Achieving a High Performance Air Barrier System:

Materials, Codes, Installation and Site Quality Control

By Laverne Dalgleish

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- Hold themselves out to the public with professionalism and sound ethics by conducting themselves in a way which reflects positively on ABAA and the ABAA members.
- Clearly state their affiliation
- Identify their relationship with ABAA
- Declare that they are presenting an official (unmodified) presentation prepared by ABAA
- Indicate whether the presentation is at the official request of ABAA
- This presentation will not highlight focus or reference to a specific product of manufacturer

LEARNING OBJECTIVES

- Define key air barrier material characteristics using building code requirements to evaluate if the test methods and performance requirements for a particular air barrier meets code

- Describe compliance options to meet code reference documents such as ASHRAE 90.1-2010 or IECC 2012 to determine if design intent will meet code requirement

LEARNING OBJECTIVES

- Through use of illustration and actual project site photo's, identify acceptable and unacceptable installation of a variety of air barrier materials to determine if the assembly would meet manufacturers installation instructions

- Determine knowledge, skills and ability requirements of air barrier installers against other related trades, such as roofers and waterproofers and identify criteria to assess qualifications of trades to perform the air barrier installation.

- Assess various quantitative and qualitative test processes and procedures using sample tests to verify the quality of an air barrier installation

AIR BARRIERS

KEY REQUIREMENTS

AIR BARRIERS

KEY REQUIREMENTS

- Impermeable material
- Continuous
- Strong: resist positive and negative loads
- Durable

AIR BARRIERS

IMPERMEABLE MATERIAL

- A material that has been designated to provide the primary function of controlling the movement of air through a building assembly and when tested in accordance with ASTM E2178 and has a air permeance of less than:

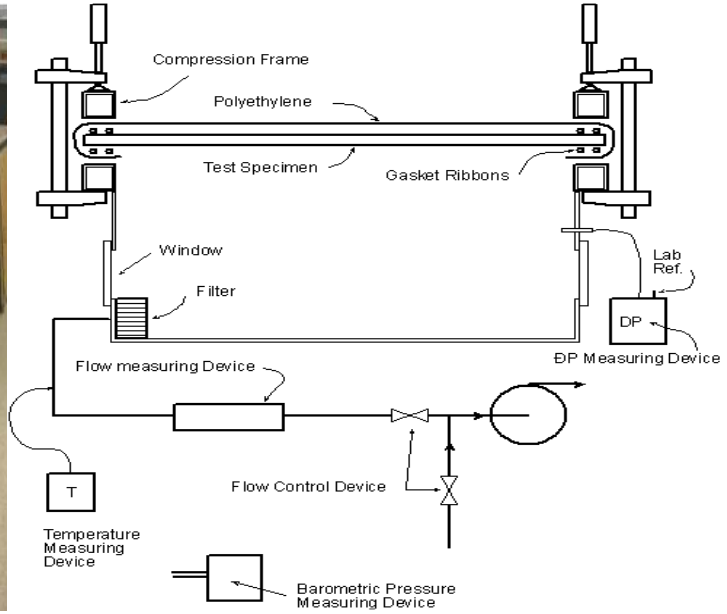
  0.02 L/s/m^2 @ 75 Pa

  0.004 CFM/ft^2 @ 1.56 lb/ft^2

AIR BARRIERS

IMPERMEABLE MATERIAL

ASTM 2178 TEST METHOD



AIR BARRIERS

CONTINUOUS

- The air barrier shall be joined in an air-tight and flexible manner to the air barrier material of adjacent systems, allowing for the relative movement of systems due to thermal and moisture variations and creep. Connections shall be made between:
  - foundation and walls
  - walls and windows or doors
  - different wall systems
  - walls and roof
  - wall and roof over unconditioned spaces
  - walls, floors, and roofs across construction, control and expansion joints

