

Advancements in EIFS (Exterior Insulation and Finish Systems) for Today's Building Envelope Design Challenges





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Learning Objectives

1. Re-introduce Exterior Insulation and Finish Systems (EIFS) composition and versatility through component roles and system options
2. Introduce new technology and design enhancements related to impact resistance, durability and long-term performance
3. Explore the full range and options for EIFS such as restoration, renovation and modularization constructions
4. Understand building envelope wall code complexity such as continuous insulation, air-water-resistive barrier integration and fire testing performance and how a single sourced EIFS cladding easily complies

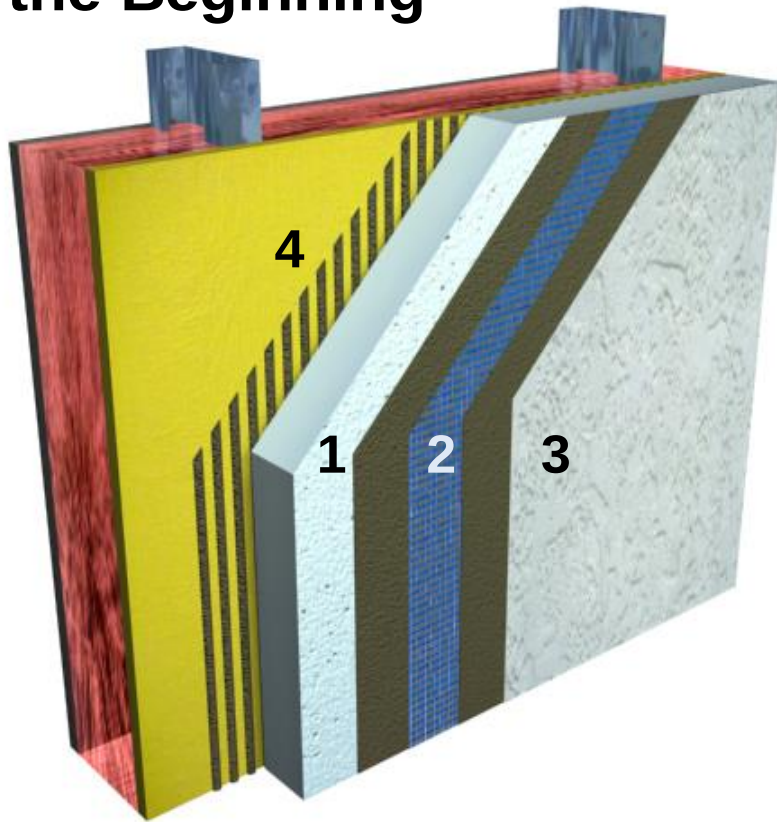
Goals and Objectives

Exterior Insulation and Finish Systems (EIFS)

- Composition and Versatility
- Systems and System Components
- High Impact Protection
- Standard and Specialty Finish Options
- Enhanced Performance Options
- Restoration / Renovation
- Modular / Penalization Construction
- Code Compliance
- Resiliency, Sustainability and LEED
- Project Case Study(s)
- Summary

EIFS Composition

In the Beginning



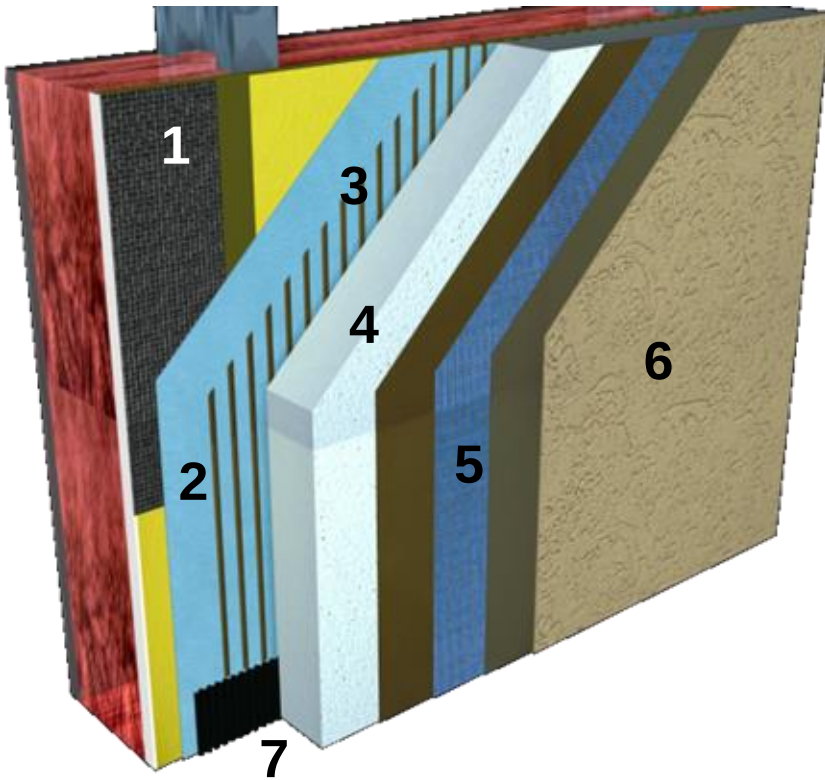
Barrier EIFS

1. Expanded Polystyrene Insulation (EPS)
2. Reinforcing Mesh embedded in Base Coat
3. Integral colored textured Finish
4. Attached directly to an approved substrate
 - a. Adhesive
 - b. Mechanical
5. All Building Types Except Type V R1 through R-4

First Installed in 1969 – Still Installed TODAY

EIFS Composition

Today



EIFS with Drainage

1. Fluid applied flashing
2. Fluid applied air/water-resistive barrier (AWRB)
3. Vertical notched Adhesive / Drainage Plane
4. Expanded polystyrene insulation (EPS)
5. Reinforcing Mesh embedded in Base Coat
6. Integral colored textured Finish
7. Weep / Drainage terminations
8. For Building Type V, R-1 thru R-4

EIFS Versatility

EIFS, A Wall “System” for any / every Project

- Traditional Barrier / Non-Drainage
- Engineered Moisture Drainage with EPS or XPS
- High Durability Continuous Insulation (CI)
- Light Commercial / Type 5 wood framing / sheathing
- Pre-Fabricated Panels
- Residential Moisture Drainage
- Cement Board MD – Moisture Drainage – non-insulated
- Conventional Stucco / 5 options
- Direct Applied Finish

EIFS Versatility

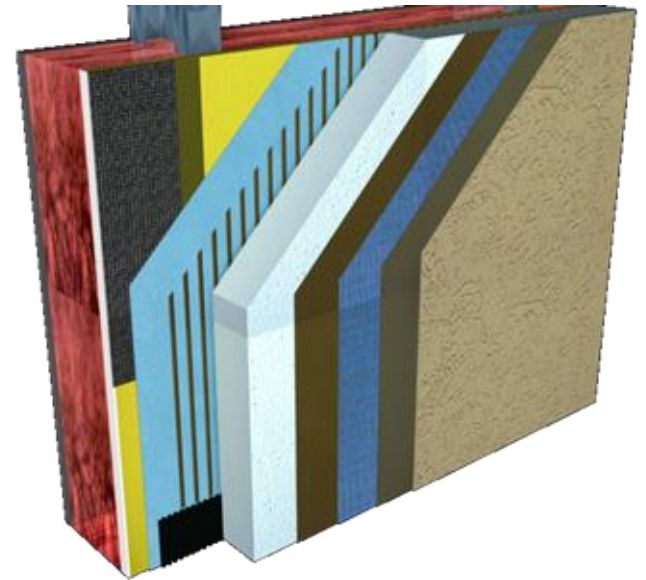
EIFS, A Finish “Solution” for any / every Wall

- Standard and Specialty Finishes
 - Stucco, Brick, Granite, Limestone, Metal Insulated Cladding Systems
- Freedom for Architectural Style and Character
- Air/Water-Resistive Barriers (AWRB)
 - Behind other claddings
- Paint Coatings
- Restoration for EIFS and Stucco
- Overclad Renovation option for other existing claddings

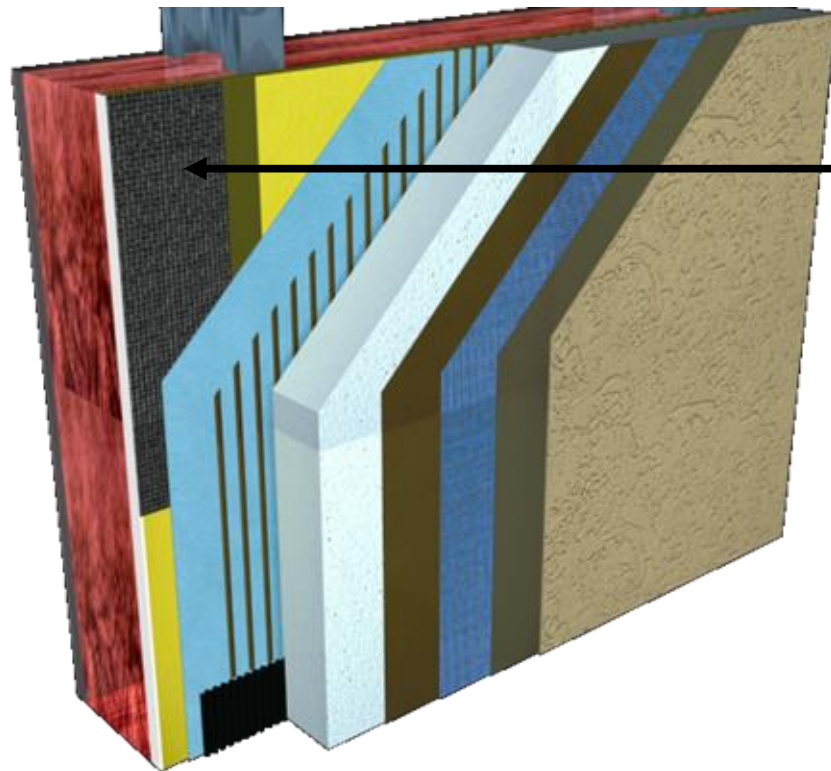
EIFS Composition

Exterior Insulation and Finish Systems (EIFS)

- Non-structural
- ***Continuous Insulation*** and ***AWRB*** are integral components of the 'system'
- Single-Sourced Solution for:
 - Building and Energy Code Compliance
 - Flashing
 - Water-Resistive Barrier
 - Air Barrier
 - Continuous Insulation
 - Fire – NFPA 285
 - Integral color / texture Finish
 - Any Architectural Style & Aesthetic
 - Comprehensive Warranty



Insulated Claddings - EIFS



Meet the intent of the code

Critical Components:

Flexible Flashing Material

- “Fluid” applied with reinforcing fabric
- Seamless assembly
- Protects against moisture penetration into wall structure
- Located at all wall penetrations
- Compatible with fluid applied air/water resistive barrier
- Flexible - accommodates all shapes and sizes

Flashing for Rough Openings



All penetrations – windows, doors, louvers, etc.

