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Navigating the Jobsite - Best Practices & Common Pitfalls in Modern Rainscreen Construction

Round Table Discussion

AIA Learning Credits: 1.0 LU/HSW
RAiNA AIA Provider #: 502111378
Course #: RAiNA-CONF25-2

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MEET TODAY'S PANEL

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Hans Bixler
Head of Estimating
Metal Alliance, Inc.

Hans Bixler has been in the construction industry since 1989. He has years of experience working in many different markets across the country. Hans specializes in architectural metals, including 10 years of hands-on field experience. He is very knowledgeable in all types of wall panel systems. He also has a broad background in metal roofing and siding & architectural sheet metal.

Having owned his own business, he is familiar with all facets of construction. Hans is very knowledgeable in coordinating design intent into workable ideas, drawing from his expertise in all facets of the exterior façade. Over the last fourteen years, Hans worked for EDA Contractor's, with experience in both small and large construction projects.

Don Heft
Principal,
ECO Cladding

Don Heft is a recognized leader in cladding engineering and sales, with deep expertise in rainscreen wall design across the North American market. Starting as a materials technician and later advancing to an application engineer at Kawneer, he gained hands-on experience in structural analysis, field problem-solving, and product approvals. As Technical Manager at Trespa North America, Don helped launch key products and built a national network for vertical wall systems.

Today, he leads ECO Cladding, an engineering firm focused on thermally efficient sub-framing. Don oversees product development, certifications, and sales strategy, blending technical precision with practical business insight. His work continues to shape best practices in the evolving cladding industry.

Siena B. Mamayek
Senior Consulting Engineer,
SGH

Siena has over a decade of experience in the AEC industry providing building enclosure consulting services on large and complex projects from design through construction. She works directly with multiple project stakeholders including owners, architects, construction managers, developers, as well as subcontractors and manufacturers. She specializes in new construction, focusing on the design, integration, and performance of rainscreen cladding, curtain walls, glazing systems, roofing, plaza waterproofing, and below-grade waterproofing.

Siena holds a B.S. in Civil Engineering from Worcester Polytechnic Institute (WPI) and an M.S. in Sustainable Building Systems from Northeastern University. She is a licensed Architectural Engineer in MA and teaches an undergraduate course in Building Enclosure Design at WPI.

Kevin D. Nolan
Technical Director,
Vaproshield

Kevin D. Nolan has over 37 years of experience in the construction industry, as a Carpenter/Superintendent, a General Contractor and a Forensic Architectural Consultant. He has dealt almost exclusively with the Building Enclosure for 27 of those years, repairing, re-cladding and diagnosing failed systems.

Currently, he serves as the Technical Director for VaproShield LLC, an innovative Manufacturing Company of Water Resistive Barriers and Air Barrier Materials designed for rainscreen applications. His duties at VaproShield include Research and Development of new products and the continued improvement of existing products to meet the company's high standards of performance.

He currently is a member of the Air Barrier Association of America and the Rain Screen Association in North America and is an active on multiple committees. Kevin holds a Bachelor's degree in Business "Finance" from Seattle University. He lives in Seattle, (where they know little bit about rain), with his wife Kelly and their German Shepards Xander and Klaus.

Kelly Knuff

Business Development Manager,
Nucor Insulated Panel Group

Kellie Knuff Perkins is an accomplished leader in the architectural building industry, currently serving as Business Development Manager at the Nucor Insulated Panel Group (NIPG). In this role, she develops market strategies, supports continuing education for industry professionals, and promotes cutting-edge rainscreen and insulated metal panel (IMP) solutions.

Prior to joining NIPG in December 2024, Kellie served as Director of U.S. Business Development at EQUITONE, a manufacturer of high-density fiber cement panels used in rainscreen façade systems. With over 15 years of experience, she has built her career on delivering innovative exterior cladding solutions and fostering strong relationships with architects, general contractors, and building owners.

Since 2020, Kellie has played an active leadership role in the industry, serving on the Board of Directors and as Second Vice Chair of the Executive Committee of the Rainscreen Association in North America (RAiNA), where she contributes to advancing best practices and educational initiatives in façade design.

For Today’s Discussion

Modern rainscreen wall systems demand precise coordination across multiple trades.

Together, we’re here to unpack the real-world challenges of building high-performance rainscreen walls in today’s construction environment.

The conversation will cover key issues:

- **Design Versus Reality**
- **Mockups and Real-world Detailing**
- **Installation Realities**
- **Testing and Quality Control**
- **Labor & Economics**

DESIGN VERSUS REALITY

What strategies can architects use to better align their designs with real-world fabrication, material limitations, lead times, or long-term maintenance concerns? How do you navigate this balance between creativity and constructability?