AIR BARRIERS

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AIR BARRIERS

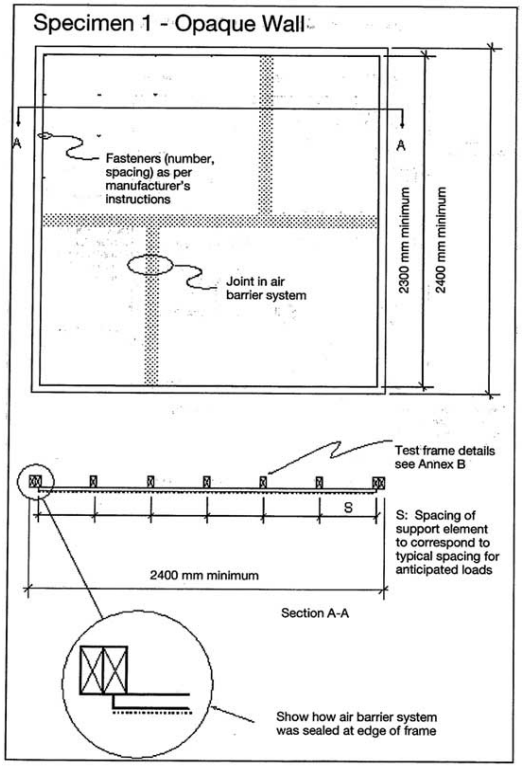
CONTINUOUS

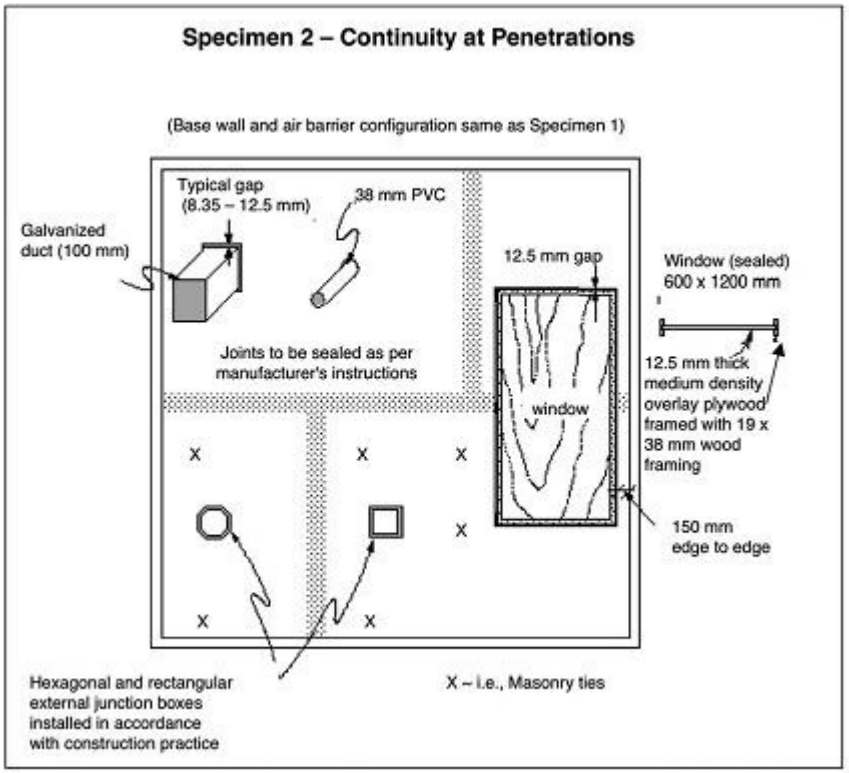
- All penetrations of the air barrier and paths of air infiltration/exfiltration shall be made air-tight

AIR BARRIERS

CONTINUOUS

- ASTM E 2357





AIR BARRIERS

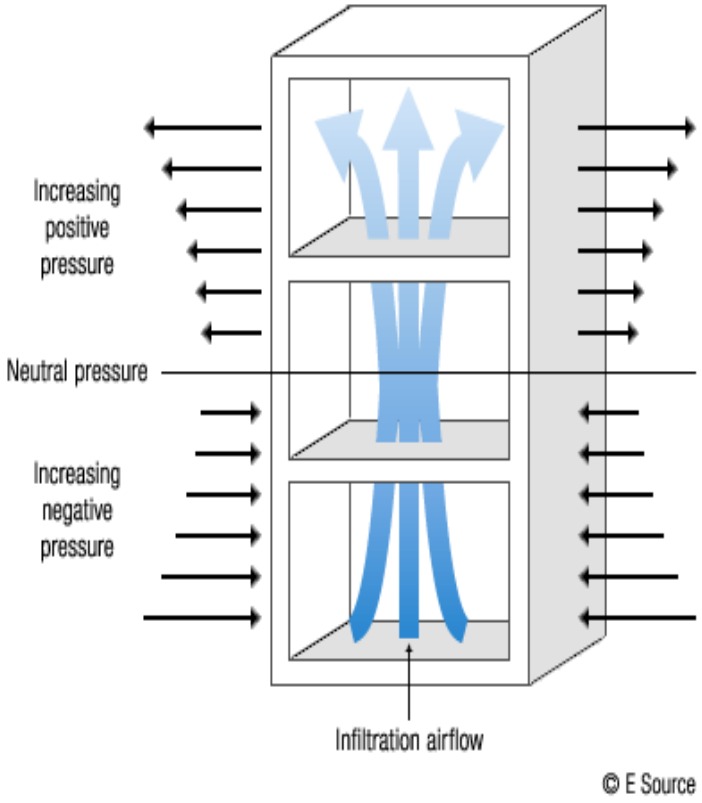
CONTINUOUS

- ASTM E 2357

AIR BARRIERS

STRONG

- Withstand positive and negative loads due to wind, stack and mechanical pressures
- Not to displace other building
  - enclosure components
- ASTM 2357 test method applies both positive and negative pressures to specimen to simulate wind gusts and pressures from stack and mechanical



AIR BARRIERS

DURABLE

- Materials are typically installed as a non-maintainable components within the wall assembly
- Need to last the life of the enclosure and be resilient
- Durable to deal with moisture, temperature, building movement over the intended life span

AIR BARRIERS

AIR LEAKAGE PERFORMANCE REQUIREMENTS

- **Material** - 0.004 CFM/ft²@ 1.56 lbs/ft² pressure difference (ASTM E 2178)
- **Accessory** – tapes, strips, caulking, etc - 0.004 CFM/ft²@ 1.56 lbs/ft² pressure difference (ASTM E 283)
- **Component** – windows, doors, skylights, etc. - 0.04 CFM/ft²@ 1.56 lbs/ft² pressure difference (ASTM E 283)
- **Assembly** (Wall assembly, roof assembly, foundation assembly)- 0.04 CFM/ft²@ 1.56 lbs/ft² pressure difference (ASTM E 2357)
- **System** (Whole Building) - 0.40 CFM/ft²@ 1.56 lbs/ft² pressure difference (ISO 9972, ASTM E 779, CGSB 149.10)

