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Exterior Insulation & Finish Systems
Technical & UW Concerns

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Agenda

- Industry Impact & Reaction
- Types of EIFS & Installation Concerns
- Risk Management
- Insurance Carrier Considerations
- Insurance Coverage & Coordination

EIFS: A Brief History

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1940s-1960s

Developed as cost-effective & energy-efficient material for post-war rebuilding

1960s

Introduced to the US market for commercial application

1970s

Energy crisis drove popularity and increase in residential use

1980s-1990s

Growth in use and subsequent reports of water intrusion issues increased litigation

Modern Era

- Increased regulation / Stricter building codes
- Standards introduced to address water filtration issues
- Better water-resistant barriers and drainage systems developed
- Enhanced focus on installation techniques
- Formal training programs established for installers
- Underwriting practices adjusted in response to claims frequency

EIFS Claims

EIFS Applied Over Concrete

• Name:	Hotel / Residences
• Description:	51 story luxury condo/hotel/resort
• Location:	Florida
• Year Completed:	2004
• Material:	Exterior façade of hard coat stucco & EIFS applied directly over concrete/CMU
• Claim Amount:	$14,850,000

EIFS Claims

EIFS Applied Over Wood

• Name:	Dorms
• Description:	Student Housing Buildings
• Location:	California
• Year Completed:	2014
• Material:	EFIS cladding on 7 new 4-story wood framed buildings
• Claim Amount:	$2,000,000

EIFS Claims

Class Action

• Name:	Single Family Homes
• Description:	Class Action / Multiple Litigants
• Location:	Tennessee
• Year:	2003
• Allegations:	
− Manufacturers:	Defective Product
− Developers:	Inappropriate Controls
− Contractors:	Failed Installation
• Claim Amount:	$12,000,000+

Chinese Drywall – A Case Study

…but drywall isn't EIFS!

- During housing boom of 2004-2007 more than 550m pounds of Chinese drywall was imported to the US (60k houses worth);
- Allegations included:
  - Corroded copper and other metal components:
    - In-wall electrical
    - Fire alarm / Security systems
    - Copper and gas piping
  - Various health symptoms: asthma, other chronic respiratory issues, headaches, sinus issues, etc.
  - Rotten egg smell
- Outcomes:
  - Manufacturer settlements to repair 300 homes;
  - Distributor settlements up to $100k / home;
  - Various insurer declinations: total pollution exclusion, water damage exclusions, faulty product / latent defect exclusions
  - Resulting damages could reach over $20bn!

EFIS Claims

Thoughts

1. Installation of these products is difficult and can be exacerbated by project-level dynamics: need for speedy install, poorly trained labor, ineffective supervision of installation, inadequate protection of materials, etc.

2. Contractors prefer systems that don't rely upon mechanical fasteners for speed / cost management.

3. Manufacturers are incentivized to continue to produce these systems (supply/demand).

4. Manufacturers may choose to characterize their product as 'drainage EIFS'.

5. Yet, decades of case law can/will be used by plaintiffs to assert that manufacturer should know that their product may/will not perform to spec.

Design & Engineering

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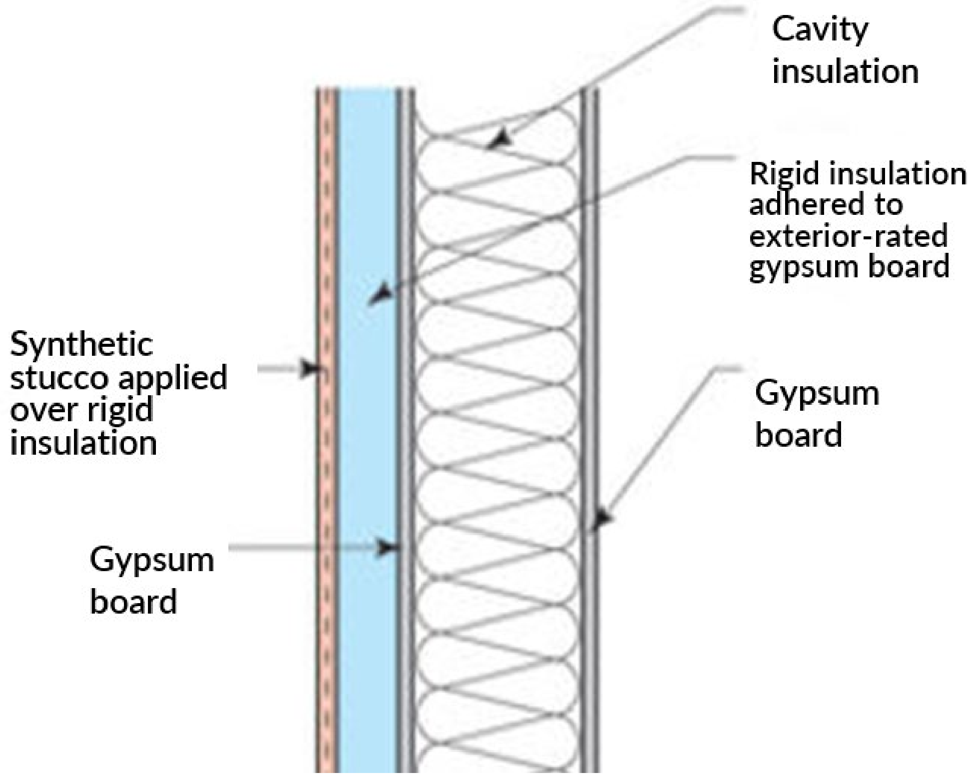
Class PB – Barrier EIFS



