

Presented By:William Dunklin, RA wdunklin@gmail.com Credit: 1 Hour AIA HSW



CSI Knoxville Hybrid In-Person/Virtual Meeting!

Tuesday, February 8th, Time: 11:30 AM EST - 1:00 PM (EST) William Dunklin, RA In-Person Meeting Location: Associated General Contractors (AGC)

Address: 3306 Ragsdale Ave NW, Knoxville, TN 37909

RSVP: Boxed Lunch Provided RSVP: Click here to RSVP for In-Person Meeting The Knoxville Chapter meets on the second Tuesday of every month. Guests are Welcome!

Virtual Meeting: Zoom Link Please join from your computer, tablet or smartphone <u>Click here to Register in advance for this meeting</u>

ORGANIZED SEPTEMBER 1958 - CHARTERED MAY 1959



CSI KNOXVILLE IS A MEMBER OF THE CSI GULF STATES REGION THESPECK Editor

Stacy Flick Colbaugh - Editor THESPECK is published monthly by the Knoxville Chapter of the Construction Specifications Institute. Readers are encouraged to submit articles and images of the construction industry interest for our membership. All submittals should be sent via e-mail in a typical file format, such as .pdf, .docx, or .jpg Please verify the accuracy of the information such as correct dates, spelling, and grammar.



CALENDAR OF EVENTS

FEBRUARY 2022

- 11 CSI Board Meeting - Tuesday, February 1st Meeting from 12:00 pm - 1:00 pm (EST) **MBI** Companies Inc. 299 N Weisgarber Rd., Knoxville, TN 37919
- 09 CSI Chapter Meeting - Tuesday, February 8th Time: 11:30 AM EST - 1:00 PM (EST) Where 2 or 3 are Gathered: Sacred Spaces and the Abrahamic Religions" Presented By William Dunklin, RA

In-Person Meeting Location: Associated General Contractors (AGC) Address: 3306 Ragsdale Ave NW, Knoxville, TN 37909

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After registering, you will receive a confirmation email containing information about joining the meeting.



CSI HIGHLIGHTS

Summary from Tuesday, January 4th Board Meeting

The board met via Zoom online conferencing to discuss the following CSI events:

- CSI Certification Study Group
- CSI Product Show scheduled for March 8th 2022
- CSI Unveils New Logo!

THE PRESIDENT'S MESSAGE

GREETINGS, KNOXVILLIANS!

Kathryn E. Fuller, AIA, NCARB, CSI CDT CSI Knoxville Chapter President kathrynf@mbicompanies.com



Greetings, Knoxvillians!

Mark your calendars for the (LIVE return of) the CSI Knoxville Product Show on March 8th at The Foundry! We will have a panel discussion on Affordable housing and Energy Star with Erin Gill, Vice Mayor.

Our next lunch presentation will be

Tuesday, February 8th at the AGC. William Dunklin, RA, will present "*Where 2 or 3 are Gathered: Sacred Spaces and the Abrahamic Religions*"

Let's make this a great year. Our events continue to be open to everyone – with in-person and virtual attendance options.

I hope to see you, or "see" you, at our next event!

Kathryn E. Fuller, AIA, NCARB, CSI CDT CSI Knoxville Chapter President kathrynf@mbicompanies.com (0)865.584.0999



FEBRUARY 2022 PRESENTATION



Maybe you've heard the old joke: "Where 3 or 4 Episcopalians are gathered, there will be a fifth."

In construction, maybe that should be "Where 3 or 4 believers are gathered, there will be 5 opinions about the building."

In this month's CSI presentation, Knoxville architect and liturgical specialist William Dunklin will present

"Where 2 or 3 are Gathered: Sacred Spaces and the Abrahamic Religions"

This overview of the similarities and differences of synagogues, churches and mosques is geared to building industry professionals with a focus on the nuts and bolts of modern building requirements as informed by millennia of tradition. 1 hour AIA HSW credit.

William Dunklin (865) 525-6322 wdunklin@gmail.com



FEBRUARY 2022



March 8th, 2022 **East Tennessee** Building **Products Show**

Bring your friends, learn what's new with our keynote speaker, eat, drink, and have a one on one with amazing product reps!

4:00 pm ~ 8:00 pm

Foundry on the Fair Site 747 World's Fair Park Dr. Knoxville, TN 37902

Everyone in the Design and Construction Industry is invited to this free event!

Please join us for a panel discussion on Affordable Housing and Energy Star Projects with our keynote speaker, Erin Gill (Vice Mayor), Cheryl Ball as the first of the panel speakers, and we will also have Nathan Honeycutt, Ken Block, Darson Buckner, Ron Carter, and Drew Milsap to discuss for 10 minutes each of their roles in Energy Star project design and execution.