Flashing Wall Penetrations

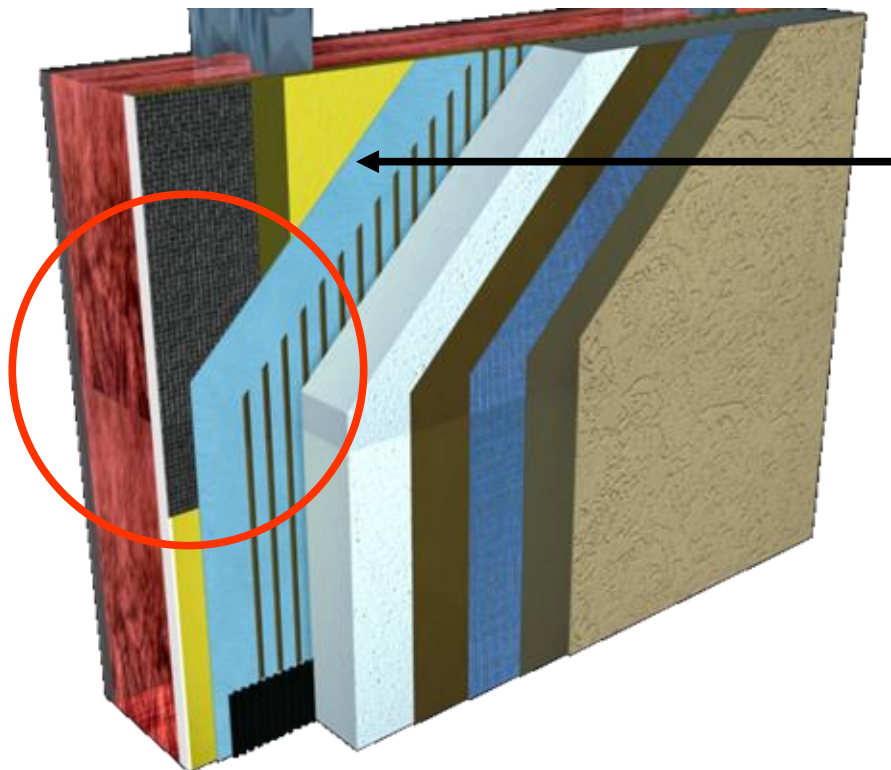
- Electrical boxes / conduits / Scuppers
- PTAC / HVAC / Plumbing
- Expansion Joints – Floor line / Building
- Change of substrates



Flash all Penetrations / Joints / Transitions

Insulated Claddings - EIFS

Critical Components:



Meet the intent of the code

Air/Water-Resistive Barrier

- “Fluid” applied by trowel, roller, or sprayer
- Seamless air / weather barrier
- Breathable – 7 perms
- Protects against moisture penetration into wall structure
- Ties into penetration flashing & Adhesive materials

Chemical Bond – Either layer can come first

Treating Board Joints & Fasteners



Apply Air / Water-Resistive Barrier



Air & Moisture Penetration Protection

Integrate Flashing & Barrier



Either layer can come first

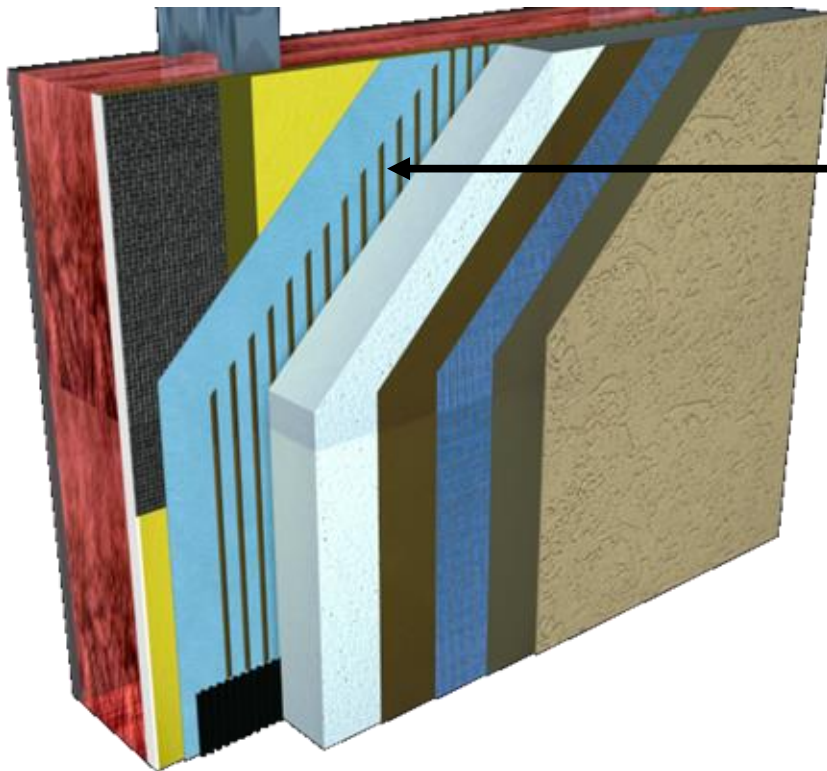
Continuous Seamless Protection



Fully prepared secondary weather barrier envelope

Insulated Claddings - EIFS

Critical Components:



Adhesive

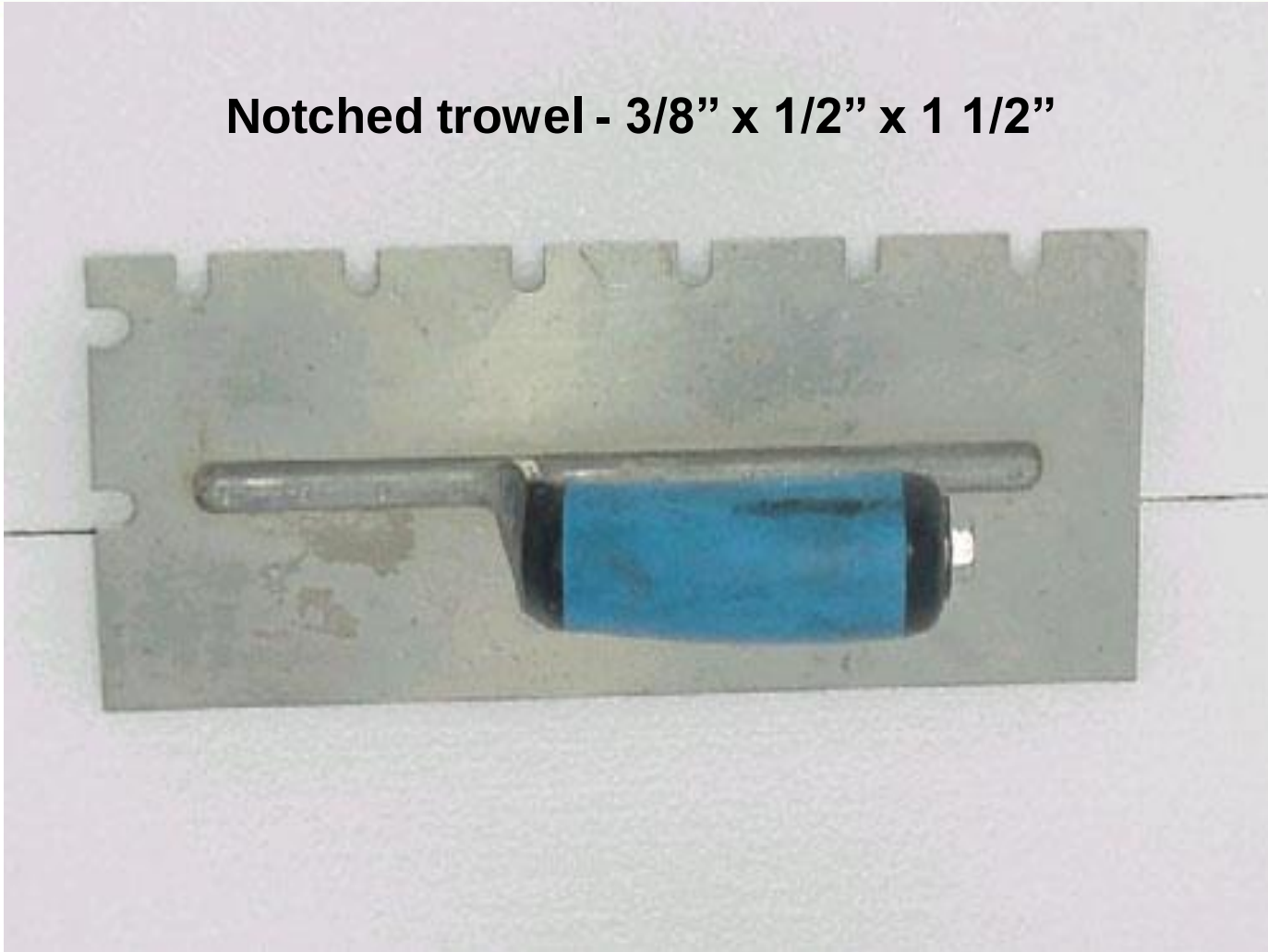
- Adheres insulation to air / weather-resistive barrier
- Vertical notched pattern allows for incidental moisture drainage

Meet the intent of the code

Establish the “Drainage” Plane

Adhesive Attachment

Notched trowel - 3/8" x 1/2" x 1 1/2"



Specific Trowel Size / Pattern “Required”

Adhesive Attachment



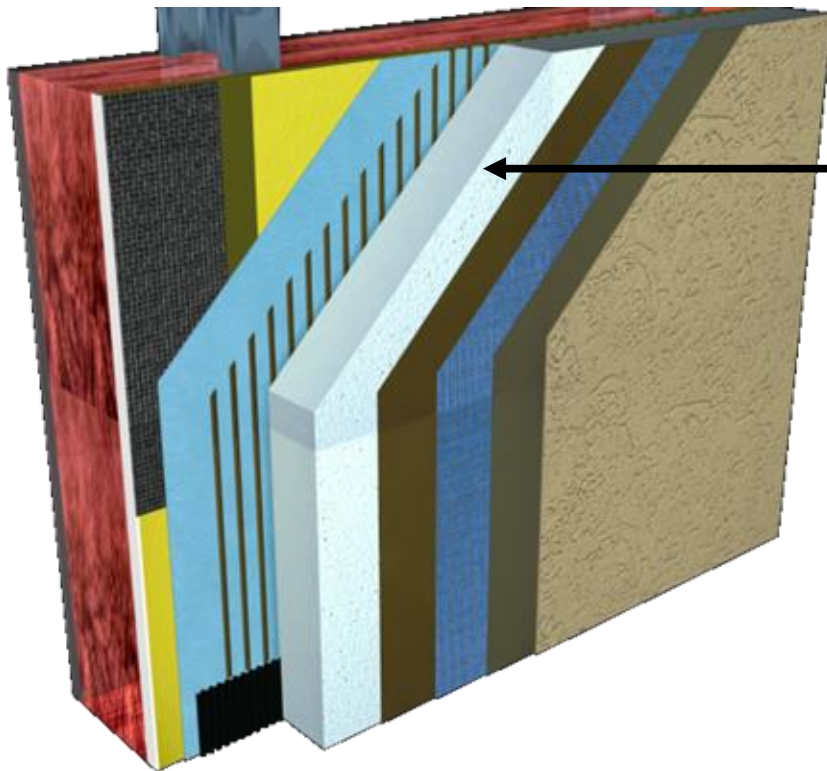
**Use the proper notch trowel
to create the Drainage Plane**



Specific Trowel Size / Pattern “Required”

Insulated Claddings - EIFS

Critical Components:



Insulation

- R-value (3.85 / inch)
- 1 Inch Minimum
- Superior energy efficiency
- Eliminates thermal bridging
- Controls dew point / condensation
- Shaped to create any detail / style
- Fire tested up to 13"

Meet the intent of the code

Warm the Underlying Wall

Insulation Options

EPS



Expanded Polystyrene (EPS) is molded into a block and cut into boards composed of closed cell beads with air spaces between

XPS



Extruded Polystyrene (XPS) is a continuous board of closed cells with no spaces.