AIR BARRIERS

OTHER TEST CRITERIA ESTABLISHED BY ABAA

- Other test methods developed for each material type as part of ABAA evaluation process
- Currently developed for:
  - Self Adhered Membranes
  - Liquid Applied Membranes
  - Medium Density Sprayed Polyurethane Foam
  - Board Stock – Rigid Cellular Thermal Insulation Board
  - Factory Bonded Membranes to Sheathing
  - Mechanically Fastened Commercial Building Wraps
  - Adhesive backed commercial building wraps

AIR BARRIERS

OTHER TEST CRITERIA ESTABLISHED BY ABAA

- In process evaluation criteria:
  - Open Cell Sprayed Polyurethane Foam
  - Engineer Polymer Films for Interior Application
  - The specific evaluation criteria for each material can be found on the ABAA website.

AIR BARRIERS

OTHER TEST CRITERIA ESTABLISHED BY ABAA

5.3 Fluid Applied Membranes

All testing shall be conducted with the applied liquid material within the minimum / maximum range. The specific thickness of the material which was used when conducting the following tests shall be recorded on the test report and shall be the site installed thickness.

Product Property	Test Standard	Test Standard Title	Unit	Requirement	
				Min	Max
Air Permeance	ASTM E2178-11	Standard Test Method for Air Permeance of Building Materials	cfm /ft^2 at a pressure differential of 1.57 psf (L/(s·m^2) at a pressure differential of 75 Pa)	- -	0.004 (0.02)
Water Resistance	AATCC 127 - 2008	Water Resistance: Hydrostatic Pressure Test for 5 h	inches (cm)	22 (55)	-
Self Sealability	ASTM D1970 / D1970M - 11	Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection - Section 8.9 Nail Sealability	-	Pass or specify sealing detail around fasteners	-
Pull Adhesion	ASTM D4541-09e1	Modified Version of Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete using Portable Pull-Off Adhesion Testers– Specify substrates and surface preparation for glass fiber faced gypsum sheathing and concrete block. Declare failure mode	psi (kPa)	16 (110) or report value at substrate failure	-
Crack Bridging	ES-AC 212	Acceptance Criteria for Water-Resistive Coatings used as Water-Restive Barriers over Exterior Sheeting	-	Pass	-
	OR				
	ASTM C1305-08	Standard Test Method for Crack Bridging Ability of Liquid Applied Waterproofing Membrane– Report thickness and joint treatment (158° for 2 weeks)	-	Pass	-
Water Vapor Permeance (at applied thickness)	ASTM E96/E96M-10 (Desiccant and Water Methods)	Standard Test Methods for Water Vapor Transmission of Materials	US Perms (ng/(Pa·s·m^2))	Declare	