Erin Gill is the Chief Policy Officer and Deputy to Mayor Indya Kincannon of the City of Knoxville. She is responsible for strategic initiatives aimed at making Knoxville a safe, vibrant and sustainable city where everyone has the opportunity to thrive. She previously served as Director of Sustainability for the City, where she led initiatives to promote the environmental, economic, and social health of the Knoxville community through municipal leadership and community partnerships. Her professional experience focuses on improving the efficiency and resilience of urban systems and includes roles at EPA's Office of the Chief Financial Officer and ICF International.

Gill has participated in numerous TVA stakeholder groups, including the 2019 Integrated Resource Plan Working Group, the Solar Stakeholder Advisory Group and the Energy Efficiency-Information Exchange. She has also served as a member of the Southeast Energy Efficiency Alliance's Policy Committee and is a current member of the Knoxville Utilities Board Community Advisory Panel. Gill earned a B.A. in both Forestry & Environmental Studies and History from the University of Notre Dame.







Start Preparing! CSI Spring Certification Exam Cycles Open This Week

Are you planning on earning a CSI certification in 2022?

Early registration for the CDT[®], CCS[®], and CCCA[®] 2022 Spring Certification Exam cycle will open on February 2, and you can register for the CCPR[™] exam now! Download your free handbooks now to start preparing.

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CSI TECHNICAL

Building Walls to Last for Generations

Darson Buckner, Moisture Management Consultant

Deflection: A wall's first line of defense against water intrusion is its ability to deflect rainwater. Deflection is heavily reliant on the wall cladding which should allow water to drain off siding and away from the structure's foundation. All siding and cladding connections should be shingled properly to promote quick removal of water down the wall and away from the building rather than into the wall from a reverse shingle condition. Think of installing roofing materials in a positive shingle manner to avoid water from entering the roof area. The same is true with wall surfaces. Shingle each wall component like it is a roof component. Overhangs and porches are also excellent ways to reduce hydraulic pressure on the wall. Drip edge above windows and doors adds the benefit of deflection by moving water away from wall penetrations. Following these guidelines around deflection will reduce chances of water entering into the wall cavity or around windows, doors, hose bibs, vents and other penetrations, but design should not rely just on deflection to keep water out of walls. Eventually, water will find its way behind the exterior surface cladding. Vinyl siding is nonabsorbent but water easily passes around and through at the connections. Not all cladding types and surfaces are non-absorbent. Exterior surfaces which absorb water require extra care. Claddings which absorb water would include wood, stucco, brick, stone, manufactured stone, cement board and other porous materials. These porous exterior surfaces can easily be managed but requires strategies beyond just deflecting water away from the exterior surface.

Drainable: Even with the best craftsmanship, all claddings eventually leak. Penetrations through the exterior, such as windows and doors, increase water intrusion risk exponentially. Creating a drainable surface behind the exterior of the wall for water to drain is critical to the structure's lifespan. There are really three basic components to creating a wall which will drain. If you leave one of these components out, the risk of water intrusion increases.

Space: Creating an air space behind the cladding reduces the chance of water coming in contact with the surface of the weather barrier, creates an air space so water is not "air locked" between the exterior and surface of the weather barrier, reduces capillary action which can cause water to be absorbed up from the base of the wall, and depending on the size of the air space can promote drying.

Quality Weather Resistive Barrier Material: The type of weather resistive barrier product used can have huge impact on the success of your walls ability to stop water. There are many different types of water and air barrier material available and actively marketed to builders, architects, homeowners and installers. Buyer Beware: An air and water barrier needs to function in four ways or you should not use it. It should stop water; stop air; allow for moisture vapor evaporation; and be durable having UV inhibitors in the makeup of the product to withstand UV exposure until it is covered.

Installation: Installation is just one part of the three components which is just as important as the other two. If anything is installed incorrectly, it will not function as intended. Installation procedures change for any device or product you purchase. Especially, building materials! I hear installers and builders say all the time, "I've been doing it this way for 30 years and never had a problem". In reality, many of the building products we use today weren't even inexistence 30 years ago and those that were have changed and evolved over the last thirty years. Codes and requirements have changed which have affected types and installation of building materials. Many builders never have any contact with their customers after the first year of construction anyway and may not understand the problems they left behind. Most products have installation guidelines which should be reviewed occasionally if you use those products. All materials and components of the weather barrier system should be shingled in such a way to allow water to travel down the wall and to daylight unrestricted. Flashings, building components and the weather resistive barrier should all be overlapped in a manner which promotes water to flow out past the exterior wall covering. The mistake of reverse flashing materials can cause a river of water to end up in the structure costing thousands of dollars in damage. Avoiding dams within the wall assembly can eliminate water from standing behind cladding. A perfect example of this happening is the efflorescence you sometimes see on brick which is the white salty substance that appears on some brick buildings and brick retaining walls. Water absorbs into the brick and leaches out the salts to the exterior. The mortar dams created on the back side of the brick during the brick installation causes water to settle which in turn creates an environment perfect for efflorescence. Installing drainage materials over the weather barrier creates a drainage path for water and reduces the opportunity for efflorescence.