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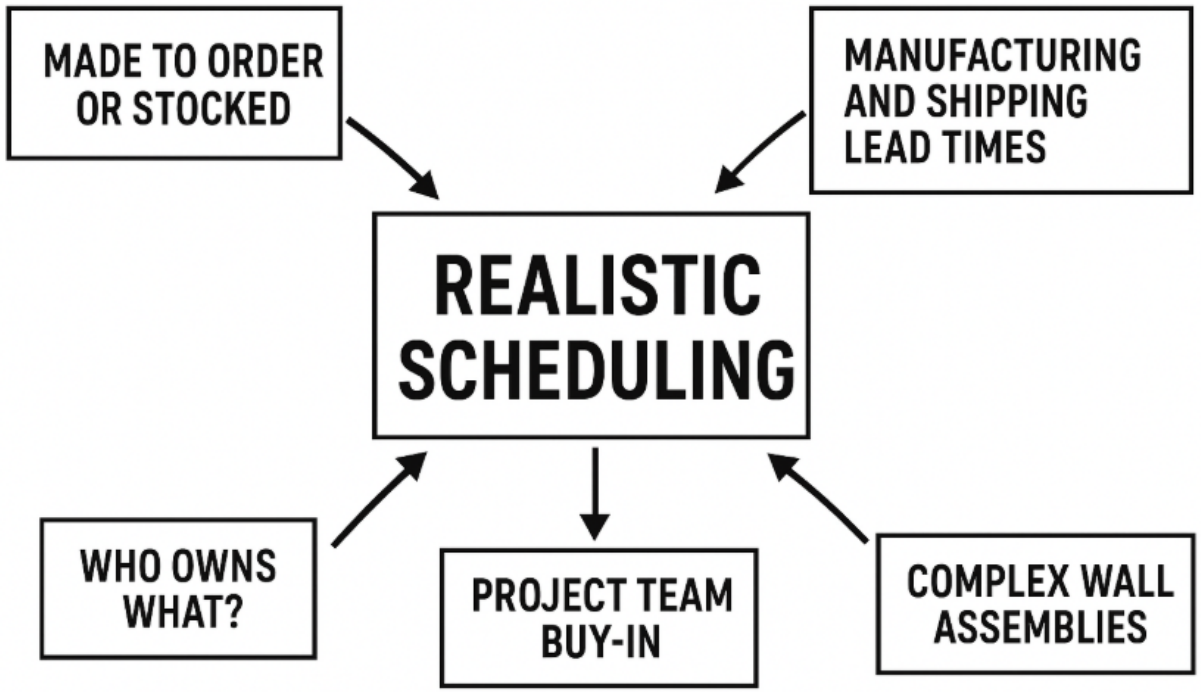
Navigating Balance: Creativity and Constructability

- Engage Manufactures / Contractors Early
- Performance Driving Design
- Design to Optimize
- Coordinate Components - Don’t forget the Screw!
- Verify Lead Times, Warranties, Tests
- Select & Commit to Design

Design vs Real-world Constructability



Activity	Duration	Cumulative Timeframe (approx.)
Award	(Start Date)	Week 0
Shop Drawings (preparation & approval)	6 to 8 weeks	Weeks 0 - 8
Manufacturing/Fabrication	10 weeks	Weeks 8 - 18
Delivery	2 weeks	Weeks 18 - 20

DESIGN VS REALITY

There’s often a gap between what’s drawn and what gets built. What are some of the most common disconnects you’ve encountered between design intent and field execution—and how can they be mitigated early on?