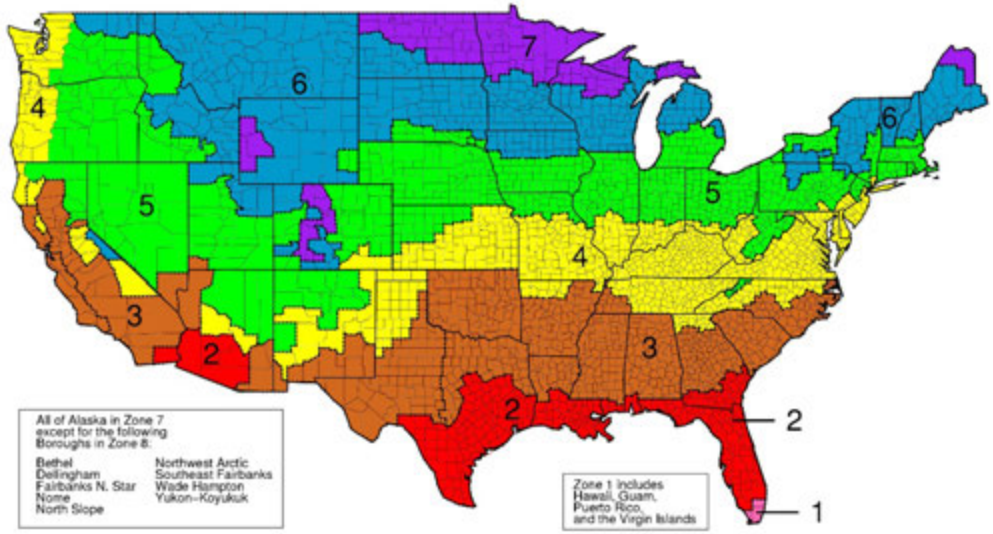
AIR BARRIERS

CODE REQUIREMENTS

BUILDING CODES - ASHRAE 90.1 - 2010

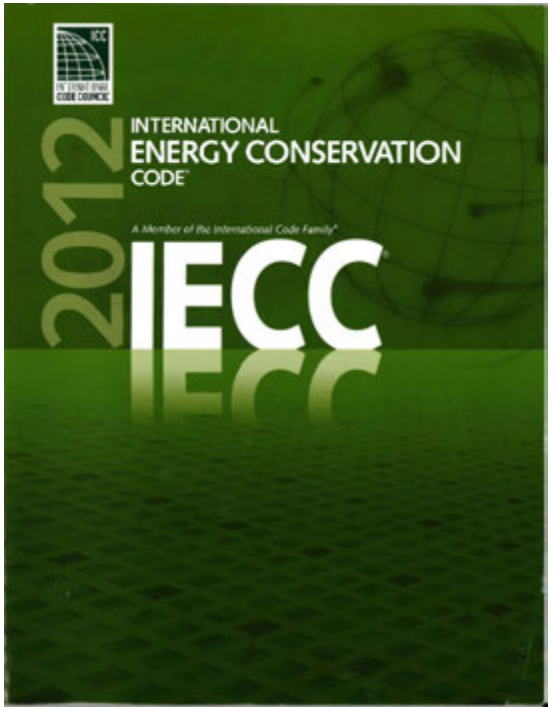
- **5.4.3 Air Leakage**

- **5.4.3.1 Continuous Air Barrier**
- The entire building envelope shall be designed and constructed with a continuous air barrier.



BUILDING CODES - INTERNATIONAL ENERGY CONSERVATION CODE - 2012

- Similar language and requirements to ASHRAE 90.1-2010
- C402.4 Air Leakage outlines
  - Zones excluded (Climate zone 1, 2 and 3)
  - Air barrier construction compliance
  - 3 compliance options



BUILDING CODES - INTERNATIONAL ENERGY CONSERVATION CODE - 2012

Material C402.4.1.2.1	Assembly C402.4.1.2.2	Building Test C402.4.1.2.3

• ASTM 2178
• 0.004 cfm / ft^2
• List of 15 materials that are acceptable – *provided joints are sealed and installed as an air barrier*
	• ASTM 2357, 1677 or 283
	• 0.04 cfm / ft^2
	• List of 2 assemblies deemed to comply, if joints are sealed
	  • Concrete Masonry Walls (coated with block filler or two coats of a paint or sealant)
	  • Portland Cement / sand parge, stucco or plaster (min ½ inch)
		• ASTM 779
		• 0.40 cfm/ft^2
		• Or equivalent method approved by code official

AIR BARRIERS

INSTALLATION

INSTALLATION

VARIOUS AIR BARRIER MATERIALS

INSTALLATION

TYPICAL AIR BARRIER MATERIALS

- Self Adhered Membranes
- Liquid Applied Membranes
- Medium Density Sprayed Polyurethane Foam
- Board Stock – Rigid Cellular Thermal Insulation Board
- Factory Bonded Membranes to Sheathing
- Mechanically Fastened Commercial Building Wraps

INSTALLATION

TYPICAL AIR BARRIER MATERIALS

Substrate Prep is key to all materials !

INSTALLATION

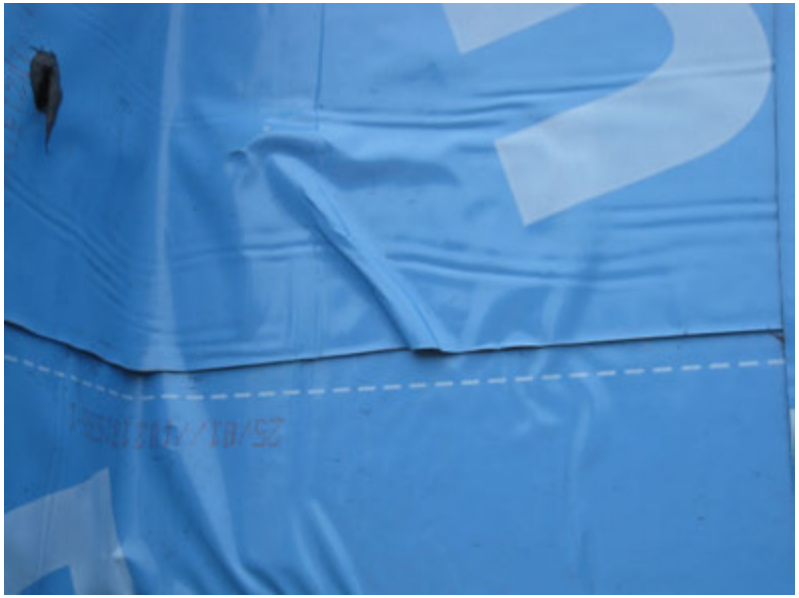
SELF ADHERED MEMBRANES

- Key Installation:
  - Proper overlap of joints and seams
  - Seal around all penetrations with mastic/sealant
  - Provide backing at deflection and control joints
  - Do not span gaps larger than recommended by manufacturer
  - Roll membrane to enhance adhesion

INSTALLATION

SELF ADHERED MEMBRANES

- Common Field Issues
  - “Fish mouths”, wrinkles
  - Unadhered material
  - Inadequate substrate preparation
  - Exposed to UV past limits

