



AIA East Bay

A Chapter of The American Institute of Architects



CSI-EAST BAY / RCI NORTHERN CA / AIA EAST BAY
PRESENT:

Construction Disasters Symposium 2019

Friday, April 12, 2019

Scott's Seafood Restaurant
Jack London Square, Oakland, CA 94612

Register at: www.csieastbay.org

Registration – 7:00 to 8:00 am
Program – 8:00 am to 3:30 pm

Continuing Education Credits:
6 AIA CES / HSW LUs and 6 RCI CEHs

Continental breakfast and lunch are included



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Morning Schedule and Program

7:00AM- 8:00AM Tabletop Setup and Registration

8:00AM- 9:00AM Megan Cross Wilkinson, RDH Building Science, Inc.

"Osmosis and Blistering of Liquid Applied Waterproofing Membranes"

Waterproofing membrane failures due to osmotic blistering of certain liquid-applied waterproofing membranes has been a widespread issue in the building industry since cost-effective cold-applied membranes became more common in the 1990's. Osmotic flow testing protocol has been developed to estimate the risk for osmotic blistering of waterproofing membranes in the field. Although at first the concern was specifically for 2-component cold-applied membranes, a wide range of membrane types have been tested including other cold-applied polymer membranes and hot rubber and torched SBS. This presentation discusses the failures observed, testing protocol developed, key findings and thresholds established to deem a waterproofing membrane "high-risk" potential for osmotic blistering in protected membrane/inverted concrete substrate waterproofing applications.

9:00AM- 10:00AM Phil Dregger, Salas O'Brien Company

"Rooftop Fire Resistance - Lessons from the 2017 Northern California Fires and Elsewhere"

New roof coverings are required to pass certain tests for fire resistance; as they should be. Investigations following the 2017 Northern California fires, however, reminded us that damage to roof coverings during fires often depends on conditions not addressed by standard tests of fire resistance. And, it turns out that something as simple as adding insulation as part of a reroof project can compromise the fire-resistance of a rated roof/ceiling assembly.

10:00AM- 10:30AM Coffee Break

10:30AM- 11:30AM Joseph Joslin, Owens Corning

"Passive Fire Containment in Multi-Story Buildings: Overview & Concepts"

This course explores key mechanisms of fire spread involving façade assemblies. These range from combustible materials used in exterior wall assemblies such as ACM panels, weather resistive barriers and rigid foam insulation to incorrectly specified, detailed or installed fire resistive joints at floor slab junctions. Causes of recent high-rise fires will be reviewed with an in-depth look at the tragedy of the Grenfell Tower fire in London. Taken together, they depict a large global problem warranting action. With many combustible materials used today in commercial wall assemblies to allow for aesthetic flexibility, improved energy performance, reduced water and air infiltration, and the trend toward geometric building forms, the program reviews the technical basis for mitigation strategies and discusses typical scenarios, test methods, code requirements, and available resources for design professionals.



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11:30AM- 12:30PM Richard Norris, Norris Consulting Services

“How to Convert a Building into Compost”

A tongue-in-cheek look at building construction disasters and why they failed. The examples include: Incorrectly converting an attic into conditioned space – a common issue in California as the California Energy Code considers a roof covering replacement to be an “Alteration”, requiring that the assembly be brought up to the current Code requirements. The majority of those doing the conversion do not understand the Building Science sufficiently and condensation accumulation is the result. Installing a Cool Roof without insulation on an apartment building, leading to condensation accumulation below the roof membrane. Installing a Not-Cool Roof with minimal insulation, with the same result. Installing a Cool Roof without insulation over an “unconditioned” warehouse, with the same result. Installing a wood shingle roof with incorrectly located insulation and no air barrier or vapor retarder, with the same result. Adhering solar panels to a metal roof, resulting in failure of the metal panel’s joints and the eventual rusting through of the metal panels. Building moisture into an enclosed balcony deck assembly, resulting in the collapse of the balcony and the deaths of six and serious injuries to seven people. In each case, the attendee is asked to consider the Building Science that explains the cause(s) of the failures. The Unintended Consequences resulting from the ignorance or lack of consideration of the Building Science can be catastrophic.

12:30PM- 1:15PM Buffet Lunch

1:15PM- 2:15PM Christine Diosdado, Simpson Gumpertz & Heger

“Flooring Disasters: Trouble is Lurking Underfoot”

As designers and end-users, we expect our floors to be durable and beautiful, even though significant demands are often imposed on them. At hospitals and laboratories, floors are typically washed with aggressive cleaners. At airport terminals, floors are subjected to excessive foot traffic and heavy point loads. In residences, exotic hardwood flooring can be subject to swings in temperature and humidity. These demands, along with design and installation factors, can result in adhesive failures, delaminated flooring, tenting, buckling, and blistering.

2:15PM- 2:30PM Break

2:30PM- 3:30PM Paul Goetz, Aquatech Consulting, Inc.

“Berkeley Balcony Collapse”

This presentation is a forensic look at the elements that failed or were in the process of failing at the time of the Library Gardens Apartments balcony collapse. The examination of the balcony construction shows that there were many components that were installed such that they had or would eventually contribute to moisture intrusion. We will review the as-built conditions and compare them to the details. Examples of more effective weather and water resistive details, than those that were used and those that were detailed, will be discussed. The State of California has subsequently adopted the EEE (exterior elevated elements) inspection requirements.

3:30PM Closing Remarks



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