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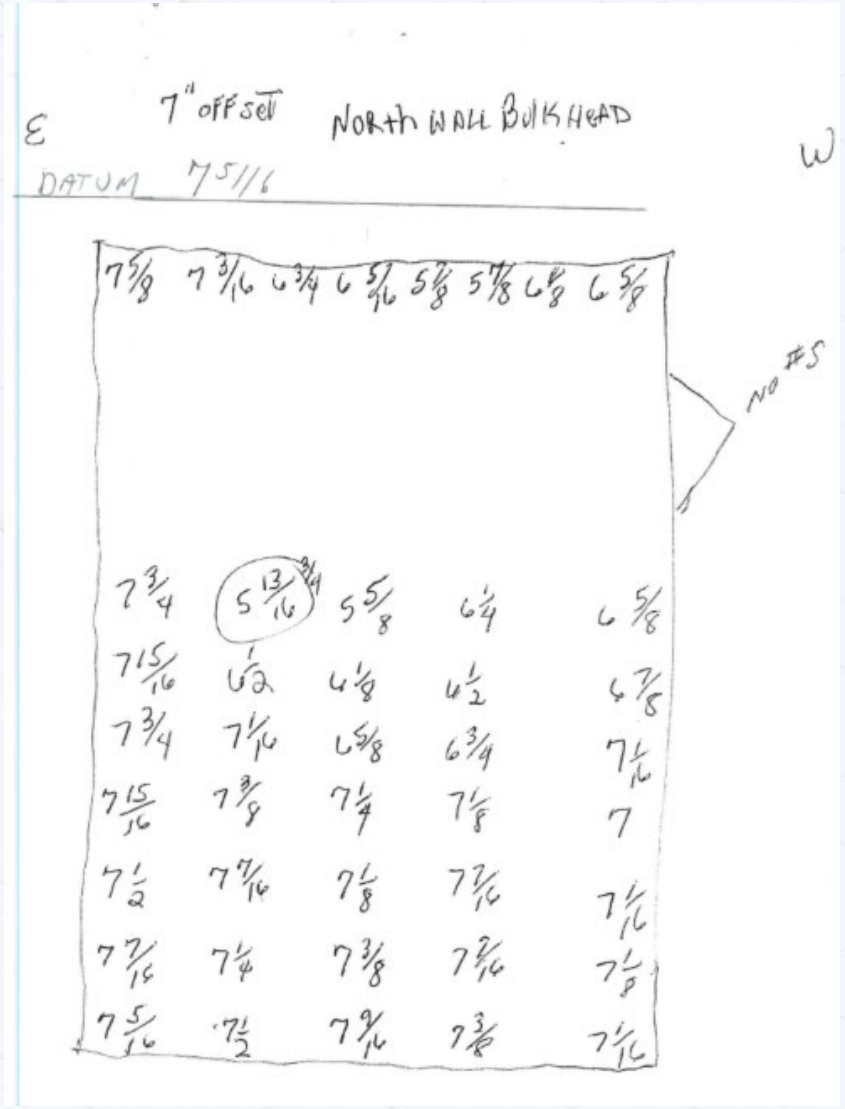
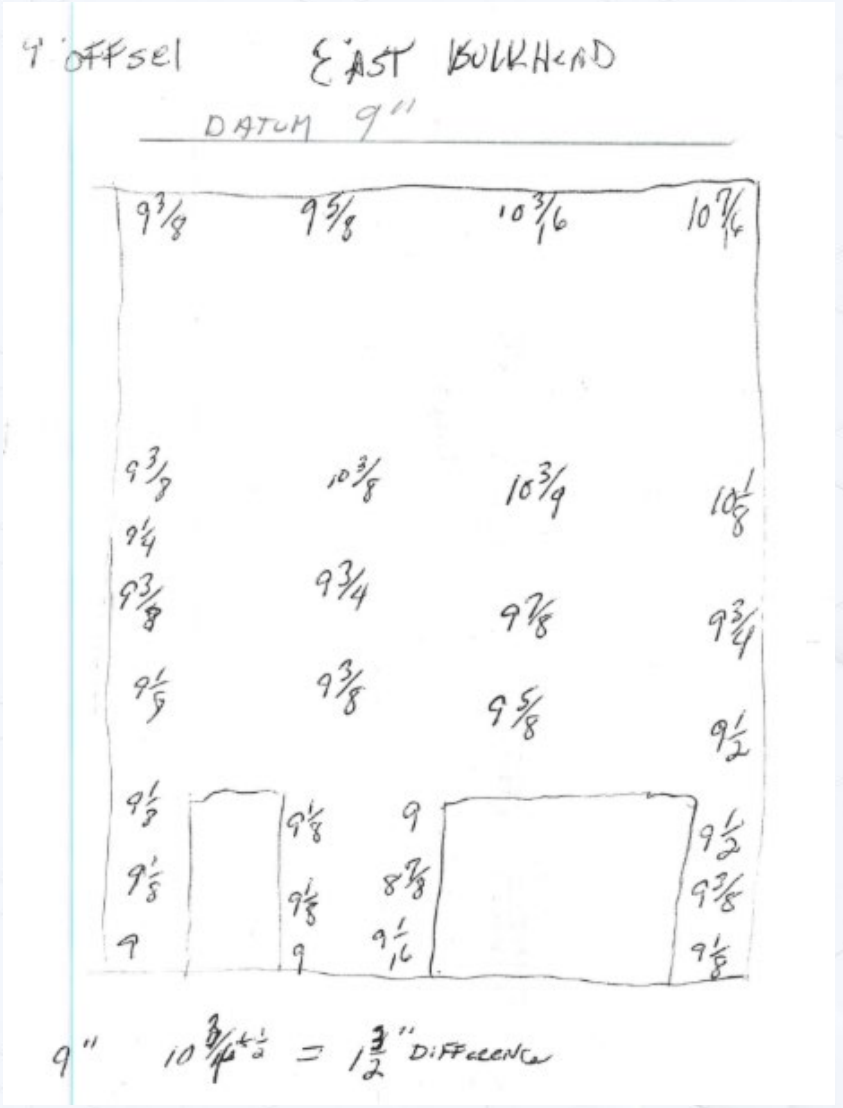
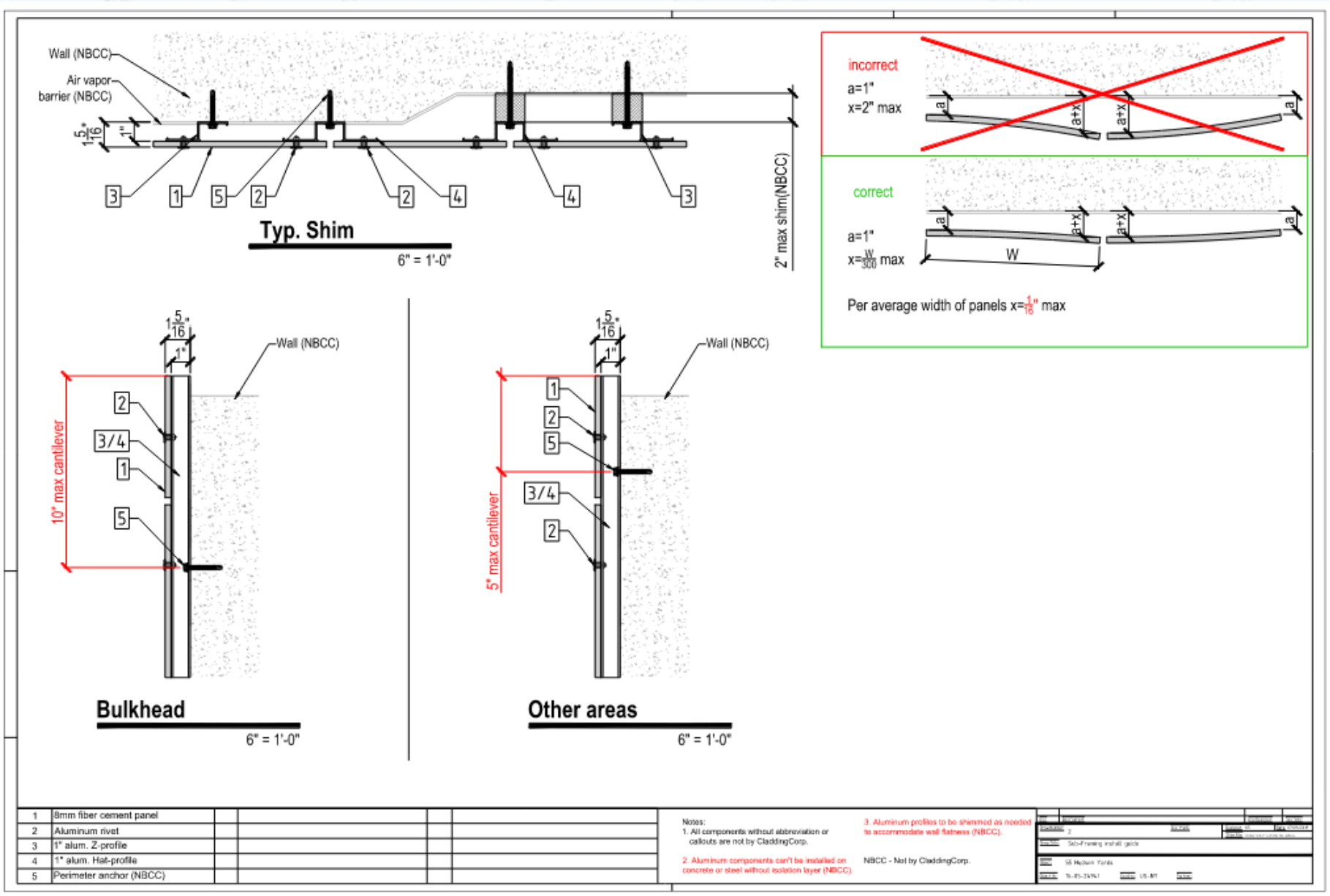
Joint Health Sciences Center
Joint Health Sciences Center