Class PB Barrier EIFS – an older, less advantageous type of EIFS

- Relies primarily on the lamina to resist water penetration
- Traps the penetrating water inside and it cannot get out

1. Brick veneer is first water barrier
2. Drainage cavity must drain water that penetrates brick
3. WRB must be perfect to prevent water leaks.
4. Flashing and weep holes
5. Air vent near top allows water in, if not properly baffled
6. Vertical air dams in brick cavity must be sealed against brick and WRB.

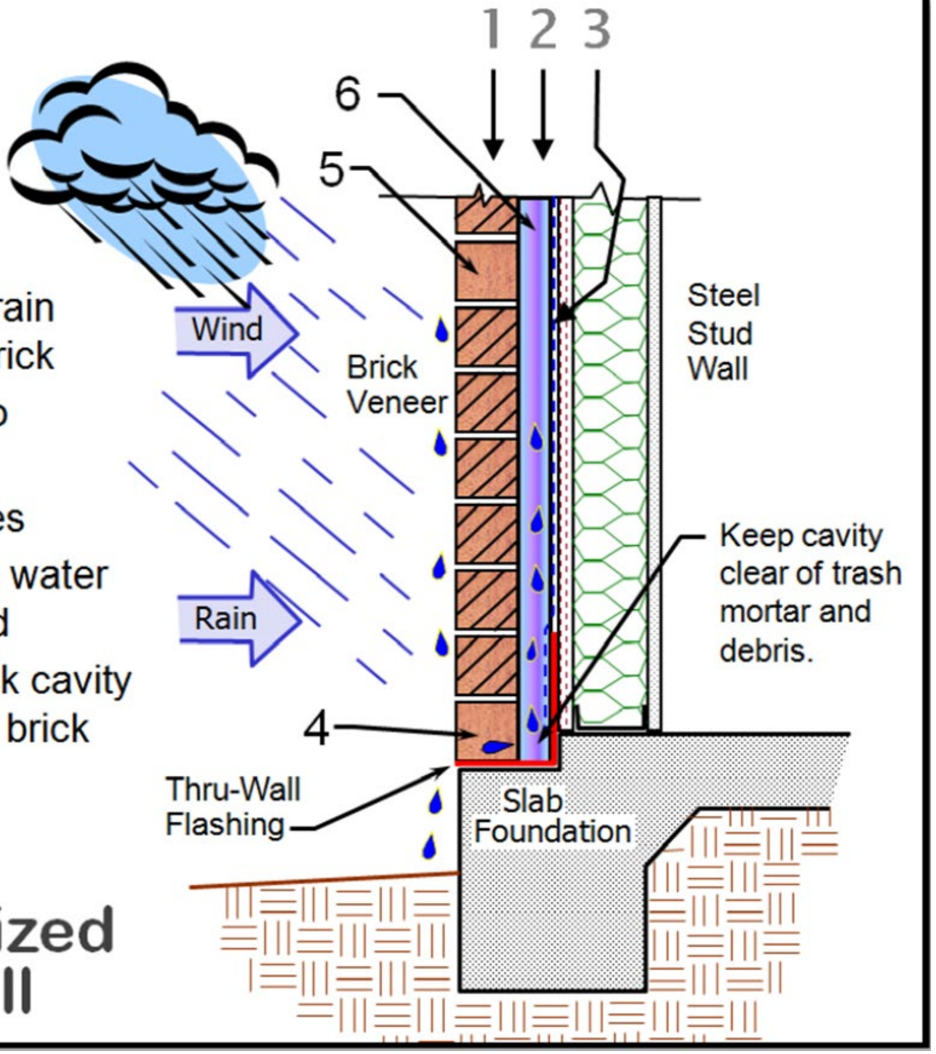
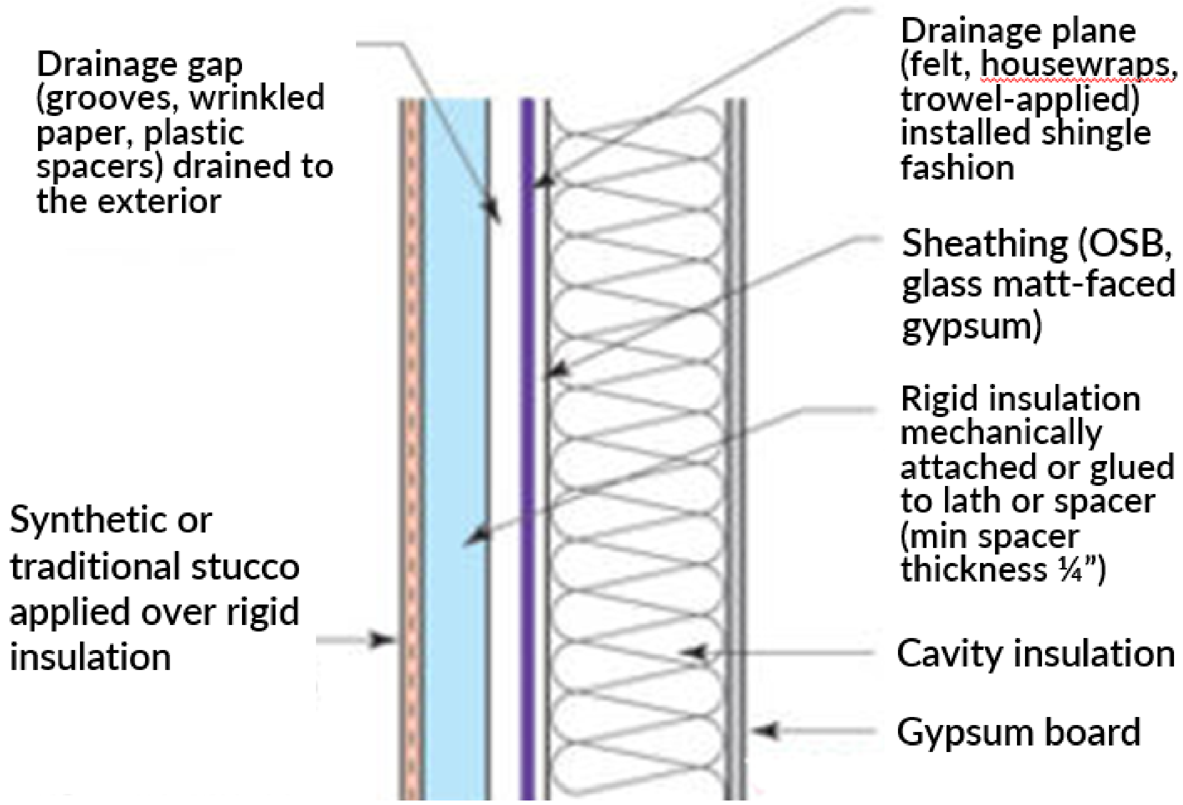