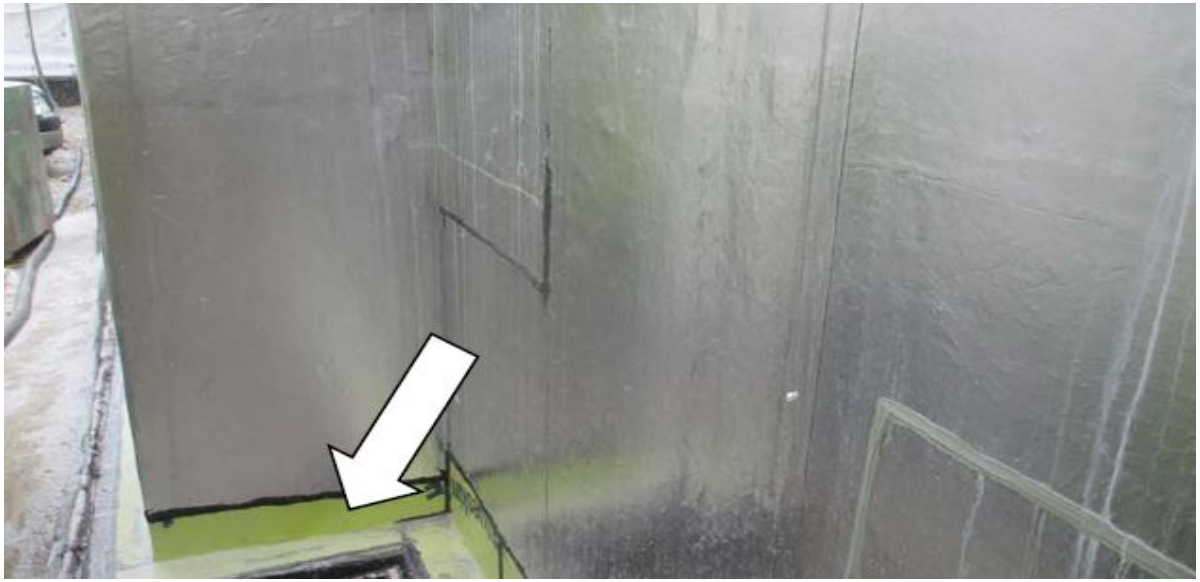


INSTALLATION

SELF ADHERED MEMBRANES – PROPER INSTALL

INSTALLATION

SELF ADHERED MEMBRANES – PROPER INSTALL



INSTALLATION

SELF ADHERED MEMBRANES – PROPER INSTALL

INSTALLATION

SELF ADHERED MEMBRANES – POOR INSTALL

INSTALLATION

SELF ADHERED MEMBRANES – POOR INSTALL

INSTALLATION

SELF ADHERED MEMBRANES – POOR INSTALL

INSTALLATION

LIQUID APPLIED MEMBRANES

- Key Installation
  - Ensure all detailing is completed before or after liquid material
  - Watch temperature limitations for application
  - Spray evenly and consistent and avoid slumping of material
  - Ensure thickness meets specifications

INSTALLATION

LIQUID APPLIED MEMBRANES

- Common Field Issues
  - Insufficient thickness
  - Slumping of material
  - Missed detailing
  - Poor substrate preparation
  - Blisters or pin holing
  - Application over gaps that have not been pre-treated

INSTALLATION

FLUID APPLIED MEMBRANES – PROPER INSTALL

INSTALLATION

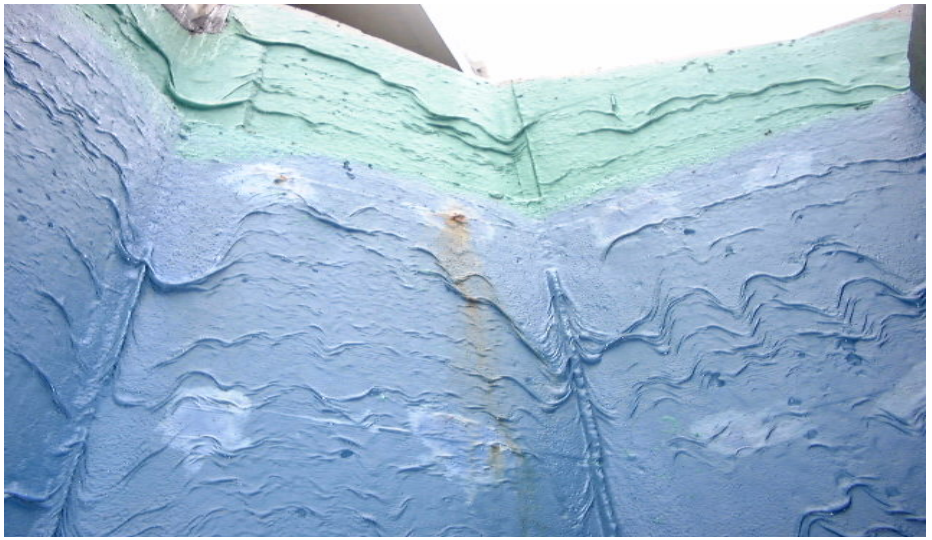
FLUID APPLIED MEMBRANES – PROPER INSTALL

INSTALLATION

FLUID APPLIED MEMBRANES – POOR INSTALL

INSTALLATION

FLUID APPLIED MEMBRANES – POOR INSTALL



INSTALLATION

FLUID APPLIED MEMBRANES – POOR INSTALL

INSTALLATION

MEDIUM DENSITY SPF

- Key Installation
  - Environmental conditions (wind, temperature, humidity)
  - Health and Safety of applicator and work site
  - Thickness of passes
  - Equipment settings (pressure, temperature, 1:1 ratio)