E
7" OFFSET
NORTH WALL BULKHEAD
W
DATUM 7 5/16
NO #5


4" OFFSET
EAST BULKHEAD
DATUM 9"
9" 10 3/4 + 1/2 = 1 3/4" DIFFERENCE

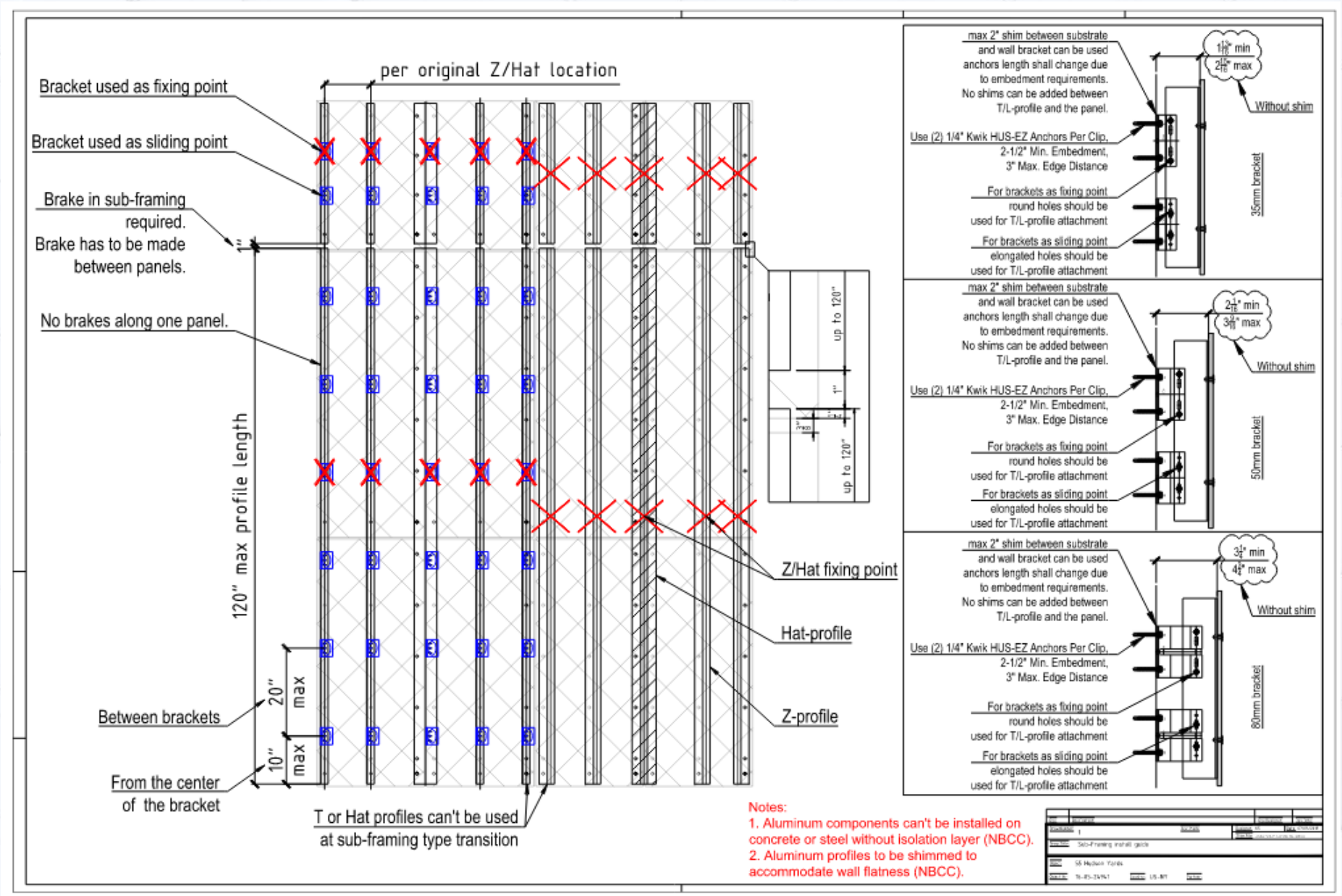


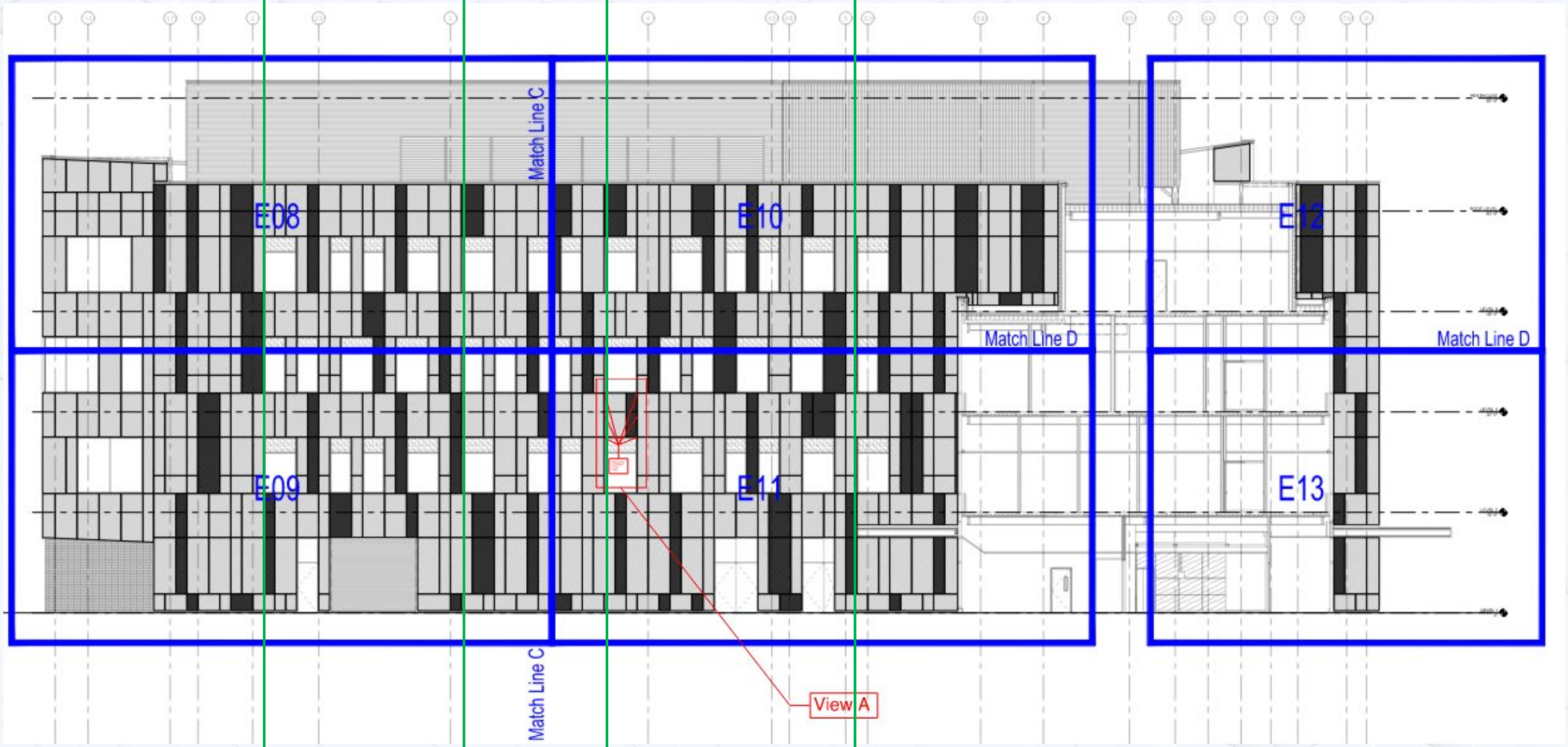
1	8mm fiber cement panel				
2	Aluminum rivet				
3	1" alum. Z-profile				
4	1" alum. Hat-profile				