Figure 1. – Pressure-equalized Rain Screen Wall

Class PB – Drainage EIFS



Class PB Drainage EIFS – newer EIFS that provides more advantages under certain conditions

- Contains design provisions for releasing water that penetrates the lamina (base coat, mesh and finish coat)
- Drainage EIFS allows penetrating water to be released

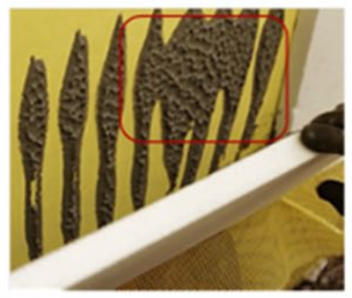
Beaded Adhesive Installation

Attach EPS Board with Adhesive

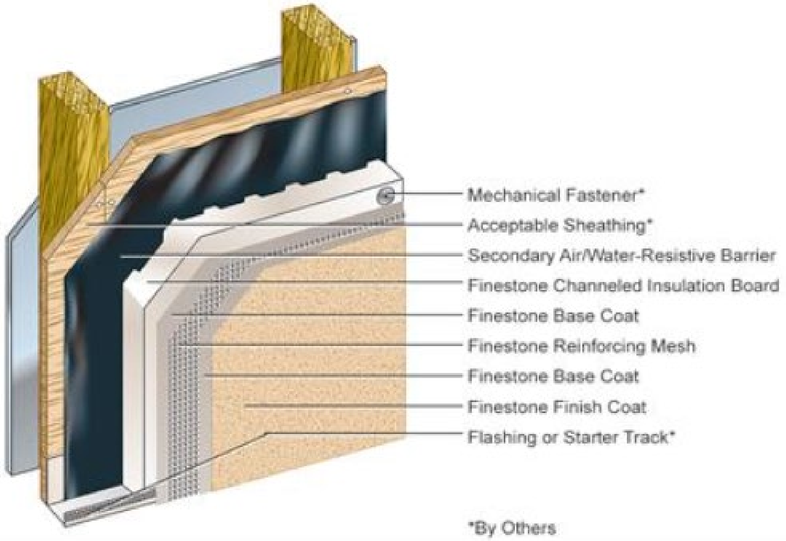
To adhesively attach EPS board:

- Apply adhesive to the back of the board.
- Place ½ inch from next board and nudge into position.
  - Butt boards tightly with no gaps.
  - Nudge—don't smudge—in the direction of the adhesive. For example, if vertically troweled, nudge vertically only—up to 1 inch allowed.
  - Do not block the drainage channels created by the adhesive pattern.
- Apply firm pressure over entire surface while adhesive is still wet.

Vertical Adhesive Pattern

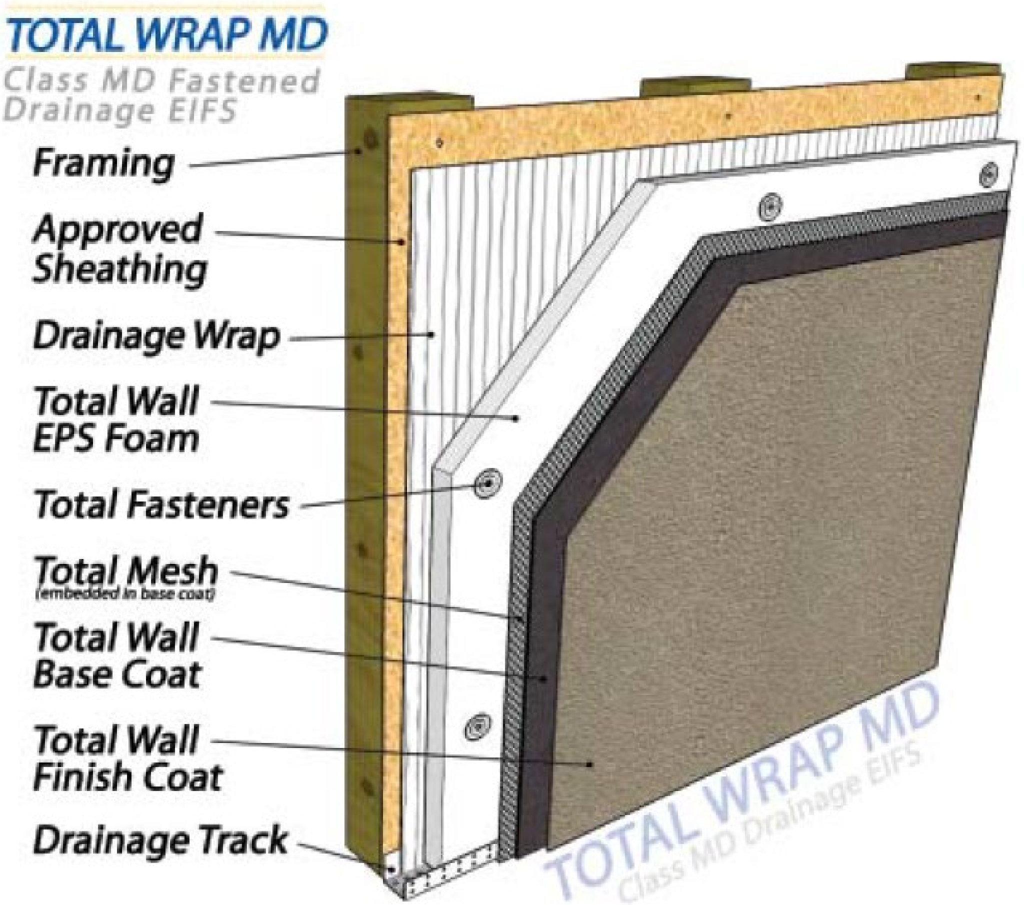


"Smudging" May Block the Drainage Channel



Pebbletex D7

A mechanically attached, water-drainage Class PB EIFS incorporating channeled EPS and a secondary air / water-resistive barrier.