You now have 2 options

Insulation Options

Performance Characteristics	EPS	XPS
R-Value - Thermal Resistance, per inch, ASTM C518 @ 75° F mean temp., ft ² •h•° F/Btu, R-value ⁽¹⁾ , min.	R = 3.85 / inch	R = 5.0 / inch
Impact Resistance ASTM 2486, in-lbs, using 6.0 oz / sq yd mesh	56 in-lbs	76 in-lbs.
Compressive Strength ASTM D1621, psi, min.	10 psi	20 psi
Water Absorption ASTM C272, % by volume, max.	4.0 %	0.3 %
Perm Rating ASTM E-96, perm for 1" thickness	5.0 perms	1.5 perms*

* Caution - Nearly a Vapor Barrier

XPS – 39% higher R-value / 36% higher Impact Resistance 24

Insulation Limits – Thickness

- EPS Insulation
 - Minimum
 - 1" to allow for proper rasping / leveling
 - 1.5" to allow for Aesthetic joint / groove
 - Maintain minimum $\frac{3}{4}$ " behind the groove
 - Maximum
 - 12" from face of substrate
 - Fire tested to 13"
 - 4" or thinner
 - Must be installed in maximum 4" layers / lifts

Insulation Limits – Thickness

- XPS (extruded) Insulation
 - Minimum
 - 1” to allow for proper rasping / leveling
 - 1.5” to allow for Aesthetic joint / groove
 - Maintain minimum $\frac{3}{4}$ ” behind the groove
 - Maximum
 - 4” from face of substrate
 - Fire tested to 4”
 - » Higher density, higher Btuh
 - Available in 1”, 1.5”, 2”, 3” and 4” thickness

Insulation Limits – Projection / Slope

- Projection
 - Maximum 12” of exposed sloped surface
 - Greater than 12”, must be treated as a roof surface
 - Improved performance through
 - Double layers of reinforcing mesh
 - » Improved impact resistance to hail
 - Waterproof base coat
 - » Improved resistance to water penetration
 - Smooth to even painted finish
 - » Improved resistance to snow / ice retention
- Slope
 - Minimum 1:2 ratio (30°)
 - Greater the projection, greater the slope encouraged

Joints in EIFS

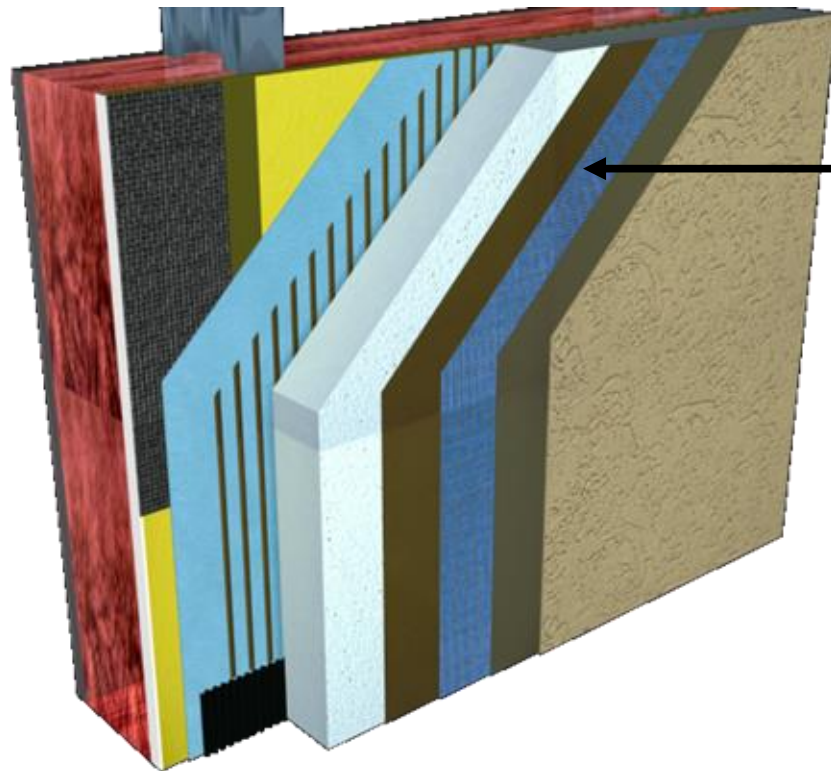
- **Reveal Joint – Aesthetic purpose only**
 - Breaks up elevation for scale, change of color and proper textured finish application
 - Requires minimum $\frac{3}{4}$ " thick insulation behind joint
 - Can be any profile
 - V-groove is typical
 - Lower horizontal surface must have positive slope
- **Full Expansion Joint**
 - Addresses anticipated movement
 - Full break / separation within EIFS
 - Fully backwrapped and encapsulated edge
 - Return edge is prepared to receive primer and sealant

Expansion Joint Locations

Expansion Joints should be located . . .

- Where expansion joints occur in the underlying substrate system or building
- Where the underlying substrate type changes
- Where significant structural movement occurs, such as changes in roof line, building shape or structural system
- At floor line in wood frame construction
- At floor line / under slab edge metal framed buildings where slab edge deflection is anticipated
- Where the EIFS System abuts dissimilar materials – i.e. window frame
- In continuous elevations at intervals not exceeding 75 ft (23 m)
- Where prefabricated EIFS panels abut one another

Insulated Claddings - EIFS



Critical Components:

Base Coat / Reinforcing Mesh

- Primary weather barrier
- Provides for impact-resistance & tensile strength
- Panzer “High-Impact” mesh options

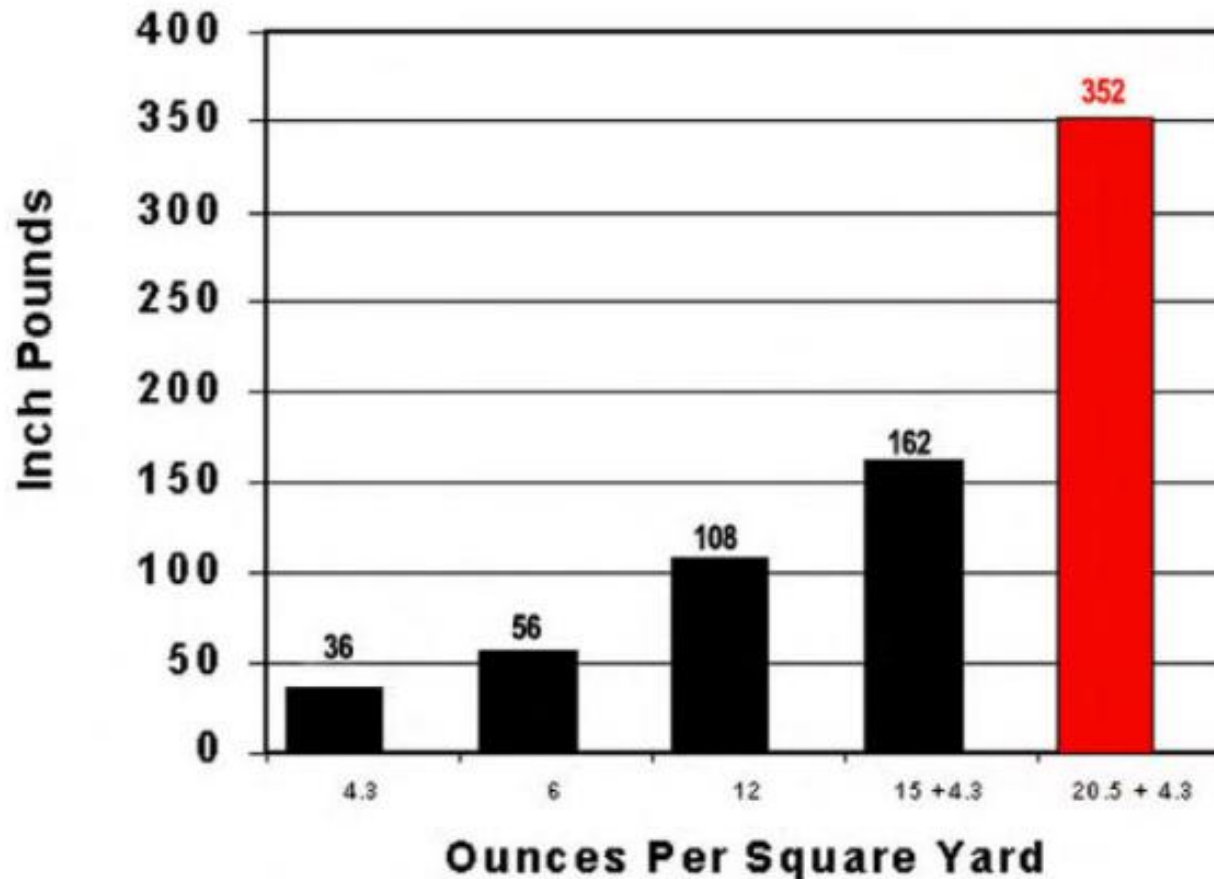
Meet the intent of the code

Embed Mesh into “Wet” Base Coat



Mesh Color – BLUE – Must be hidden

High Impact Mesh Assembly



For high traffic areas, specify 20.5 + 4.3 oz. of mesh, achieving 352 inch pounds of impact resistance.

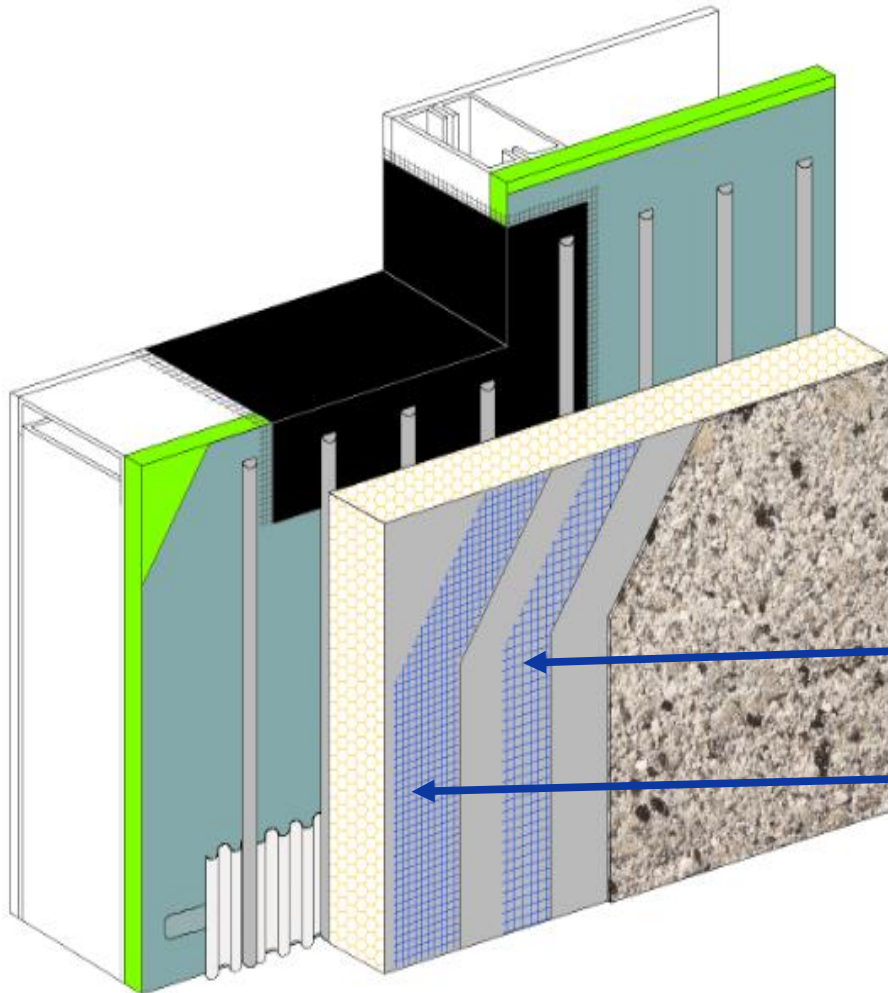
High Durability CI EIFS

Common impact challenges:



- New High Durability Continuous Insulation (HDCI) EIFS
 - 20 year impact warranty protection
 - Normal wear-and-tear / unintentional surface impact damages
 - ***Repaired at no cost to building owner***
 - Ultra-High Impact Resistance Mesh Assembly required throughout

High Durability CI EIFS



Ultra-High Impact Reinforcing Mesh

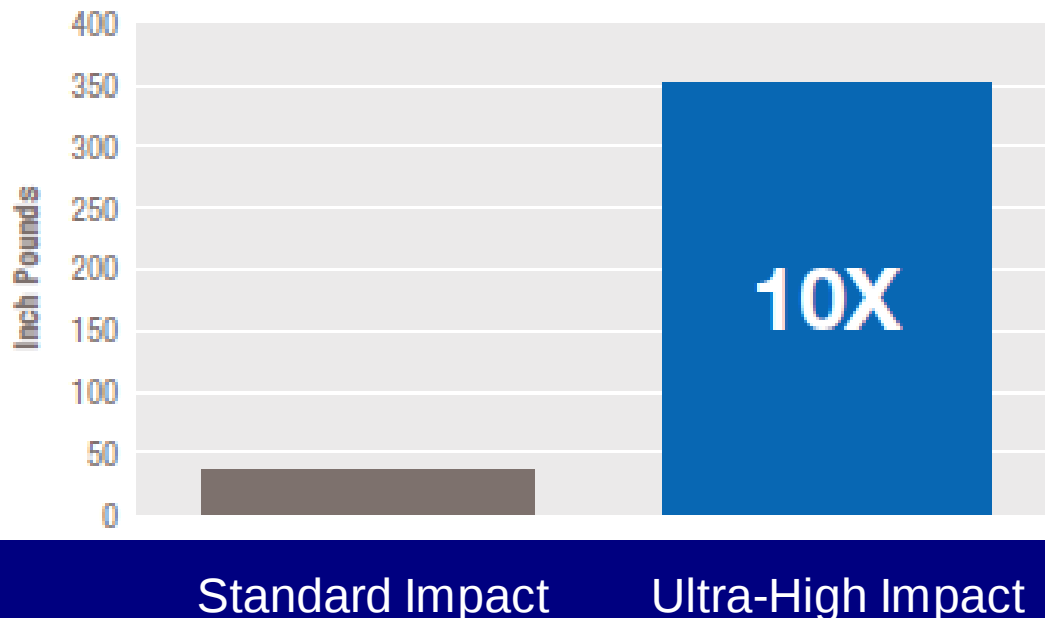
- Reinforcing mesh installed in 2 individual layers
- 4.3 oz. / sy reinforcing mesh installed over
- 20 oz. / sy reinforcing mesh