Drying: The drying potential of building materials is required for a structure's longevity. It really doesn't

harm framing materials if they get wet. Of course, it is always better if they don't get wet. Framing and building materials which become wet and remain wet or repeated wetting can be a real problem causing wood decay. The wet building materials create a perfect environment for mold growth which can cause respiratory issues in inhabitants, damage building materials and building contents, and destroy interior furnishings. To thrive, mold needs a food source, a temperature range between 40 and 120 degrees Fahrenheit, and moisture. Obviously, the only way to reduce the risk of mold is to remove moisture and moisture sources. Ventilation located directly behind cladding promotes drying and increases the drying potential of building materials. Using an airspace or rain screen behind cladding creates an area which keeps water from flowing from the back side of the cladding to the weather resistive barrier and wall. The air gap also helps keep cladding and or mortar from creating an area which might hold water against the wall. The space allows a free flow of water to daylight and airflow for the purpose of drying the back side of cladding and the wall. This is especially beneficial when using materials like stone, brick, fiber cement board and stucco. In fact, code requires a secondary sacrificial layer behind cementitious materials which come in contact with walls using wood based sheathing. An air space or additional layer of weather resistive barrier is required in these instances.

Durability: The key to using weather barriers successfully is understanding the strategy as a system and not just as another component in the process of construction. All the parts of a weather barrier system, tapes and flashing, can be adversely affected by ultraviolet light. Exposure to UV causes the materials of the weather barrier system to degrade and become ineffective. The UV damage can be done without noticing any change of the physical appearance weather barrier. Think of it as how UV affects the skin. If you are over exposed to sun light, you may not know the extent of your sunburn until hours later. Some weather barriers use UV inhibitors to reduce damage from UV exposure. Think of the UV inhibitors to weather barriers as sunscreen to your skin. The process of manufacturing weather barriers with UV inhibitors is costly. The extent to which a weather barrier can be exposed to UV is measured in the amount of days, which correlates to the strength/type of the UV Inhibitors in the weather barrier. Some woven building wraps use the least expensive inhibitor or no UV inhibitor to reduce the cost. Buyer beware! In most cases, you do get what you pay for when buying weather barriers. The way a weather barrier is made also affects durability. Many wraps are multilayered and the top layer relies on a thin film to stop water penetration. These products lack the durability

needed to withstand harsh jobsite conditions. As you can see, the durability of the weather barrier directly affects the durability of the wall.

A wall which has the best chances of surviving generations is a wall in which the design creates drainage and the ability for fast drying. Using vapor permeable products moves moisture out of wall cavities and into a space directly behind the cladding to daylight. Including a space behind cladding, reduces opportunity for water to settle on the weather barrier. Using correct flashing techniques, ensures water cannot penetrate around windows, doors, hose bibs, light fixtures, electrical outlets and other wall penetrations. Of course, using quality weather barrier materials and installing each of the weather barrier components in accordance with the manufacturer's installation instructions increases the likelihood the wall will last for generations. Consider the weather barrier as a system. Mixing different brands of weather barrier components is a bad idea and can void any warranty available. Products are tested and required to be used with compatible products from the same manufacturer.

The air/weather barrier system is only seen during construction and not much thought is given to it after the building is completed. As soon as a leak occurs in the wall and the water manifests itself at a window or on the floor, it makes all the wonderful features an architect designed or a builder constructed take a back seat. Nobody wants to live in a house with water leaks. Be sure that during construction proper attention is being paid to the materials, systems and details you are using for your defense against water intrusion. It only takes one leak to weaken the good reputation you've built.

Darson Buckner is a Moisture Management Consultant and has been involved with field studies and research of window installations and building envelope design for over 25 years. Darson has worked with the Oak Ridge National Laboratories, Buildings Technology Department; University of Tennessee; DIY; Charter Cable Home Improvement Series; HGTV; ZEBRAlliance. He has a Master of Science degree in Green Building and has given hundreds of seminars to architects, code officials, builders and other building professionals in the U.S.; Darson is certified with architect, builder, and building codes organizations as an approved educational speaker in the area of Moisture Management and Building Envelope Design. He is certified as a Home Energy Auditor; LEED Green Associate; a Master Certified Green Professional by the National Association of Home Builders; certified masonry inspector with the Masonry Institute of Tennessee. Darson was also awarded the 2018/2019 "Associate of the Year" by the Tennessee Building Officials Association.

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