TOTAL
US Dollar 1USD 32.8876 +0.1736 0.53%
Euro 1EUR 42.9841 +0.0143 0.03%
COMPLETED
RECURRING -6.230
PENDING +23.432
RISK MANAGEMENT
700
600
500
400
300
200
100
372
240
485
+0.83%
- 1.5%

EIFS – Risk Evaluation

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DEMOGRAPHICS

- Manufacturer, Distributer, Construction Manager, Installer, Owner
- Residential, Mixed-Use, Commercial
- Product / Project Location
- EIFS Loss History & Construction Defect Loss History
- Scope of Work

CHARACTERISTICS

- EIFS Experience
- Contract Management / Risk Transfer Standards
- Subcontractor Selection
- Installation Training
- QA/QC Process

EIFS Manufacturer

Managing Products Exposure

- **Quality Control / Assurance**:
  - Implement strict quality control process during/after production;
  - Regularly test/inspect raw materials & finished product;
- **Product Design / Development**:
  - Ensure products are designed for durability & safety;
  - Perform risk assessment & failure-mode analysis;
- **Supply Chain Management**:
  - Vet / select vendors for reliability and quality;
  - Implement inventory management process to track raw materials and products;
- **Documentation & Record-Keeping**:
  - Maintain detailed records on production process, QA/QC and product specifications;
  - Ensure traceability systems to track product from development to delivery
- **Training / Education**:
  - Routine training of employees relative to production and QA process;
  - Deliver training to end-users to ensure appropriate methods
- **Customer Feedback-Loop:**
  - Establish system for collecting and addressing client complaints;
  - Use feedback for production improvement;
- **Risk Management**:
  - Conduct regular risk assessments to identify hazards and vulnerabilities;
  - Establish crisis management plan to address product recall
- **Product Warranties**:
  - Clearly communicate warranties and guarantees.

EIFS Distributor

Managing Products Exposure

- **Supplier Management**:
  - Establish strong relationships & agreements with suppliers including quality expectations
  - Audit suppliers to ensure compliance with agreements;
- **Inventory Management**:
  - Develop robust inventory tracking throughout chain of custody;
- **Quality Control**:
  - Routinely inspect supply to ensure quality standards;
  - Maintain documentation records for quality inspections and identified issues;
- **Transportation**:
  - Choose reliable logistics providers to ensure safe / timely delivery;
  - Ensure proper handling during transportation;

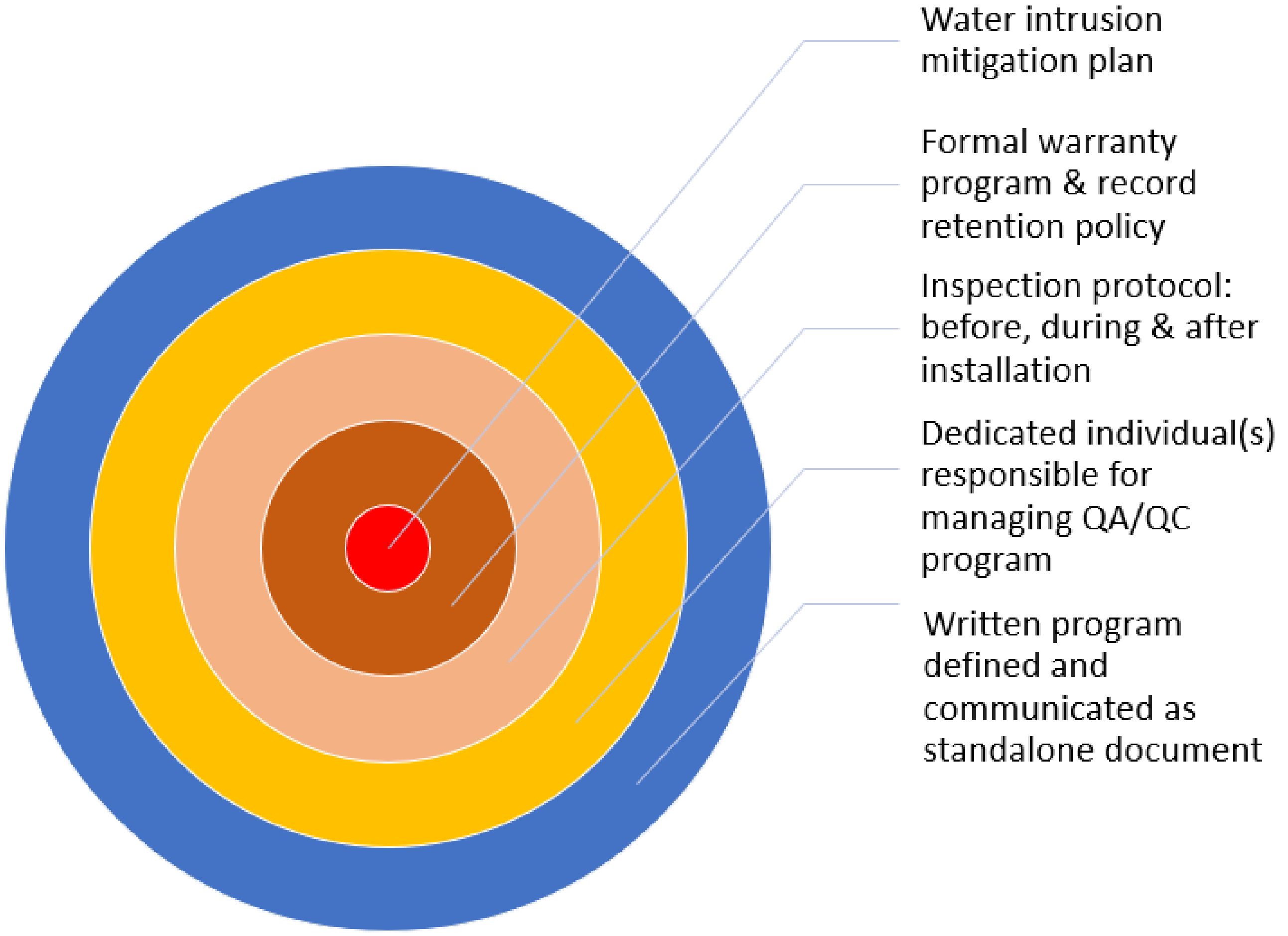
- **Risk Management**:
  - Effectively cascade installation related risk to appropriate parties;
- **Training**:
  - Train employees on appropriate inventory management;
  - Offer training to end-users to ensure appropriate installation;