Comparative Impact Resistance

- The result is unmistakable

**10X More
Impact Resistant**

Comparative Impact Resistance of
Reinforcing Meshes



High Impact Mesh Assembly

- **Where do I reference this in contract documents?:**

1. Elevations

- Indicate in elevation drawings where required with cross hatching or notations
 - Reference heights and widths to allow for sf take-off

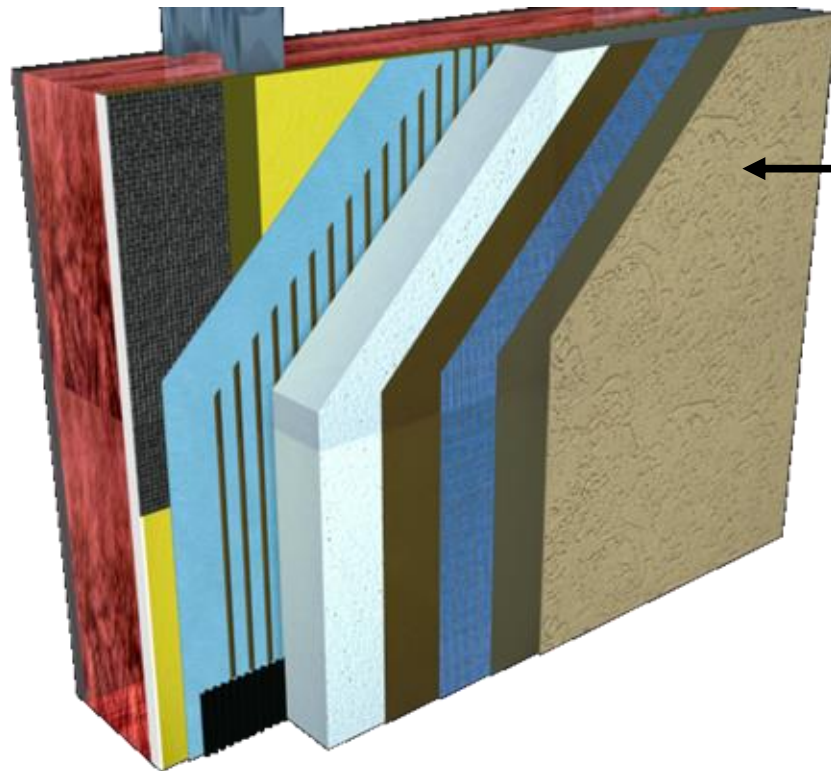
2. Specifications

- Indicate in specifications impact assembly level desired and again to what height / width.
 - ASTM E 2486 Levels
 - » Standard – 4.3 oz.
 - » Medium – 6.0 oz.
 - » High – 12 oz oz.
 - » Ultra-High – 15 or 20 oz. + 4.3 oz.

DEFS = TAFS

- Direct applied Exterior Finish System
 - Uninsulated Soffits
 - Mesh/Base-Coat/Finish over Approved Substrate
 - No EPS Foam
 - Soffit Must be Enclosed/Protected from Weather
 - Expansion Joints Every 20'
 - Other Substrates
 - Stucco – New or Existing
 - ICF – (Be Careful)
 - CMU or Concrete

EIFS with Drainage



Critical Components:

Textured Finish

- Decorative coating
- Unlimited color selection
- Wide range of textures & aesthetic appearance options

Meet the intent of the code

Finishing Options



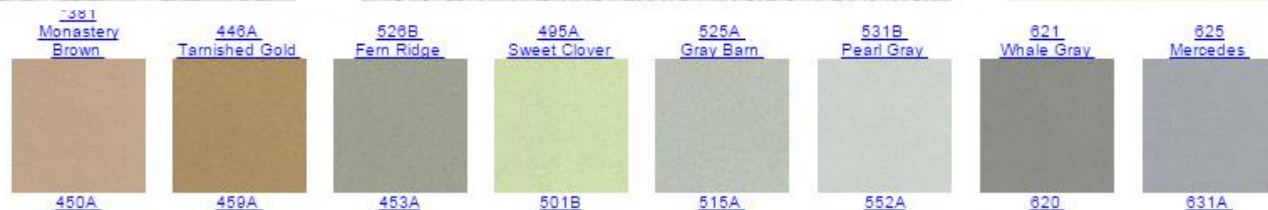
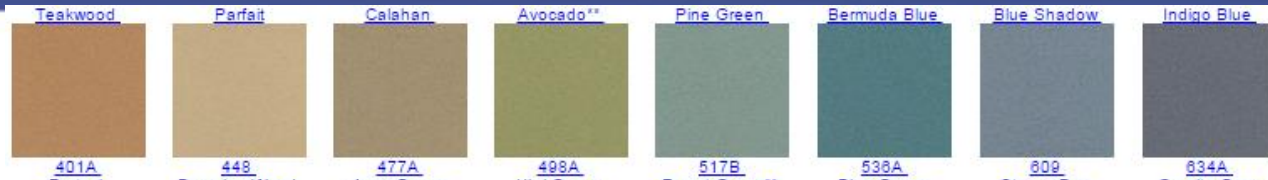
Insulated Claddings can replicate the look of stucco, brick, limestone, granite or metal in almost any color imaginable

Full Palette of Aesthetic Options

Even Wood



Standard Textures / Colors



Multiple Textures / 100's of colors

Options

- Show Buildings Montage

Hydrophobic Chemistry

Water Repelling Surface

- Available in both textured finish and paint coatings
 - Beads and repels water
 - Reduces dirt pick-up
 - Lends to cleaner surface



High Performance Colorant

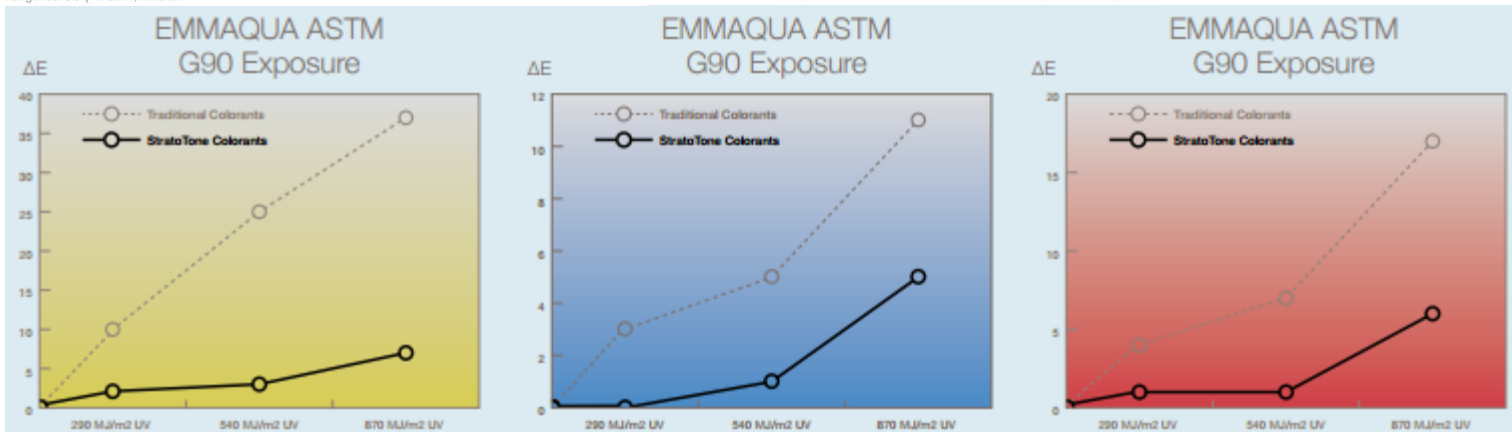
- Enabling high profile, brand imaging colors
- Enhanced fade resistance / dramatically reduced maintenance cost



Tanger Outlets | Phoenix, Arizona



Whitener Law Offices | Albuquerque, New Mexico



ASTM G90 is the Standard Practice for Performing Accelerated Outdoor Weathering of Nonmetallic Materials Using Concentrated Natural Sunlight. Full test details available upon request.

Solar Heat Gain / UV Exposure

- Rules of thumb
 - Insulation could deform with prolonged exposures of 165° F. or higher
 - Be aware of adjacent building or perpendicular wall reflection patterns / tracks
 - Window or glass curtain wall
 - Metal panel

Specialty Finishing Options



Brick / Masonry Aesthetic

Specialty Finishing Options



“New” Smooth Limestone Texture Aesthetic

Specialty Finishing Options



“New” Polished Granite Aesthetic

Specialty Finishing Options



“New” Metal Panel Aesthetic

Single Source Solution

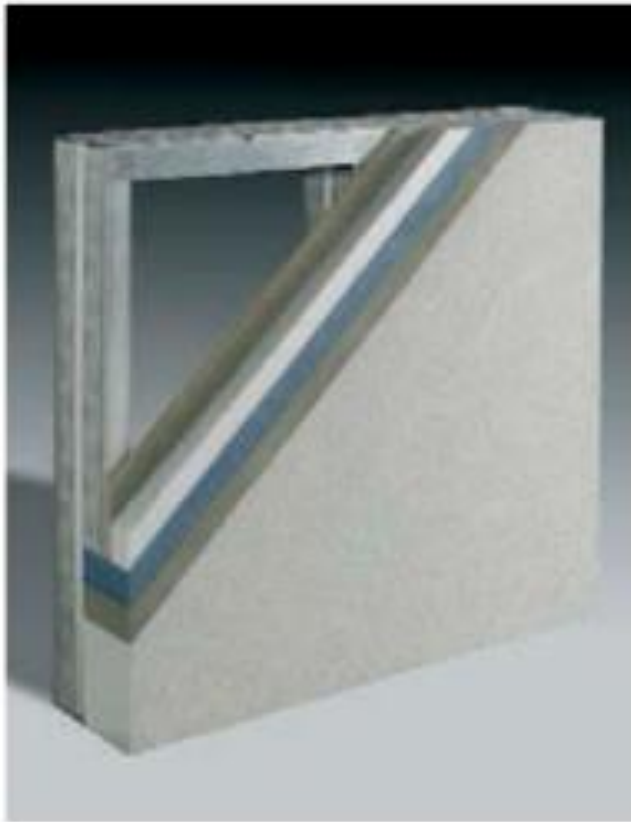
- Multiple Finishes / One Cladding & A/W Barrier



