

Industry Article: 3D's: Deflect, Drain, Dry

Master the 3D's of Moisture Management

For over a century, masonry cavity walls have been designed to save money, speed up construction, and—most importantly—protect buildings from water damage. The secret? The **3D system: Deflect, Drain, and Dry**. This article explains how proper design choices, high-quality flashings, and a clean cavity work together to keep bulk water out, guide any intruding moisture safely away, and ensure walls stay dry for years to come. Whether you're designing, building, or maintaining, these principles are key to long-lasting performance.

[Review the Full Article Here](#)

3D's: Deflect, Drain, Dry

Since the 1930s, masonry cavity walls have been used to save money and speed construction compared to building mass masonry walls. The cavity walls utilize the 3-D system for moisture management. Deflect, Drain, and Dry:

- Deflect** Brick masonry veneers play a crucial role in protecting buildings from water infiltration, serving as the first line of defense against bulk water penetration by deflecting bulk water away from the interior of the structure. Properly grouted joints and careful detailing around penetrations will significantly enhance the effectiveness of this veneer system in keeping water out.
- Drain** If water penetrates the veneer, the cavity wall is engineered to provide a designated space for the water to descend until it reaches the flashing.
- Through-wall flashing** catches the water in the wall and directs it to the exterior through weep vents.
- Dry** An air cavity with weep vents to use the air flow to dry the cavity. Properly placed weep vents are essential for allowing water trapped in the cavity wall to escape. A mortar collection device is necessary to collect any excess mortar droppings that could potentially cause issues inside the cavity wall. Cavity walls utilize the 3-D system effectively, helping us maintain a dry interior in our buildings. Things that we can do to help:
 - Design:** Utilize brick ledges and drip edges to get bulk water draining away from the wall. Inset fenestrations to minimize exposure to bulk water.
 - Longevity:** Using flashings that will perform as intended and last the life of the wall is a critical design decision.
 - Clean cavity:** Minimize mortar droppings and utilize mortar deflection nettings to help keep the water flowing down and the air flowing to remove residual moisture.

[Understanding the Different Types of Masonry Weeps](#)

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International Flashing Awareness Day: Educational event earning you up to 5.5 LU/HSW

International
FLASHING
Awareness
DAY
August 26, 2025

August 26 is a day dedicated to spreading knowledge about the essential role of proper flashing installation in building construction. Flashing helps prevent water damage, mold growth, structural damage, and more.

Sponsored by the Air Barrier Association of America (ABAA), this day will feature five expert-led webinars, each focusing on different aspects of flashing. Whether you're a builder, contractor, architect, or simply interested in building integrity, **this event is for you!**

[Learn More and Make it a Flashing Day to Remember](#)

[Register Today to Learn from Renowned Experts](#)

Time	Presentation/Speaker	Save Your Seat
10:00am-10:50am ET	Air Barrier Flashing Details (1.0 LU/HSW) Corey Zussman	Register
11:00am-11:50am ET	Flashings 101 (1.0 LU/HSW) Meagan Elfert	Register
12:00pm-12:50pm ET	The Big Disconnect: Roof to Wall Connections for your Air Barrier (1.0 LU/HSW) Melissa Payne	Register
1:00pm-1:50pm ET	Masonry Thru-Wall Flashing & Key Interface Details (1.0 LU/HSW) Pat Conway	Register
2:00pm-3:30pm ET	Failure is Not an Option: Air Barrier Continuity Strategies for Storefront and Curtain Wall Systems (1.5 LU/HSW) Andrew Dunlap	Register

[Learn More and Register Here](#)

**RAiNA-Hosted Member Webinar:
Connecting the Dots: Air Barrier Transitions**

August 27th, 2025



**Presenter: Meagan Elfert, CDT, MBA,
CBS**

This webinar will focus on the critical transitions between materials and guide you through the key

considerations you'll encounter when designing an air barrier system. Proper control and management of air and water are essential for the creation of durable, healthy buildings.

Register Today

ABAA Building Enclosure Conference: Presentation Snapshot

Future Proofing Buildings

This snapshot highlights Benjamin Meyer's presentation from the ABAA Building Enclosure Conference, focusing on how to future-proof buildings through sustainability and resiliency. It explores why codes alone aren't enough, the role of material performance, and the importance of precise detailing, maintenance, and real-world testing. Readers will gain key insights into designing enclosures that stand up to environmental stresses today and for decades to come.

Review the Full Article Here



YORK Flashings One of Our Favorite Presentations
ABAA Conference Presentation Snapshot

Big Idea
Future Proofing Buildings
Future-proofing buildings means designing for both sustainability—reducing environmental impact—and resiliency—ensuring long-term performance under real-world stresses. Codes set only the minimum; they don't account for ongoing challenges like UV exposure, temperature swings, moisture, and poor ventilation or drainage. True future readiness depends on detailed design, proper installation, and consistent maintenance so buildings meet today's needs and continue to perform for decades.

Key Insights

- Codes are not enough - Current codes and standards set only the bare minimum requirements; long-term performance requires deeper evaluation
- Kicke Theory - Most roof stress comes from internal heat, airflow, and moisture
- Material performance is critical - Evaluate for heat, UV, moisture, ventilation, drainage, diffusion, and curing type
- Keys to resiliency - Precise detailing, proper materials, and regular maintenance (especially roofing)
- Water management is vital - Account for impacts from blue/green roofs
- Test beyond code - Compare materials to real-world conditions, not just industry norms
- Independent oversight - Use third-party QC and maintenance teams



Benjamin Meyer presenting at the 2023 ABAA Building Enclosure Conference

Email Benjamin Meyer for the full presentation at: benjamin.meyer@yorkflashing.com

Snapshot Conclusion
To future-proof buildings, professionals must integrate sustainability and resiliency from the start, looking beyond outdated codes to select, install, and maintain materials that can handle real-world environmental stresses. Success hinges on details, precise maintenance, and rigorous performance testing.

About the ABAA Conference
The ABAA Building Enclosure Conference has over 200 attendees and annually has been about cutting-edge air barrier technology from industry-leading companies.

About the Presenter
Benjamin Meyer, AIA, LEED AP ABAA, is the Chief Building Science In-Chief with GAF. His previous experience includes extensive commercial general contract management for enclosure products, architecture, and social development and construction management.

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Specializing in transition membranes and through-wall flashing, York has been inventing and producing flashings since 1935. As the leader in commercial and residential flashing industry, York has led the charge to create flashings that are compatible with the air barriers and insulations that populate the cavity wall.

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