EIFS Installers

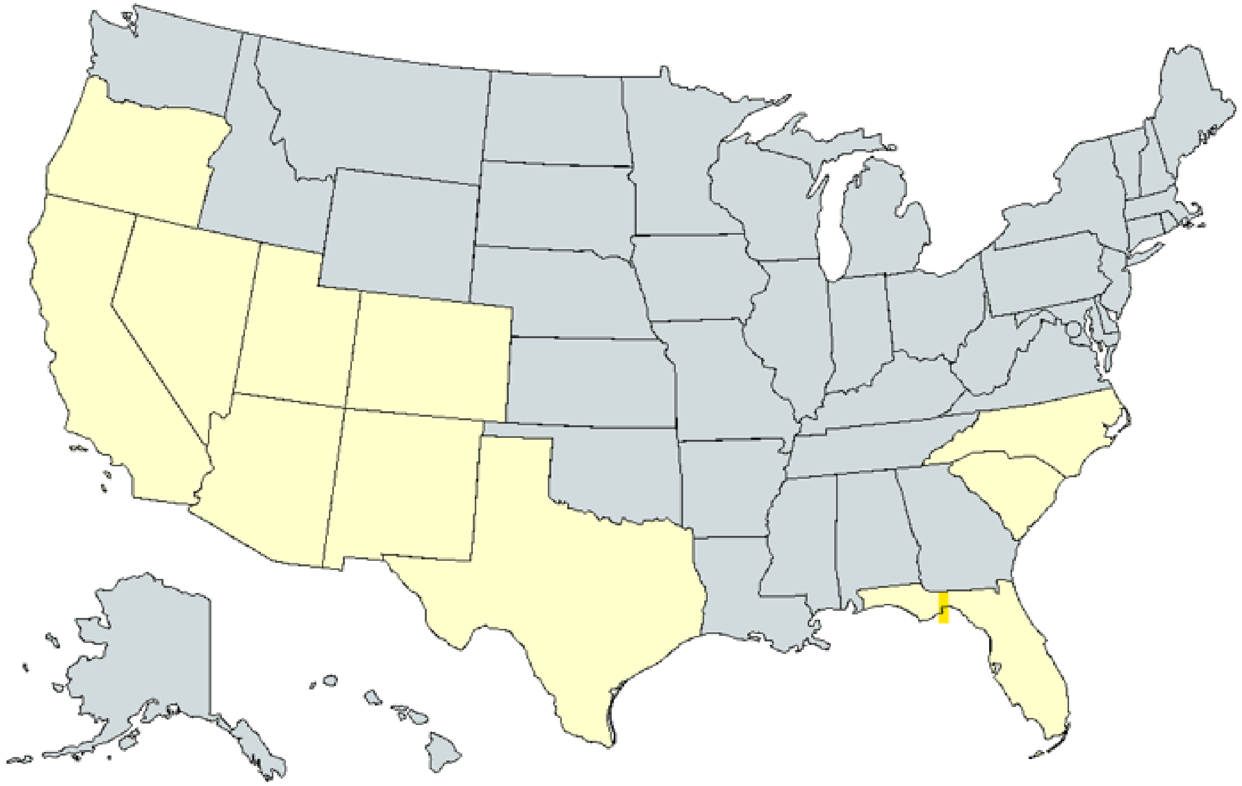
Managing Completed Operations Exposure

Quality Control / Quality Assurance

- Certified installer of EIFS product
- Installer qualified by manufacturer and contractor
- 3rd party inspection by Association of Wall & Ceiling Industry (AWCI) inspector
- Photographic documentation of installation process
- Water testing in accordance with ASTM E2273-18
- Pre-install planning meetings
- First work-in-place installation inspection