INSTALLATION

MEDIUM DENSITY SPF

- Common Field Issues
  - Insufficient thickness
  - Off-ratio
  - Adhesion to transition membranes and substrate
  - Other trades entering spraying area
  - Missing transition membrane at window openings, roof/wall intersection

INSTALLATION

SPRAYED POLYURETHANE FOAM – PROPER INSTALL

INSTALLATION

SPRAYED POLYURETHANE FOAM – PROPER INSTALL

INSTALLATION

SPRAYED POLYURETHANE FOAM– POOR INSTALL

INSTALLATION

SPRAYED POLYURETHANE FOAM– POOR INSTALL

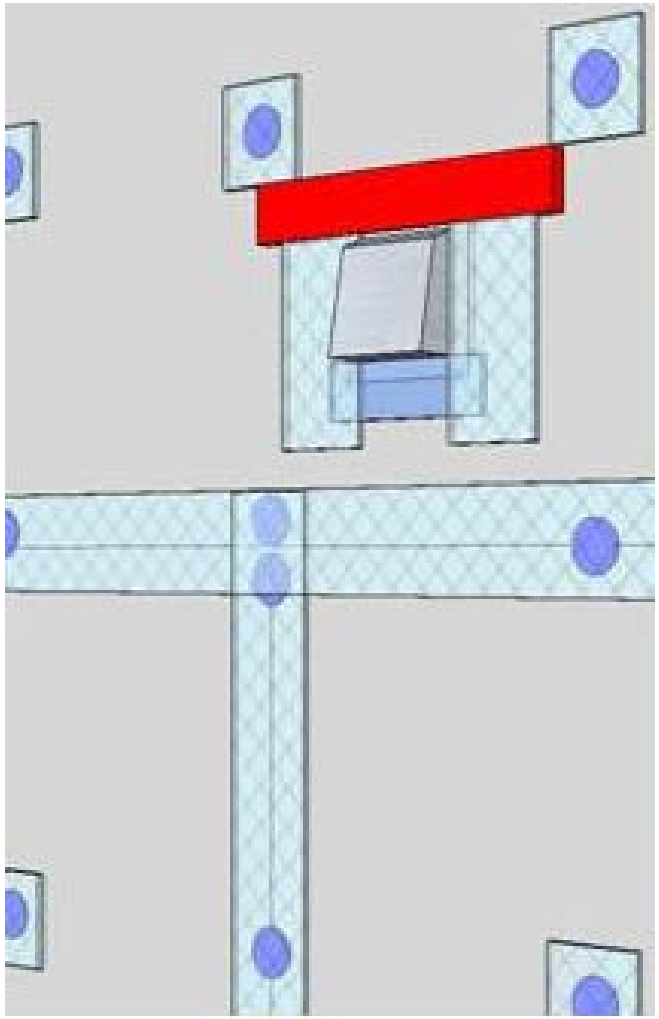
INSTALLATION

SPRAYED POLYURETHANE FOAM– POOR INSTALL

INSTALLATION

BOARD STOCK CELLULAR INSULATION

- Key Installation
  - Treating of seams, edges, end joints and through wall penetrations
  - Sealing penetrations and panel defects with sealant
  - Fastening of boards and types of fasteners
  - Integration with thru-wall flashing



INSTALLATION

BOARD STOCK CELLULAR INSULATION

- Common Field Issues
  - Lack of connection to windows, door and other details
  - Penetrations installed post-installation (electrical, mechanical)
  - Improper fasteners or sealants
  - Adhesion of tapes to board joints

INSTALLATION

BOARD STOCK– PROPER INSTALL

INSTALLATION

BOARD STOCK – POOR INSTALL

INSTALLATION

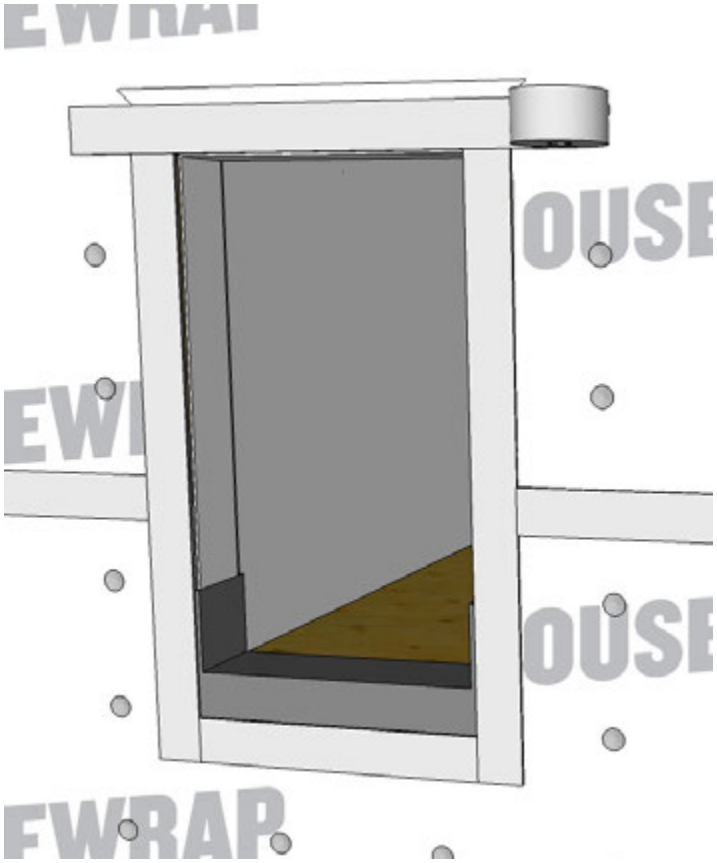
MECHANICALLY FASTENED COMMERCIAL BUILDING WRAP

- Proper Substrate Preparation
  - Address protrusions that might puncture material