5	Perimeter anchor (NBCC)				

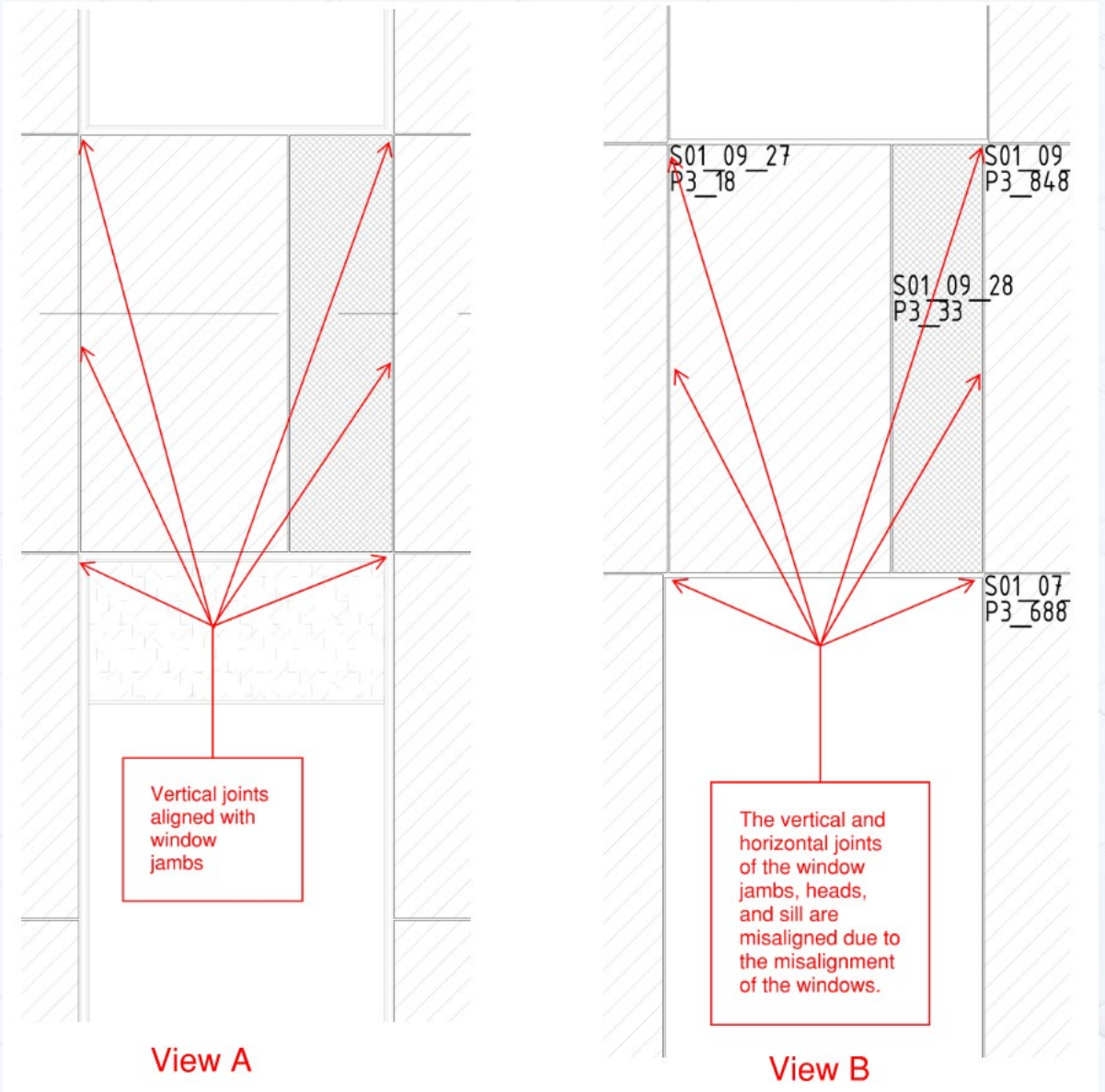
Notes:
1. All components without abbreviation or callouts are not by CladdingCorp.
2. Aluminum components can't be installed on concrete or steel without isolation layer (NBCC).
3. Aluminum profiles to be shimmed as needed to accommodate wall flatness (NBCC).

