin brick
- Understand how thin brick are made
- Understand the advantages and disadvantages of the various systems
- Understand the ASTM and PCI specifications and how to apply them
- Understand the use and selection of the various types of form liners

Regards,

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