INSTALLATION

MECHANICALLY FASTENED COMMERCIAL BUILDING WRAP

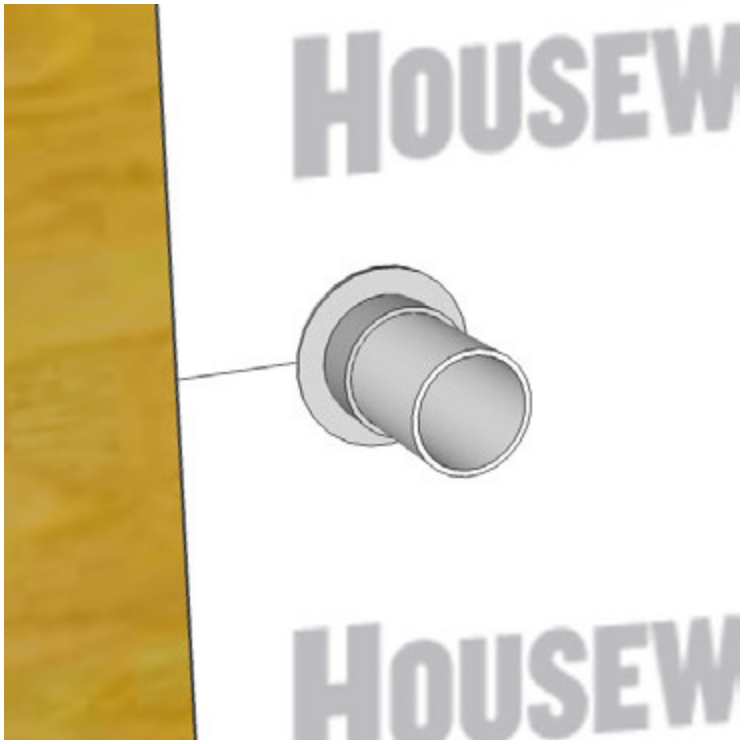
- Key Installation
  - Proper type of fasteners and fastening pattern
  - Proper overlap of seams and corners
  - Taping all seams
  - Detailing penetrations and details (windows, doors, etc)



INSTALLATION

MECHANICALLY FASTENED COMMERCIAL BUILDING WRAP

- Common Field Issues
  - Damage and tears during construction
  - Installation over sharp objects
  - Insufficient overlap of seams
  - Lack of integration into windows, doors and other openings



INSTALLATION

COMMERCIAL BUILDING WRAP – PROPER INSTALL

INSTALLATION

COMMERCIAL BUILDING WRAP – POOR INSTALL

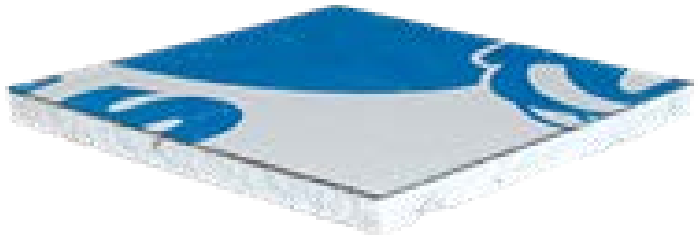
INSTALLATION

COMMERCIAL BUILDING WRAP – POOR INSTALL

INSTALLATION

FACTORY BONDED MEMBRANES TO SHEATHING

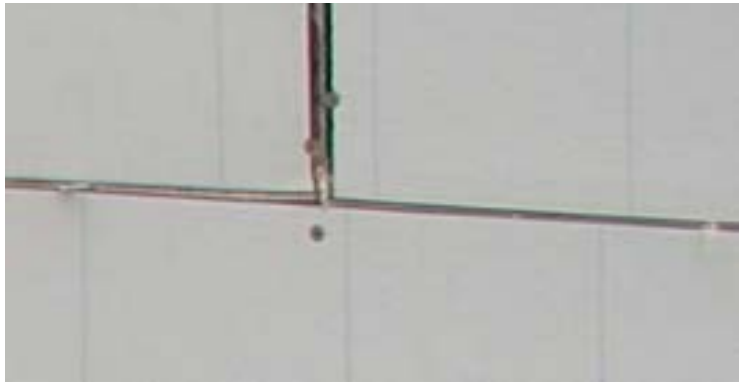
- Proper Substrate Preparation
  - Product is substrate
  - Proper fastening to substrate with recommended fasteners
  - Priming of membranes over sheathing