NBCC - Not by CladdingCorp.

Sub-Framing install guide


per original Z/Hat location
Bracket used as fixing point
Bracket used as sliding point
Brake in sub-framing required.
Brake has to be made between panels.
No brakes along one panel.
120" max profile length
Between brackets
20" max
10" max
From the center of the bracket
T or Hat profiles can't be used at sub-framing type transition
Z/Hat fixing point
Hat-profile
Z-profile
up to 120"
1"
up to 120"
max 2" shim between substrate and wall bracket can be used
anchors length shall change due to embedment requirements.
No shims can be added between T/L-profile and the panel.
Use (2) 1/4" Kwik HUS-EZ Anchors Per Clip,
2-1/2" Min. Embedment,
3" Max. Edge Distance
For brackets as fixing point round holes should be used for T/L-profile attachment
For brackets as sliding point elongated holes should be used for T/L-profile attachment
1 1/16" min
2 5/16" max
Without shim
35mm bracket
2 1/16" min
3 5/16" max
Without shim
50mm bracket
3 1/2" min
4 1/4" max
Without shim
80mm bracket
Notes:
1. Aluminum components can't be installed on concrete or steel without isolation layer (NBCC).
2. Aluminum profiles to be shimmed to accommodate wall flatness (NBCC).


Match Line C
E08
E10
E12
Match Line D
Match Line D
E09
E11
E13
Match Line C
View A


Vertical joints aligned with window jambs
View A
S01_09_27
P3_18
S01_09
P3_848
S01_09_28
P3_33
S01_07
P3_688
The vertical and horizontal joints of the window jambs, heads, and sill are misaligned due to the misalignment of the windows.
View B

MOCKUPS & REAL-WORLD DETAILING

Can you explain the different types of mockups and each of their functions?
In your experience, which type of mockup typically has a greater impact on reducing project risk, and why?

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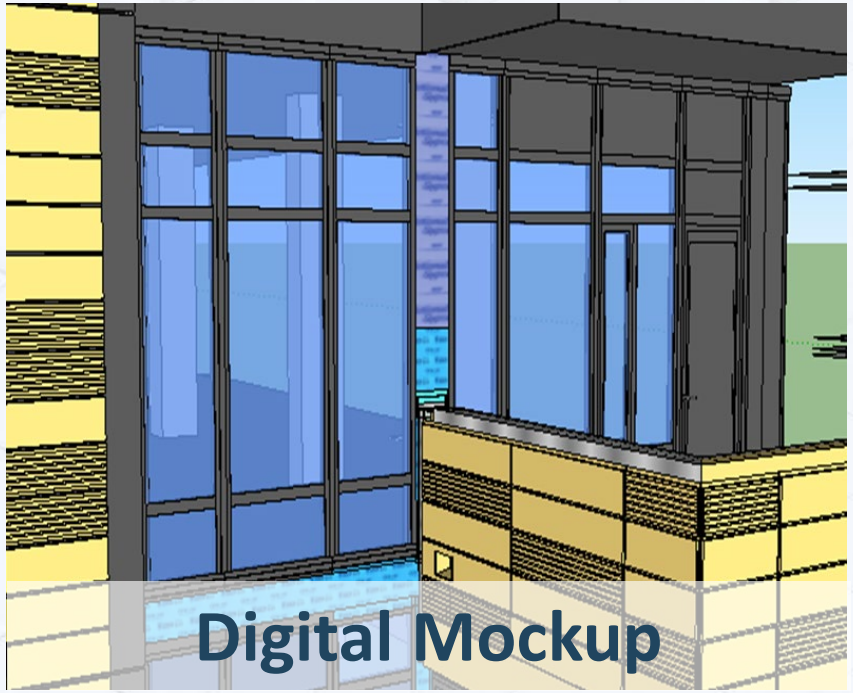

Digital Mockup

Stand Alone Mockup

Laboratory Mockup

Table Top Mockup

In-Situ Mockup

MOCKUPS & REAL-WORLD DETAILING

Can you share an example where a mockup revealed a critical transition or interface issue early on?