Single Sourced for Cladding, Installer, Manufacturer & Warranty

Modularization

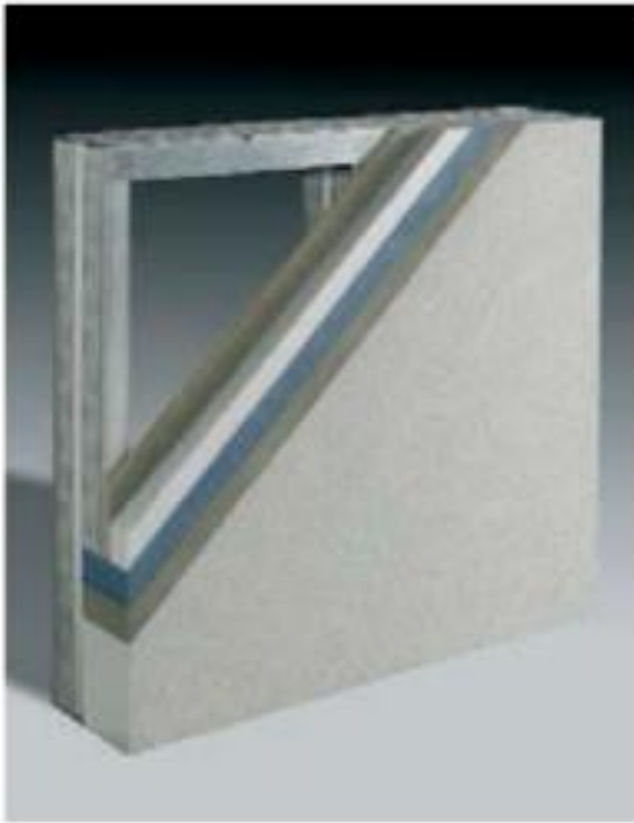
- EIFS Clad Pre-Fabricated Panels



Prefabricated Panel Options

EIFS Composite Panels

- Full wall assembly



Fast Track Building Enclosure

EIFS “only” Panels

- Lightweight
- New or Renovation



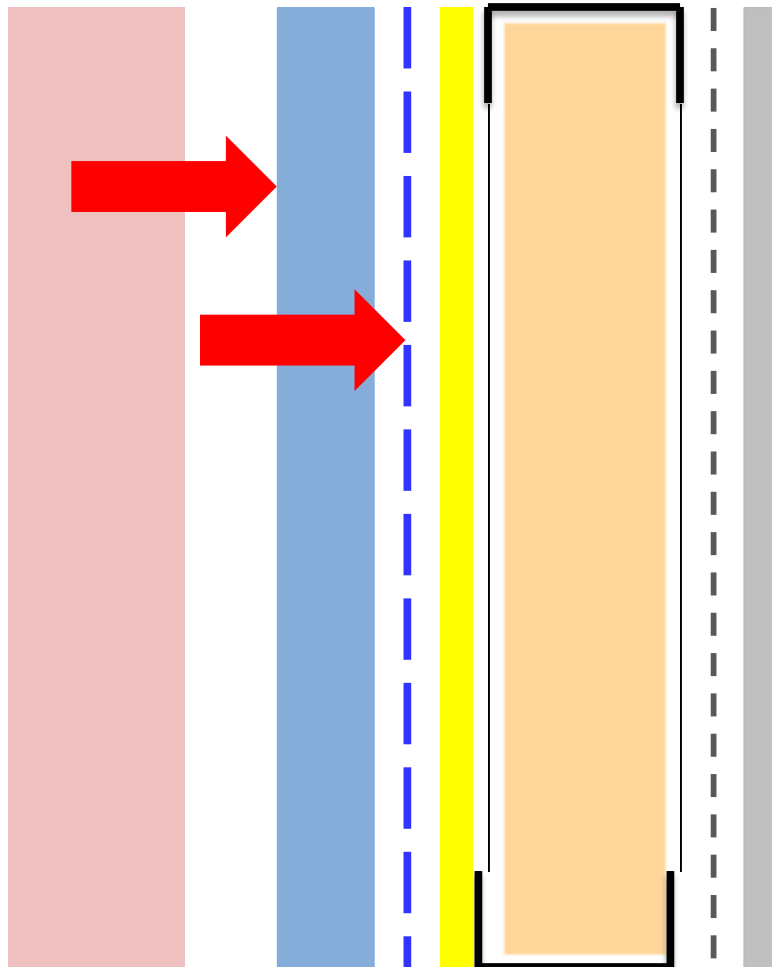
Ideal Solution for Existing Buildings

Code Compliance

EIFS Meets all Following Code Requirements Specific to the Building Envelope Walls

- IBC Chapter 14
 - Weather Resistive Barrier (WRB)
- IECC / ASHRAE Standard 90.1
 - Continuous Air Barrier
 - Continuous Insulation
- IBC Fire Testing Compliance
 - NFPA 285

Code Compliance



NFPA 285 Fire Testing Compliance

Exterior walls in Type I - IV constructions

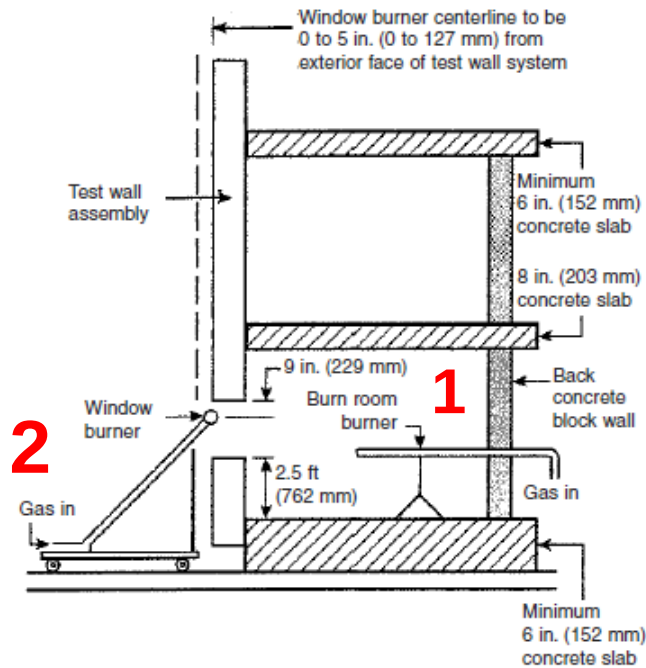
- Continuous Insulation (CI)
 - Walls of any height
- Air/Water-Resistive Barrier (AWRB)
 - Walls greater than 40'-0"
- ***Specific Assembly Test***
 - Exact materials that will be installed in the wall assembly
 - Very few tested assemblies

Building Code Requirements

- International Building Code (IBC) 2012
 - Chapter 26 / Section 2603 – Plastic / Foam Plastic Insulation
 - Section 2603.3 – Surface-burning characteristics
 - Section 2603.4 – Interior thermal barrier
 - Section 2603.5.5 – Fire testing of walls with foam plastic insulation
 - **The “specific” exterior wall assembly shall be tested in accordance with and comply with the acceptance criteria of NFPA 285**

Apparatus Diagrams

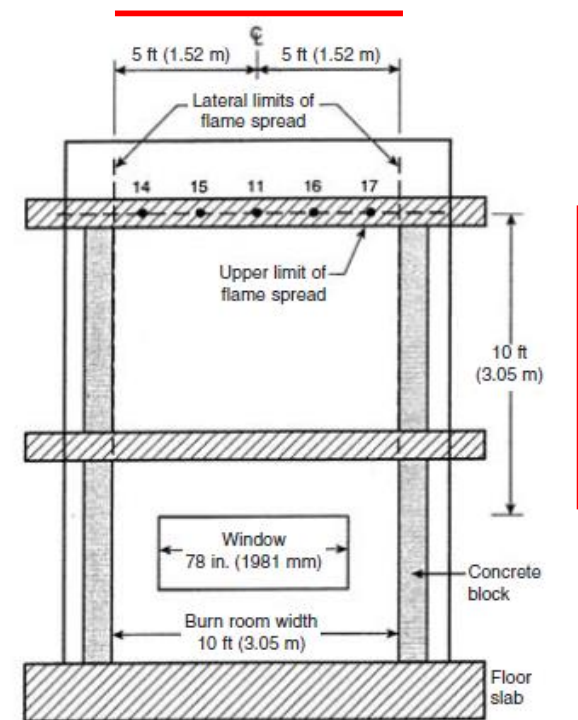
Figure 1: Side View of Burner Placement in First-Story Test Room (not to scale)



NFPA 285-2006 Figure A.4.4.8

1. Fire initially started in lower story room
2. Burner moved into window to simulate fire coming through the window

Figure 2: Limits of Flame Propagation (not to scale)



NFPA 285-2006 Figure 10.2.1.2

1. Max. 10' x 10' spread area
2. Interior, Exterior and within Wall Assembly itself

ASHRAE 90.1 – Part Of IBC 2012

ASHRAE 90.1-2010 Insulation Requirements

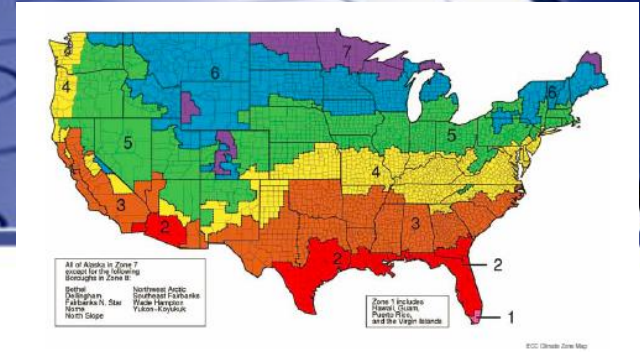
- **Prescriptive R-value** - Cavity + Exterior Continuous Insulation (ci) “only”

CLIMATE ZONE	1	2	3	4 except Marine	5 and Marine 4	6	7	8
Commercial								
Steel framed	R-13	R-13	R-13 + R-3.8 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI
Wood framed and other	R-13	R-13	R-13	R-13	R-13 + R-3.8 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-15.6 CI
Commercial - Use Group R Overnight Occupancies								
Steel framed	R-13	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-15.6 CI	R-13 + R-18.8 CI
Wood framed and other	R-13	R-13	R-13	R-13 + R-3.8 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-15.6 CI

Red denotes increased CI requirements for Use Group R

CODE CHANGE ALERT!

Code Compliance



IECC 2012 Insulation Requirements

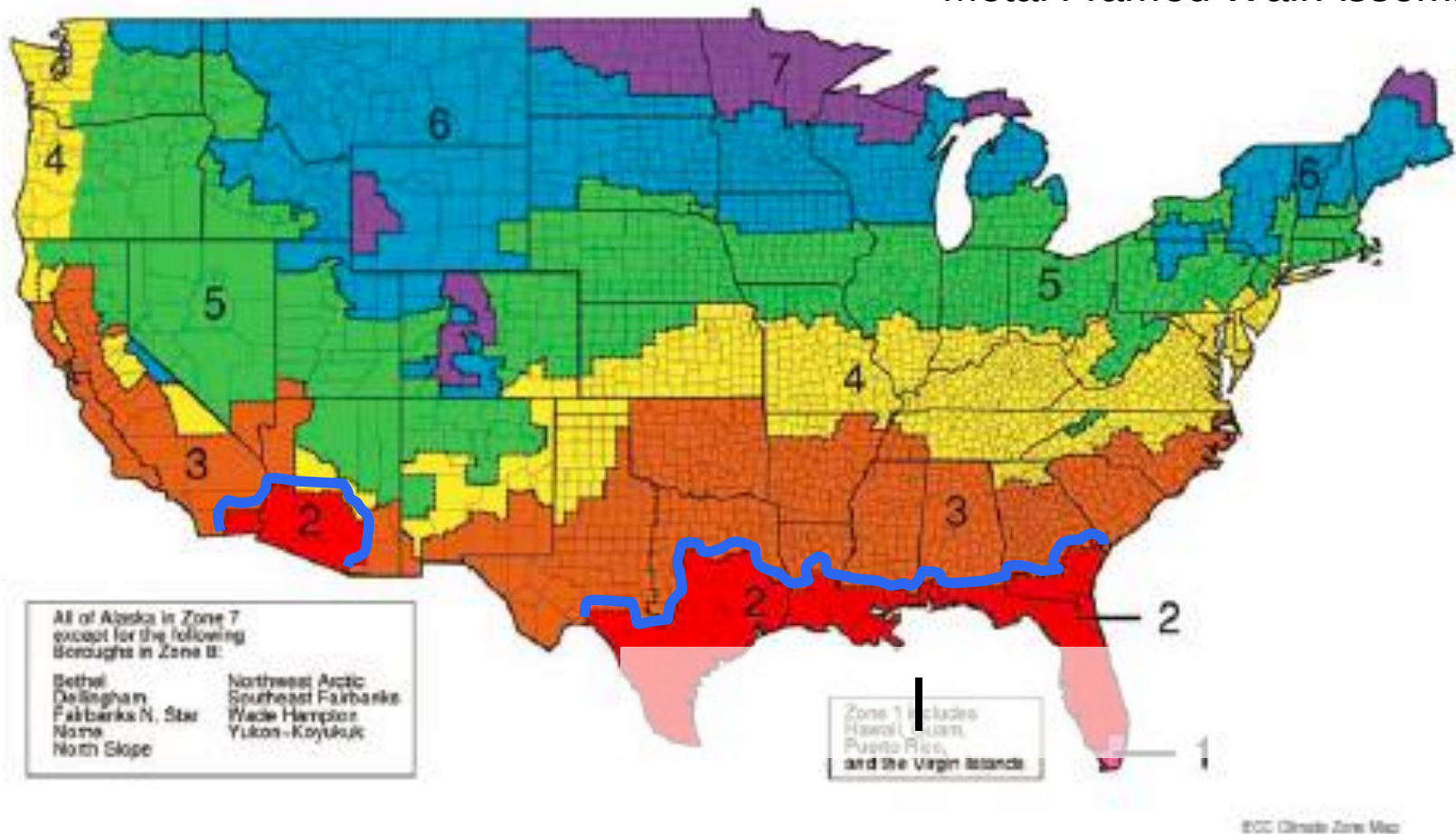
- **Prescriptive R-value** - Cavity + Exterior Continuous Insulation (CI)