Risk Factors Impacting EIFS



Strict Liability

- Not required to prove negligence during construction
- Must prove:
  - Contractor / Developer was involved in the construction
  - Existence of a defect
  - Resultant damage / injury
  - Contractor / Developer caused the defect

Initial Gatekeeping: Accept v Decline

1. How many years have you installed EIFS? _________

2. Have you ever self-performed EIFS installation? _____________
   A. Percent of EIFS Installation for wood frame structures? __________
   B. Percent of EIFS Installation for metal frame structures? __________
   C. Percent of EIFS Installation for masonry structures? __________

3. Estimated value of EIFS Contracts over the years? __________

4. Estimated number of EIFS projects over the years? __________

5. Type of EIFS installed: Drainable: ________% (Break out by Year if possible)
   Non Drainable: _____%(Break out by year if possible)

6. States EIFS work was done? ____

7. Have you ever subcontracted the installation of EIFS? __________
   A. Percent of EIFS Installation for wood frame structures? __________
   B. Percent of EIFS Installation for metal frame structures? _________
   C. Percent of EIFS Installation for masonry structures? __________

8. Total Cost of Projects which included EIFS ___________(Break out by year if possible)

9. Estimated cost of EIFS subcontracted over the years? __________ (Break out by Year if possible)

10. Estimated number of EIFS projects subcontracted over the years? __________

9. Subcontractor Controls:

- Written contract with all EIFS subcontractors? __________
- Certificate of insurance required prior to commencement of work? __________
- Liability limits equal to yours? __________
- Hold harmless language on your behalf? __________Additional Insured coverage for you provided on the subcontractor's GL policy? __________
- Copies of any EIFS exclusions attached to subcontractor's policy provided to you? __________

10. Please provide a copy of the subcontract used with EIFS subcontractors.

11. Have you ever had an EIFS Claim? __________If yes, please provide details.

12. Occupancy of structures to which EIFS was applied by percent:

Residential	__________	Office	__________
Retail	__________	Commercial	__________
Hospitality	__________	Industrial	__________

13. Estimated % of your projects that Require EIFS installation (either subbed or self-performed)____

14. Exposure (Cost/Receipts) for EIFS for the coming year? ______________
    Percent self performed __________
    Percent subcontracted __________

____ Insured's Signature and Date (Mandatory)

Initial Gatekeeping – Document Review

- Plans of all exterior elevations where EIFS is to be constructed
- Sections and details of all exterior elevations where EIFS is to be constructed
- Specification subsections for EIFS
- Submitted and approved EIFS shop drawings
- Submitted and approved product data for:

  Substrate Board

  Water-Resistive Barrier

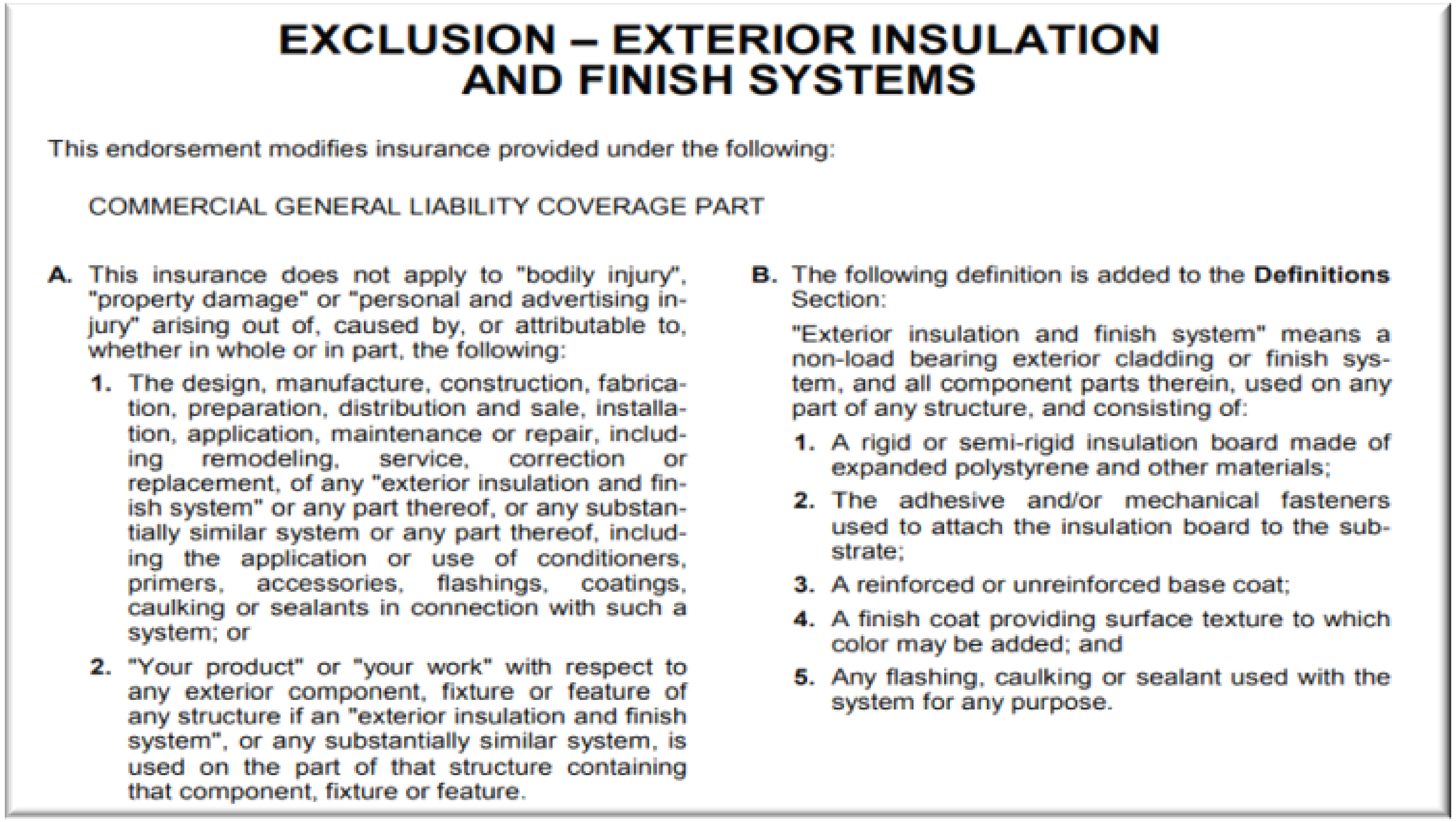
  Adhesive

  Polystyrene Insulation

  Finish Systems and Mesh

  Flashing and Weep Holes

ISO Standard EIFS Exclusion



EXCLUSION – EXTERIOR INSULATION AND FINISH SYSTEMS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of, caused by, or attributable to, whether in whole or in part, the following:

1. The design, manufacture, construction, fabrication, preparation, distribution and sale, installation, application, maintenance or repair, including remodeling, service, correction or replacement, of any "exterior insulation and finish system" or any part thereof, or any substantially similar system or any part thereof, including the application or use of conditioners, primers, accessories, flashings, coatings, caulking or sealants in connection with such a system; or
2. "Your product" or "your work" with respect to any exterior component, fixture or feature of any structure if an "exterior insulation and finish system", or any substantially similar system, is used on the part of that structure containing that component, fixture or feature.

B. The following definition is added to the **Definitions** Section:

"Exterior insulation and finish system" means a non-load bearing exterior cladding or finish system, and all component parts therein, used on any part of any structure, and consisting of:

1. A rigid or semi-rigid insulation board made of expanded polystyrene and other materials;
2. The adhesive and/or mechanical fasteners used to attach the insulation board to the substrate;
3. A reinforced or unreinforced base coat;
4. A finish coat providing surface texture to which color may be added; and
5. Any flashing, caulking or sealant used with the system for any purpose.

- Excludes "BI", "PD" or "P&AI" arising out of, caused by, or attributable to, whether in whole or in part…
- Effectively a total exclusion
- Available for use in most states and DC.
    - AK uses CG3270

Example: Limited EIFS Exclusion

Availability will vary

This endorsement modifies insurance provided under the:

Commercial General Liability Coverage Part

A. This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of, caused by, or attributable, whether in whole or in part, to the following:

1. The design, manufacture, construction, fabrication, preparation, distribution and sale, installation, application, maintenance or repair, including remodeling, service, correction or replacement, of any "exterior insulation and finish system" or any part thereof, or any substantially similar system or any part thereof, including the application or use of conditioners, primers, accessories, flashings, coatings, caulking or sealants in connection with such a system, on any "residential building construction" or "frame building"; or

2. "Your product" or "your work" with respect to any exterior component, fixture or feature of any structure if an "exterior insulation and finish system", or any substantially similar system, is used on the part of that "residential building construction" or "frame building" containing that component, fixture or feature.

Key Takeaway: Differentiation Dictates Coverage

Standing out in the market

- Quantify the EIFS exposure (historical and forecasted)
- Demonstrate history with EIFS
- Define risk management strategies; highlighting:
  - Contract Management
  - Subcontractor Selection
  - QA/QC Protocols
  - Training

Potential carrier responses

- EIFS Exclusions have been relatively standard for decades
- EIFS coverage (or exclusion removal) may increase premiums
- Carrier acceptance may require increased risk sharing (deductible) or reduced capacity

Q&A

Thank You