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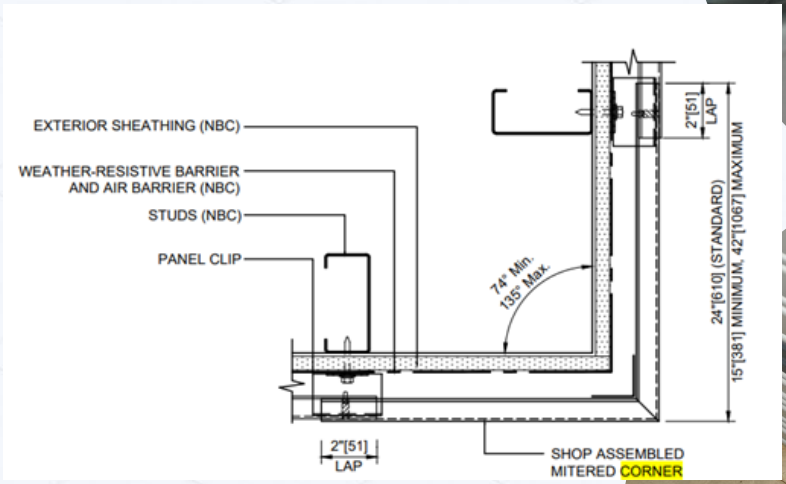
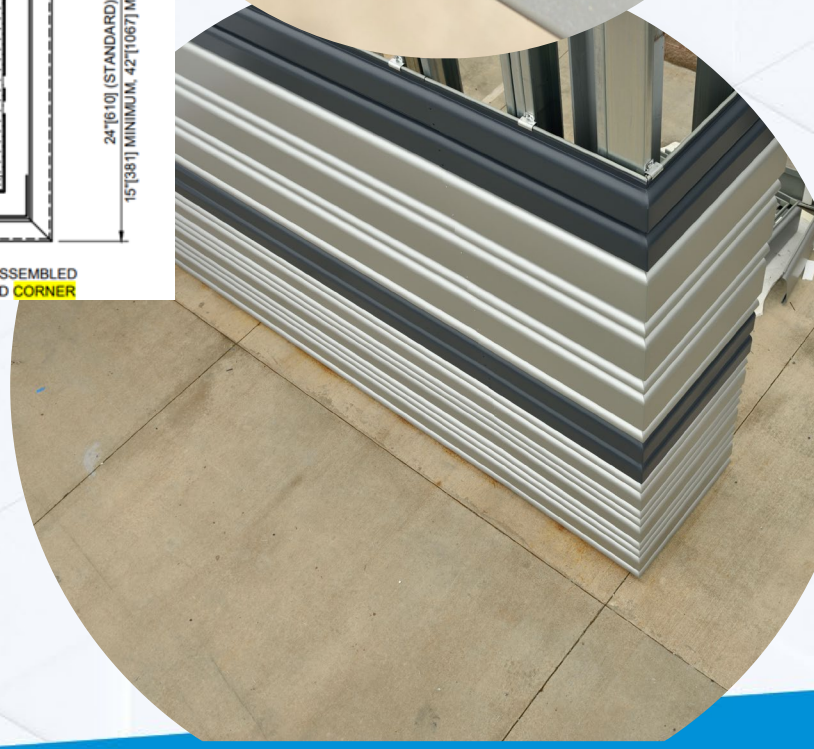
Build It Bad Concept

Real-world vs. ideal conditions in the field

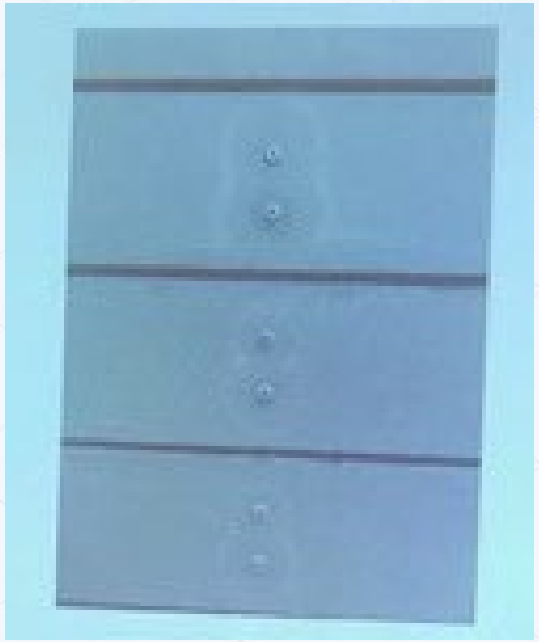
- Transition points like corners often look different than renderings
- Sealant may be required at corners to mitigate water intrusion
- Certified installers reduce errors and improve construction speed
- Field fixes are common and should be planned for early

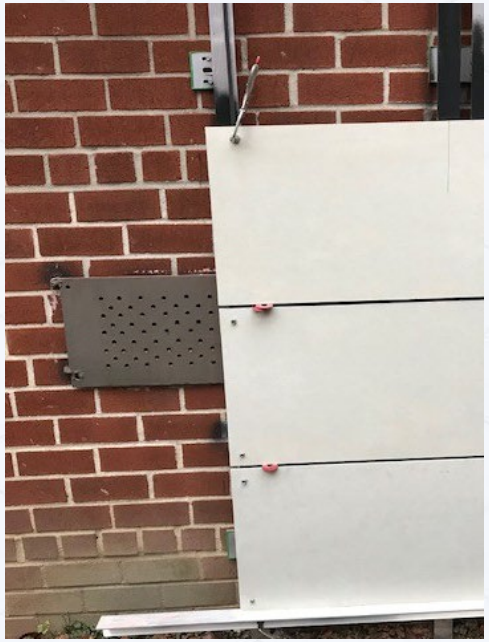




Build It Bad Concept

Real-world vs. ideal conditions in the field





Mockup – Design Validation

- Design and performance validation prevents costly surprises
- Varying panel profiles and textures to see how it comes together
- Verifying colors and consistency
- Transition between materials and other integrated components
- Custom color and finish selection

INSTALLATION REALITIES

From a contractor’s perspective, what’s the biggest challenge for keeping project on schedule and on budget?