CLIMATE ZONE	1	2	3	4 except Marine	5 and Marine 4	6	7	8
Commercial								
Metal framed	R-13 + R-5.0 CI	R-13 + R-5.0 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI
Wood framed and other	R-13 + R-3.8 CI or R-20	R-13 + R-3.8 CI or R-20	R-13 + R-3.8 CI or R-20	R-13 + R-3.8 CI or R-20	R-13 + R-3.8 CI or R-20	R-13 + R-7.5 CI or R-20 + R-3.8 CI	R-13 + R-7.5 CI or R-20 + R-3.8 CI	R-13 + R-15.6 CI or R-20 + R-10.0 CI
Commercial - Use Group R Overnight Occupancies								
Metal framed	R-13 + R-5.0 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-7.5 CI	R-13 + R-15.6 CI	R-13 + R-17.5 CI
Wood framed and other	R-13 + R-3.8 CI or R-20	R-13 + R-3.8 CI or R-20	R-13 + R-3.8 CI or R-20	R-13 + R-3.8 CI or R-20	R-13 + R-7.5 CI or R-20 + R-3.8 CI	R-13 + R-7.5 CI or R-20 + R-3.8 CI	R-13 + R-7.5 CI or R-20 + R-3.8 CI	R-13 + R-15.6 CI or R-20 + R-10.0 CI

CODE CHANGE ALERT!

Code Compliance

Metal Framed Wall Assemblies



Code Compliance

- Third Party Inspection Requirements
 - IBC chapter 17
 - Barrier EIFS
 - All monumental stages of installation
 - » Fluid applied AWRB, EPS insulation, reinforced base coat and textured finish coat
 - EIFS with Drainage
 - Fluid applied AWRB only

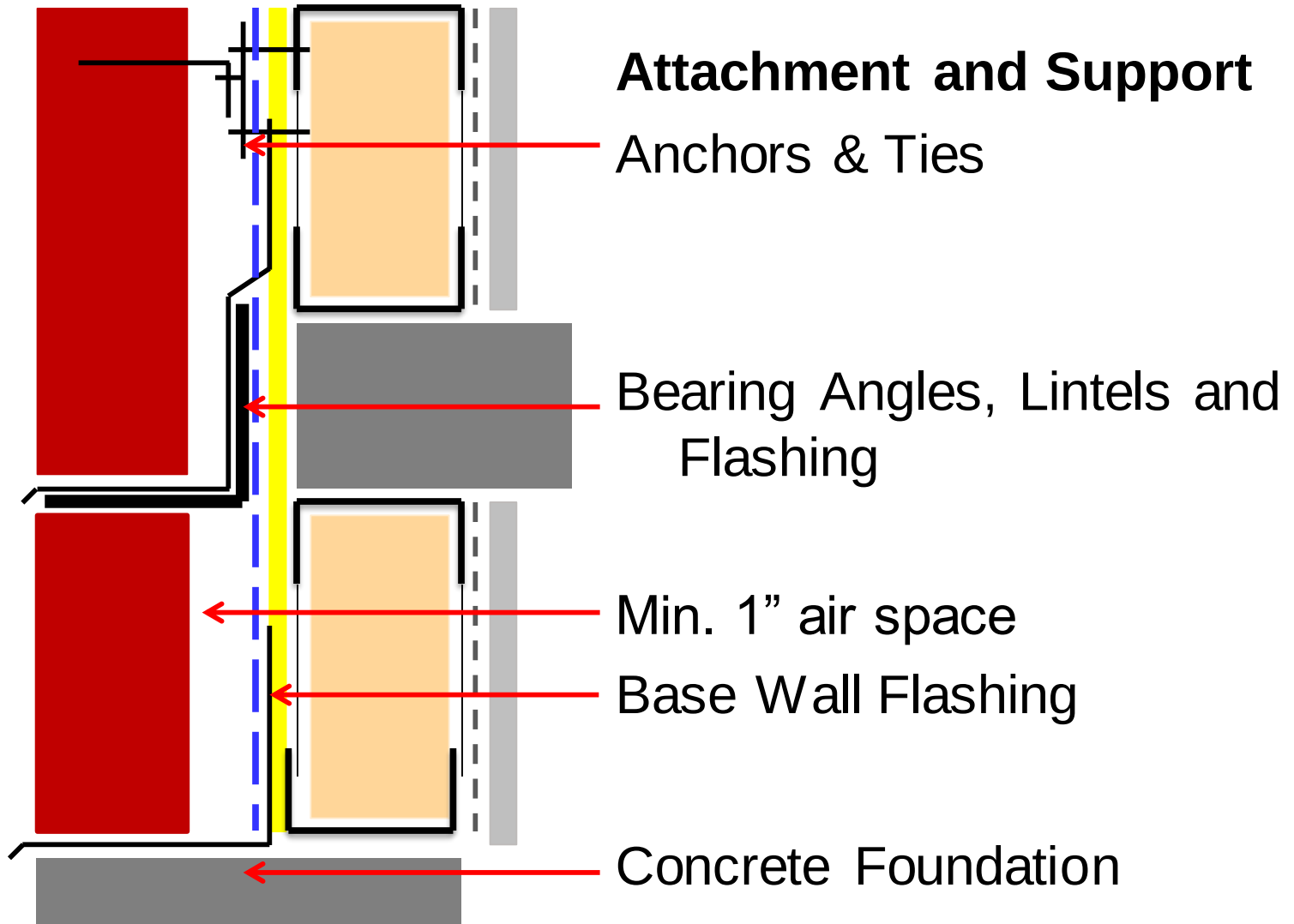
Code Compliance – Barrier EIFS

- Barrier EIFS is allowed . . .
 - Commercial (IBC) – any Type I – V construction
 - Both fire-rated and non-rated walls
 - **Exceptions**
 - Type V - R1, R2, R3, or R4 Occupancy Group
 - Overnight occupancies
 - Residential (IRC)
 - Barrier EIFS on Concrete or CMU walls only
- **Full 3rd Party Inspection Required**

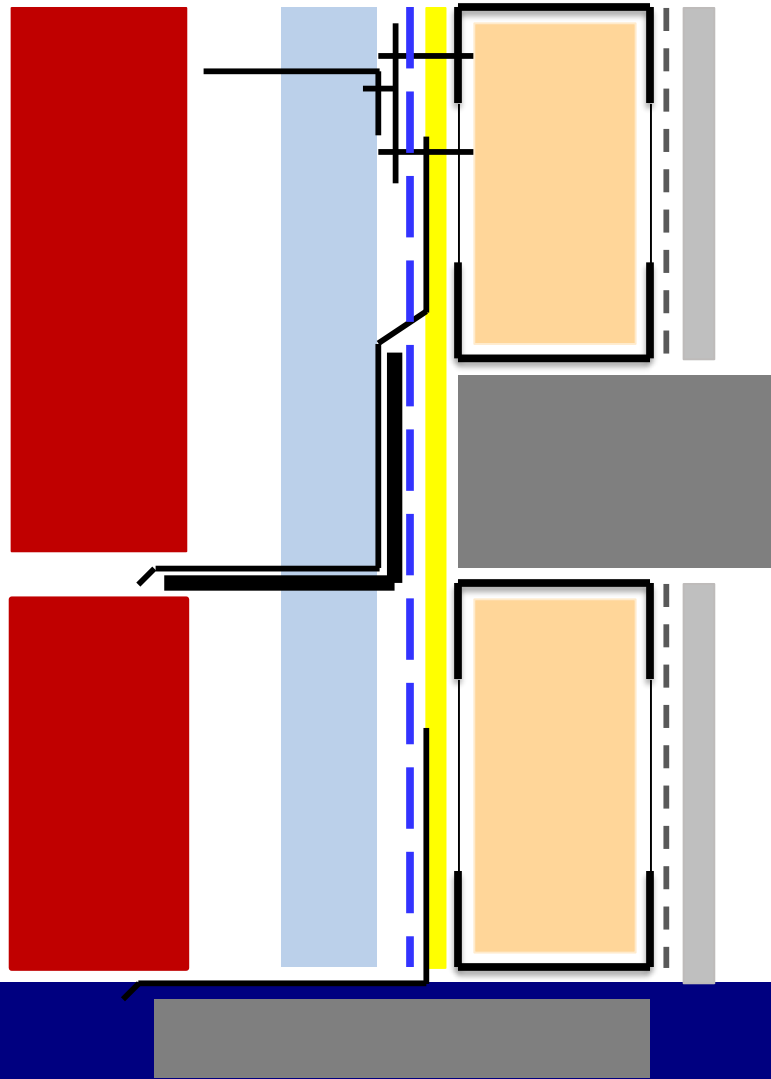
Code Compliance

- Moisture Drainage EIFS is allowed everywhere –
- **Required -**
 - Type V - R1, R2, R3, or R4 Occupancy Group
 - Overnight occupancies
 - Residential (IRC)
- **3rd Party Inspection on Air/Water Barrier Only**

Code Required Integration of CI



Add Continuous Insulation

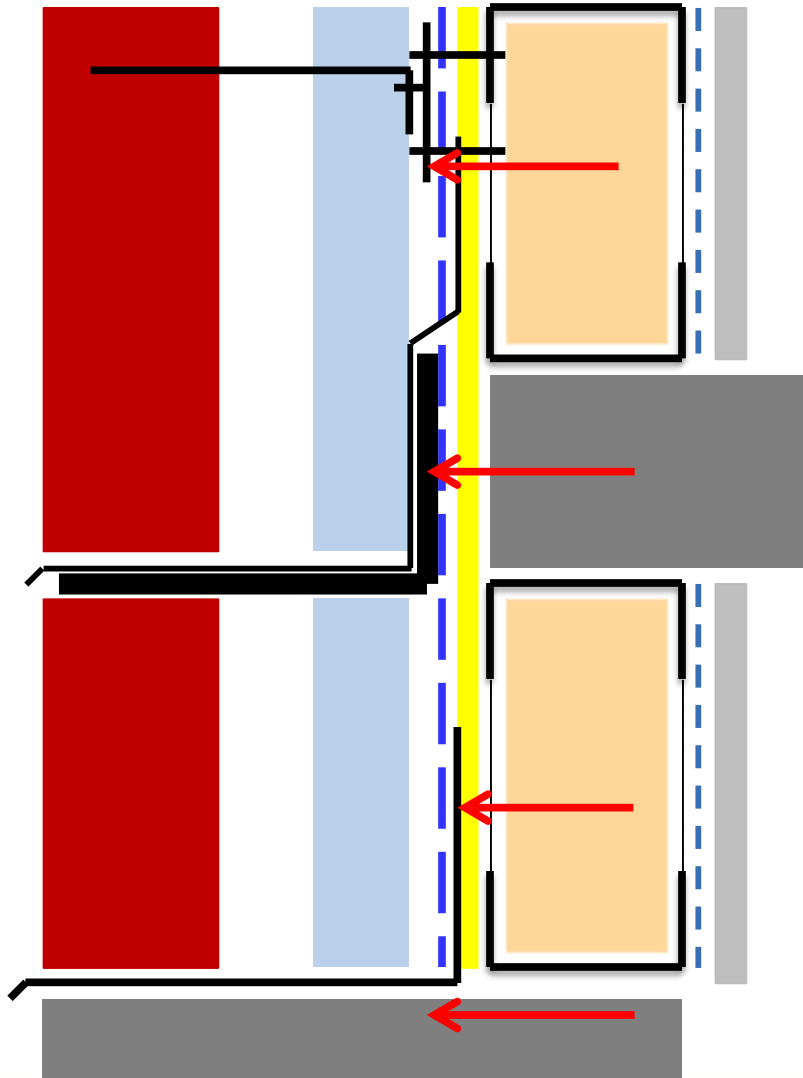


Thermal Barrier Integration

Becomes complicated by adding in the Thermal Barrier (TB) – i.e. Continuous Insulation (ci)