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INSTALLATION REALITIES

As a weather resistive barrier manufacturer, how would you define best practices for ensuring continuity of the weather barrier?

Can you talk about the various penetration quantity and types?

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TESTING & QUALITY CONTROL

Are there specific steps, tools, or coordination methods you've found most effective in getting from specification to successful installation?

How can testing be incorporated without impacting project schedule?

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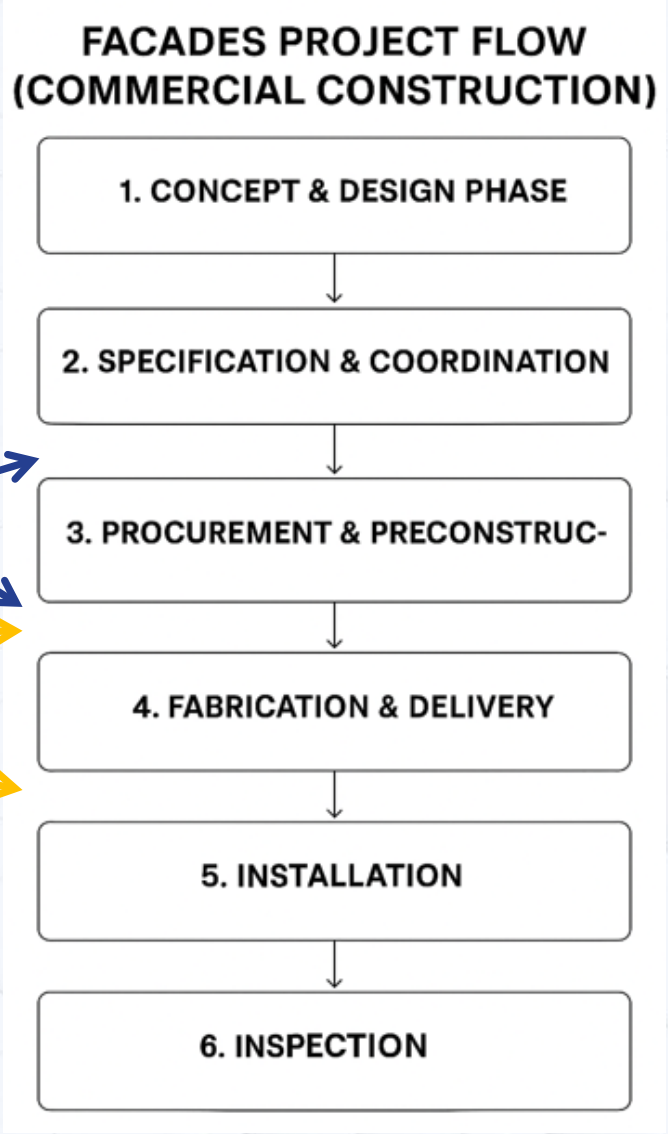
Testing & Quality Control

- Project Kickoff
  - Preconstruction Meeting: Review installation sequencing, tolerances, and QA/QC expectations
- Job-site Inspections / Visits
- Product Warranty



Testing & Quality Control

What quality assurance strategies could be utilized across all wall layers and trade scopes – from back-up wall, WRB to cladding – to optimize building performance and avoid common pitfalls?

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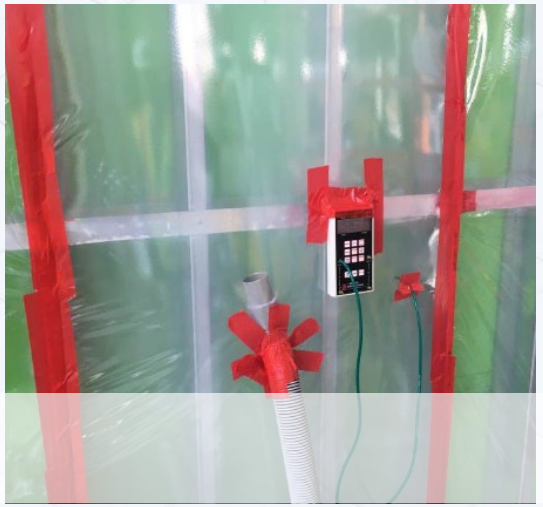
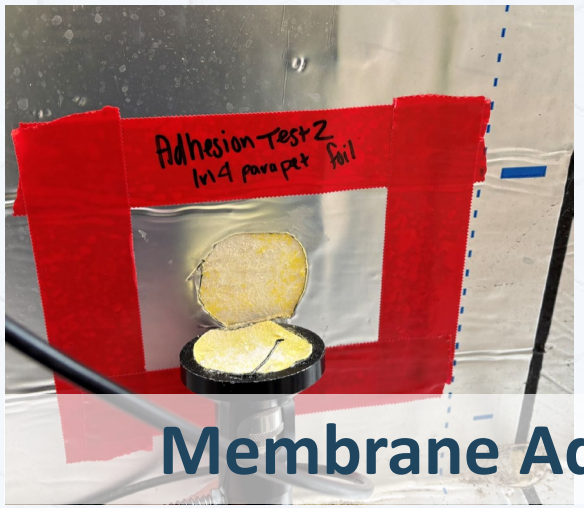
Sealant Adhesion



Air Leakage

Monitor Install

Water Leakage



Membrane Adhesion

LABOR & ECONOMICS

How do training programs (certification / approval / authorized / factory-trained) contribute to developing a more reliable and skilled labor pool, and what payoffs have you observed from these initiatives?

How do these programs contribute to consistency and quality in façade installation? Have you seen a measurable difference in projects where such programs were implemented?

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QUESTION & ANSWER PERIOD

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