- Requires longer, stronger, thicker and wider attachment, flashings and structure

Integration of CI



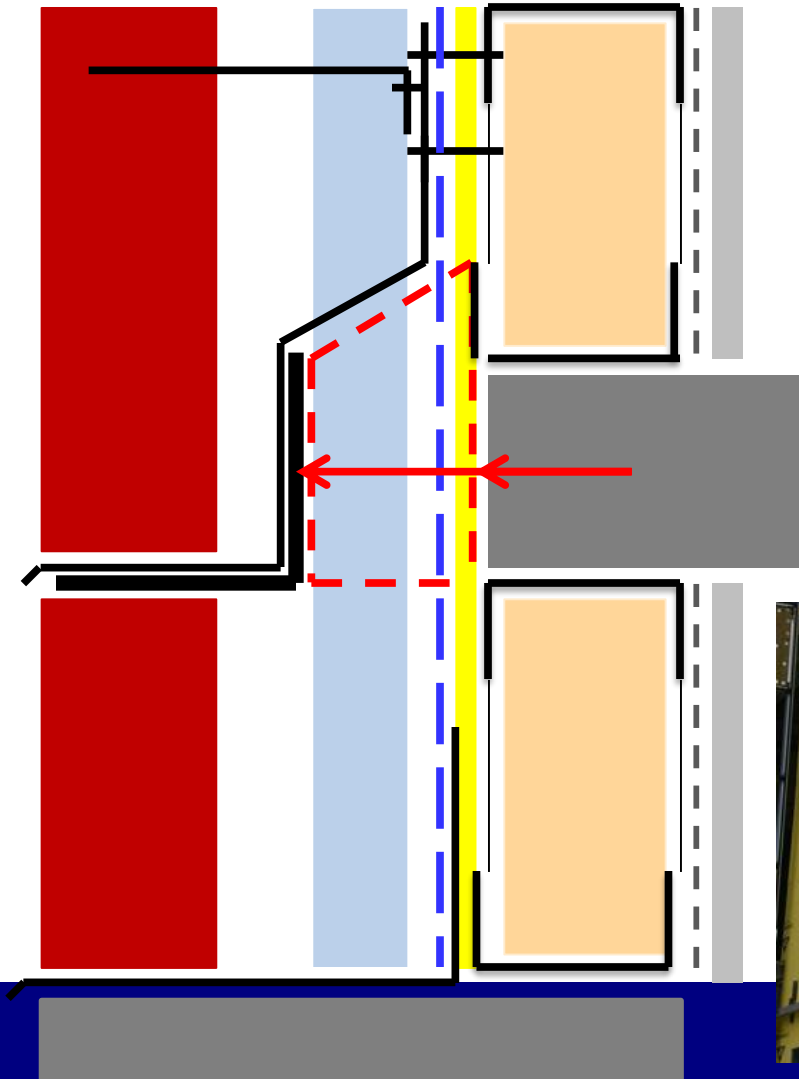
Attachment and Support

Everything must get larger increasing engineering / structural requirements and cost

- Anchors & Ties
- Bearing Angles, Lintels and Flashing
- Base Wall Flashing
- Concrete Foundation

Cost is substantially increased

Add in Code Required CI

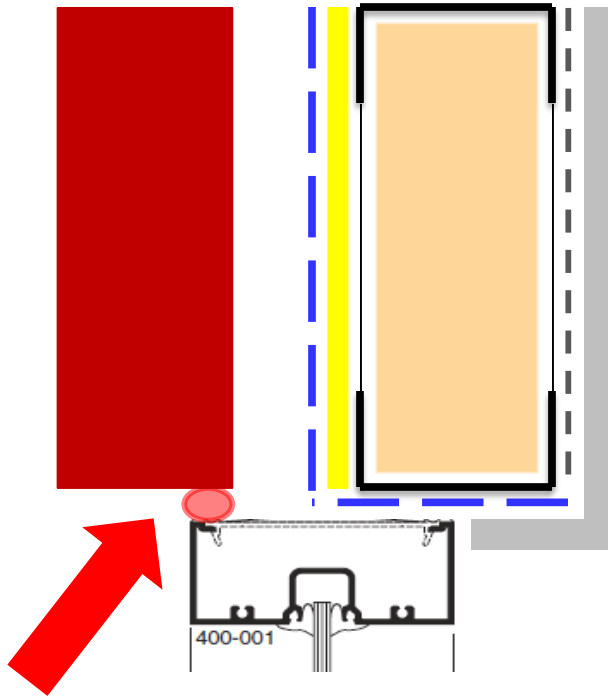


Attachment and Support
Bearing Angle = Thermal Bridge
Bearing angle reconfigured to meet definition of CI

Cost is additionally increased



Detailing Challenges of Adding CI

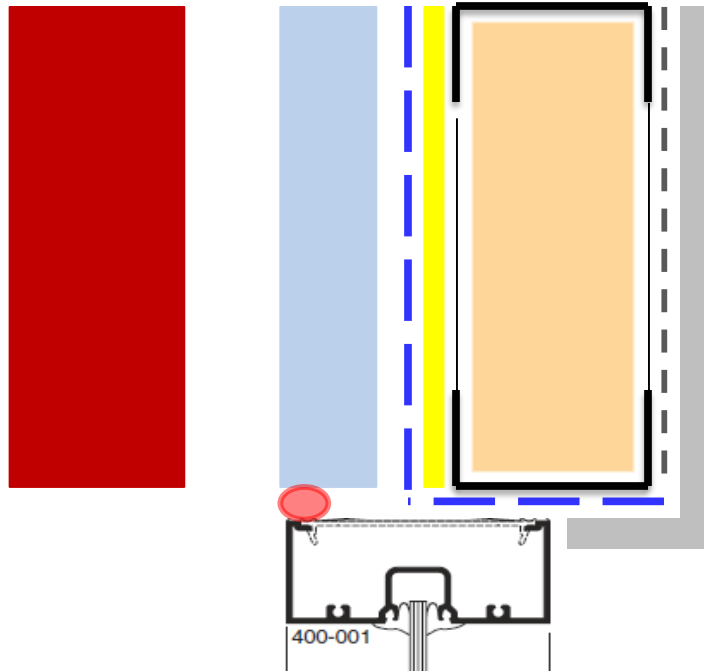


Typical Detailing - Jamb

Wall components are sized, designed and detailed to fit traditional wall conditions

- Windows, doors, louver frames, electrical boxes, etc.
- Solid structural attachments can be made
- Proper “seal” can be accommodated between cladding and wall component
 - Sealant and baker rod

Detailing Challenges of Adding CI

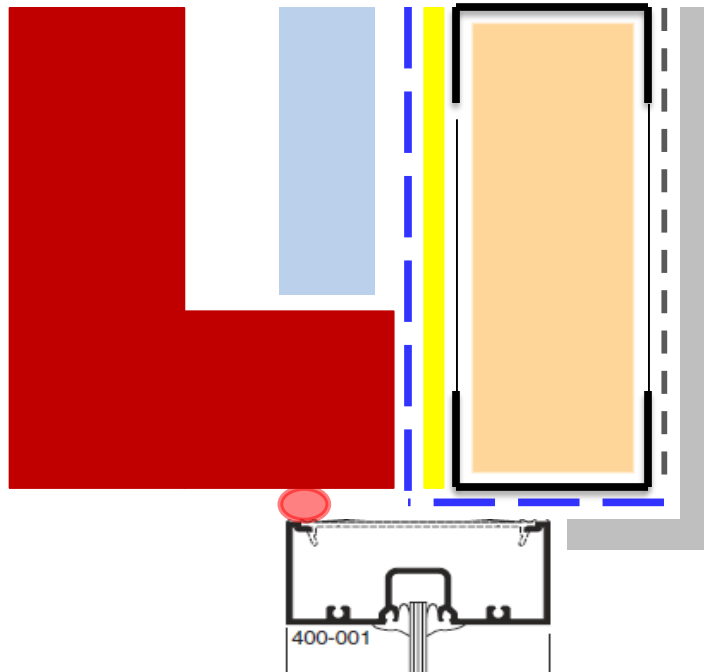


Typical Detailing - Jamb

Conditions Change Drastically

- Traditional wall components no longer “fit” the conditions
- Proper “seal” cannot be accommodated
 - Veneer cavity is left open
 - Sealant cannot bond to CI

Detailing Challenges of Adding CI

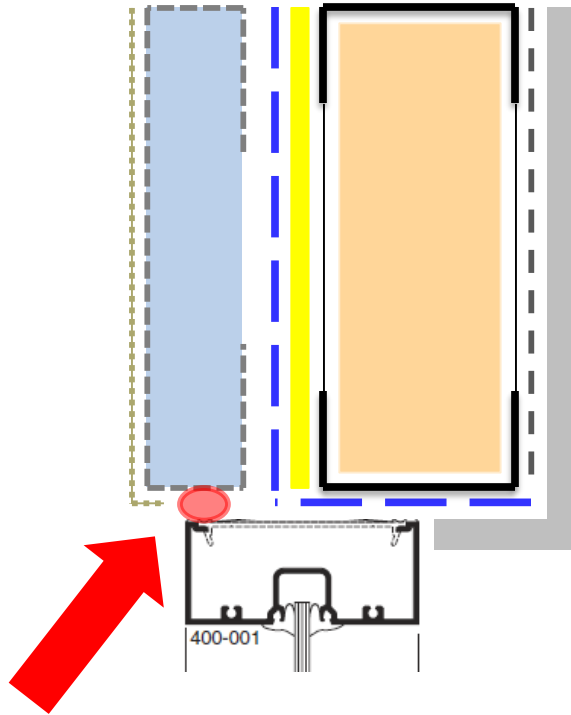


Non-Typical Detailing

Conditions Change Drastically

- In most cases, veneer / cladding must “return” back to the face of wall
 - Close cavity
 - Accommodate proper ‘seal’
- **Does this meet the definition of CI? – NO**
- **Does this add cost? - YES**

Detailing EIFS as a CI Solution

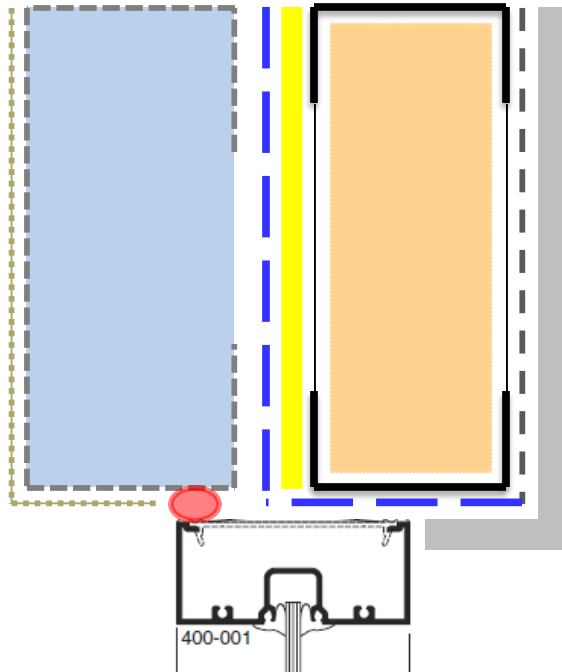


Typical Detailing - Jamb

No need for “Enhanced Detailing”

- Accommodates standardized wall components
- Provides for proper seal
- Accommodates requirements for CI at ‘all’ penetrations

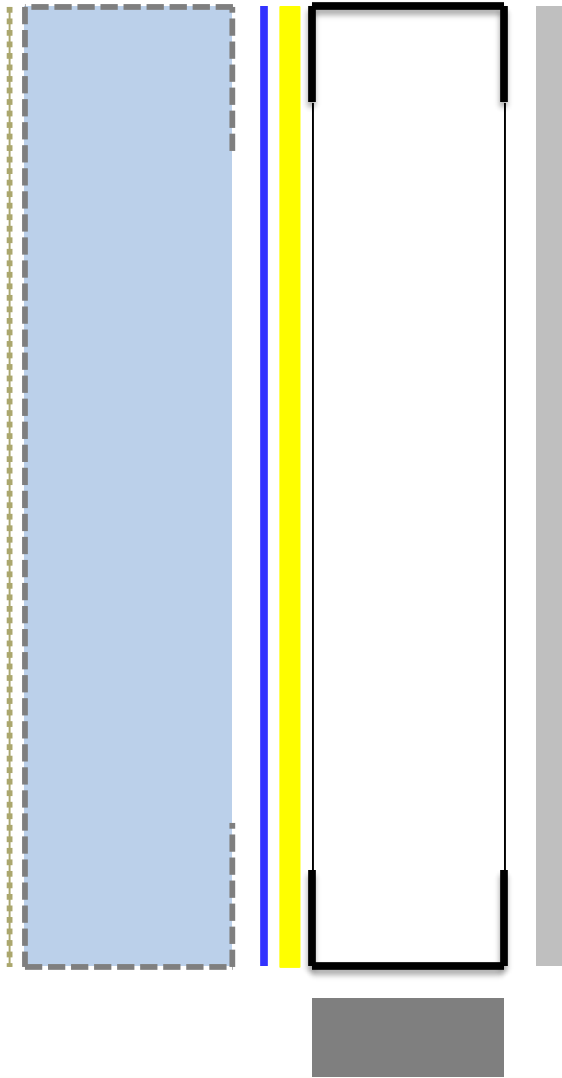
EIFS as a CI Solution



Typical Detailing - Jamb

**And it all works
regardless of how
much insulation is
specified**

High Performance CI Wall



All Continuous Insulation

Can easily accommodate “NO
CAVITY INSULATION”
design options

- Delete interior vapor retarder
- Delete cavity insulation
- Change exterior AWRB to ‘non-permeable’
 - Rule of Thumb
 - Run Water Vapor Transmission Analysis

**Huge Additional COST
SAVINGS opportunities**

Project Case Study

- Oklahoma City, OK – “Brick Town USA”



**Reduced Construction Cost / Time Savings,
Enhanced LEED Points, Lowered Energy Consumption**

Project Case Study



Original Costs: 37,000 sf of Wall

- Brick & Limestone – original design
 - \$ 25.99/sq.ft. = \$ 961,594.00
- 4" EIFS with Drainage w/ Specialty Brick Finish – value engineered
 - \$ 13.54/sq.ft. = \$ 501,000.00
- Cladding Savings = \$ 460,594.00

Associated Costs:

- 17.57 fewer cubic yards of concrete:
 - \$ 6,149.50
- 13.45 fewer tons of structural steel:
 - \$ 44,385.00
- Additional Savings = \$ 50,534.50

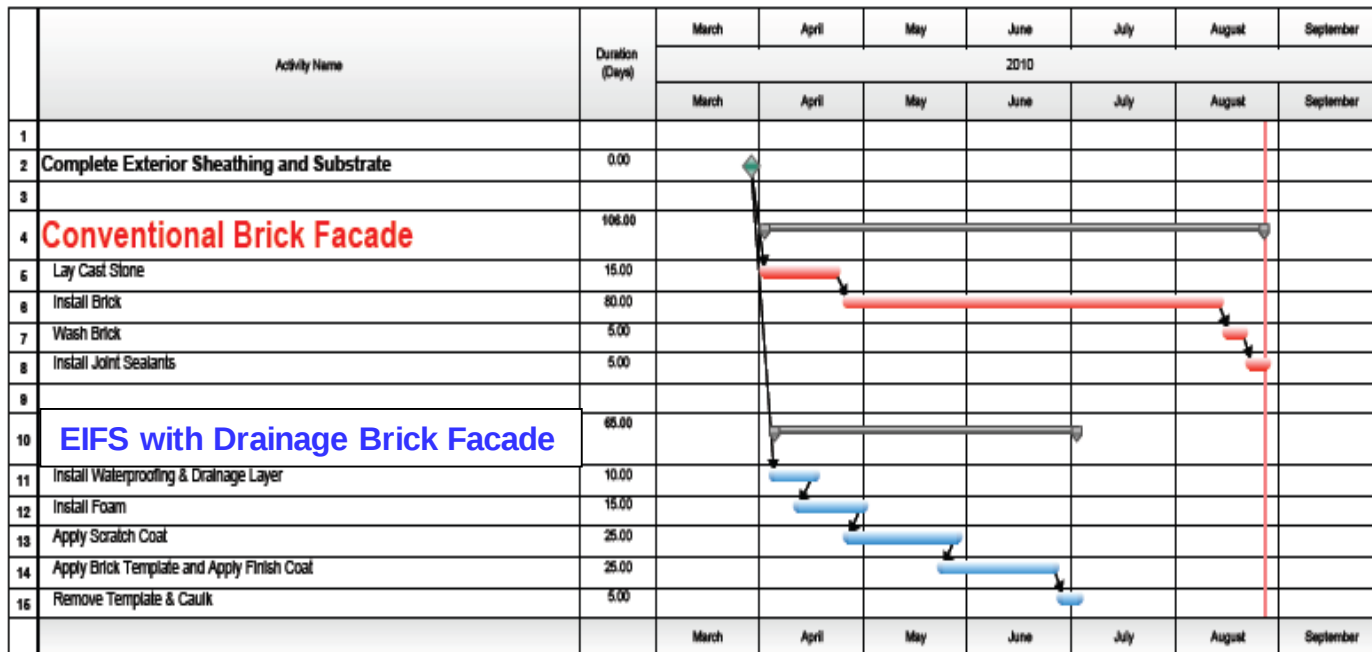
- Total Direct Savings = \$ 511,128.50 – \$ 13.81 / sf

Value Engineered Cladding Cost by 50%

Project Case Study



Metro Career Academy Exterior Facade Scheduling Analysis Oklahoma City, OK



Reduced Construction Schedule by 10 Weeks

Project Case Study





WELCOME CHAD
10495331 - Metro Career Academy
LEED NC 2.2

LEED-Online HomeCredit Scorecard & StatusProject SummaryTeam AdminDocumentsPublic RatingsProject CIRHelpProject SelectionSign Out

SCORECARD

CONSTRUCTION APPLICATION

RegistrationDesign ApplicationDesign ReviewDesign AppealDesign Appeal ReviewConstruction ApplicationConstruction ReviewConstruction AppealConstruction Appeal ReviewCertification / Denial

MY ACTION ITEMS

Displays the next steps for the project. Depending on your project role, the project status and number of points anticipated or awarded; different action items will appear.

- You have not completed all of your attempted Credits.
- To attempt Credits, assign them to a member of your Project Team.

You have 0 new Notifications

POTENTIAL LEED RATING

Displays LEED level which is based on number of points attempted. *



CERTIFIEDSILVERGOLDPLATINUM

This Project has attempted enough points for Gold Rating.

* Actual Certification Level will be based on the number of points awarded and successful completion of all Prerequisites.

[View Review Summary](#)

WORKFLOW STAGE HISTORY

Displays Workflow Stage History timeline.

Stage	Date Entered
Preliminary Design Application Submitted	6/21/2010 4:13:09 PM
Preliminary Design Review Completed	8/1/2010 4:55:22 PM
Final Design Application Submitted	10/7/2010 10:13:53 AM
Final Design Review Completed	11/17/2010 11:04:04 PM

PAYMENT SUMMARY

Displays payment status timeline.

Payment Type	Invoice Date	Sales Order	Status	Date Cleared
LEED-NC 2.2 Certification Design	06/21/2010	0011001206	Cleared	06/21/2010

USGBC LEED 2.2 Checklist

Earned all 10 Points in Energy & Atmosphere Category 77

Project Case Study



Energy Conservation:

- Energy Code Wall Design (IBC 06 / IECC 03)

Required:

R-8 / U-0.125

MCA As Built:

R-22 / U-0.045

- Estimated Energy Cost:

Per Standard:

\$ 78,440.00

MCA As Built:

\$ 44,388.00

- A Savings of \$ 34,052.00 per year!
- 50 Year Life Cycle Savings of:

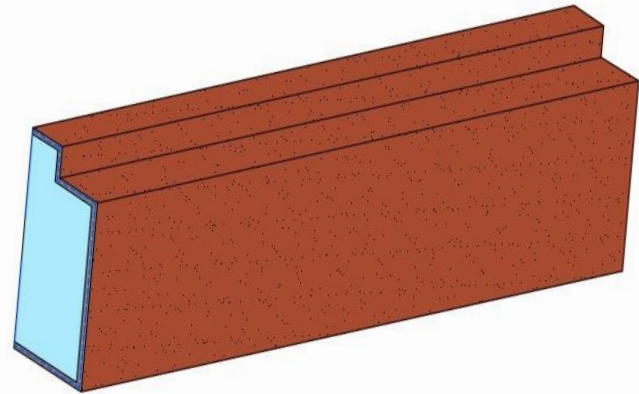
\$ 1,702,000.00 !!

Lowered Energy Consumption by 50%

Old Brick

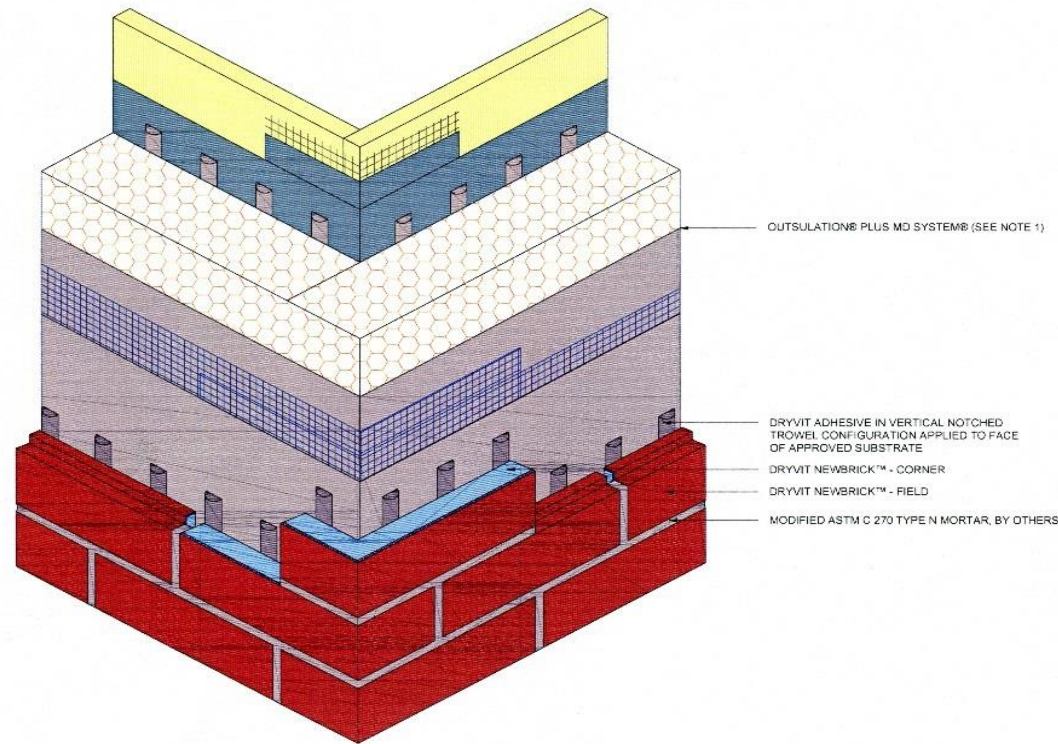


Newbrick



What is Newbrick?

- XPS insulation encapsulated
 - reinforced base coat
 - 100% acrylic-based
- A modified joint mortar is field applied.
- Superior thermal characteristics and enhanced R values
- Patented built in, pre spaced brick and mortar alignment guide.



NewBrick™

Outside Corner

NewBrick Available October 2016



Banner Desert Main Entry Before Retrofit



Banner Existing Stucco Texture



Banner Desert Main Entry After Retrofit



Review

Integrating Continuous Insulation and Air Barriers into High Performance Framed Wall Assemblies

- Eliminates thermal bridging
- Meets all current and future energy code requirements
- Enhances envelope energy efficiency
- Reduces energy consumption
- Controls air / moisture infiltration
- Controls dew point / condensation
- Supports sustainable design and achieving LEED credits

As an EIFS Cladding

- Freedom for architectural style
- Supports alternative finish aesthetics
- Reduces construction cost

This concludes the AIA / USGBC
Continuing Education System Program

Thank you for your time!

Questions?