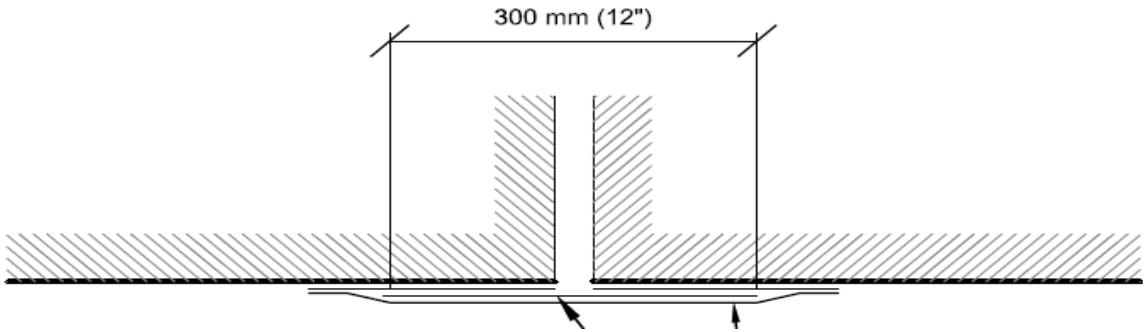


INSTALLATION

FACTORY BONDED MEMBRANES TO SHEATHING

- Key Installation
  - Treating of seams, edges, end joints and through wall penetrations with membranes
  - Off-set vertical joints
  - Membrane installation on vertical joints, then horizontal





INSTALLATION

FACTORY BONDED MEMBRANES TO SHEATHING

- Common Field Issues
  - Missed transition membranes or insufficient overlap
  - Over driven fasteners
  - Lack of primer for transition membranes

INSTALLATION

QUALITY ASSURANCE

- Specification Language:

  - Air Barrier Subcontractor Qualifications: Air barrier Subcontractor(s) shall be accredited at the time of bidding and during the complete installation period by the Air Barrier Association of America (ABAA) whose Installer(s) are certified in accordance with the site Quality Assurance Program used by ABAA.

  - Implement the ABAA Quality Assurance Program

AIR BARRIERS

FIELD TESTING AND INSPECTION

FIELD TESTING / INSPECTION

Pre-Construction	During Construction	Post Construction
• Mock-up • ASTM E783, ASTM E1168	• Adhesion ASTM D4541 • Air Leakage ASTM E783, ASTM E-1186 • Visual • Thickness • Density • Cohesion	• Whole Building Airtightness Testing • ASTM 779 • Thermography

FIELD TESTING / INSPECTION

PRE-CONSTRUCTION

- ASTM E783

FIELD TESTING / INSPECTION

DURING CONSTRUCTION

During Construction

- Adhesion ASTM D4541
- Air Leakage ASTM E783, ASTM E-1186
- Visual
- Thickness
- Density (SPF)
- Cohesion

FIELD TESTING / INSPECTION

AFTER CONSTRUCTION

Post Construction

- Whole Building Airtightness Testing
- ASTM 779

FIELD TESTING / INSPECTION

AFTER CONSTRUCTION

Introduce Smoke to Find Leaks

FIELD TESTING / INSPECTION

AFTER CONSTRUCTION

Introduce Thermography at same time

ABAA Model for Quality

RISK MANAGEMENT

ABAA SITE QUALITY ASSURANCE PROGRAM

Manage your risk by specifying the ABAA Site Quality Assurance Program:

- **Air Barrier Materials Evaluated**

SPRAYFOAM 2016 CONVENTION AND EXPO FEBRUARY 8-11 ORLANDO, FLORIDA

5.5 Self-Adhered Membranes

Product Property	Test Standard	Test Standard Title	UNIT	Requirements	
				Min	Max
Air Permeance	ASTM E2178-11	Standard Test Method for Air Permeance of Building Materials	L/(s·m²) at a pressure differential of 75 Pa (cfm /ft² at a pressure differential of 1.57 psf)	-	0.02 (0.004)
Resistance to Puncture (reduce damage)	ASTM E154-08a	Standard Test Methods for Water Vapor Retarders Used in Contact with Under Concrete Slabs, on Walls or as Ground Cover - Section 10 only.	lbf (N)	40 (178)	-
Tensile Strength	ASTM D882-12	Standard Test Method for Tensile Properties of Thin Plastic Sheeting	lbf/in (N/mm)	20 or until substrate failure (3.5 or until substrate failure)	-
Water Resistance	AATCC 127 - 2008	Water Resistance: Hydrostatic Pressure Test for 5 hours	inches (cm)	22 (55)	-
Peel or Stripping Strength of Adhesive Bonds	ASTM D903-98 (2004)	Standard Test Method for Peel or Stripping Strength of Adhesive Bonds - *Specify substrates and surface preparation for glass fiber faced gypsum sheathing and/or concrete block. Declare failure mode.*	lbf/in (N/mm)	5.0 (0.875)	-
Lap Adhesion	ASTM D1876-08	Standard Test Method for Peel Resistance of Adhesives (T peel test) – *Specify Substrates and surface preparation for glass fiber faced gypsum sheathing and/or concrete block. Declare failure mode.*	lbf/in (N/mm)	5.0 (0.875)	-

ABAA EVALUATED AIR BARRIER MATERIALS

AIR BARRIER MATERIALS WHICH HAVE COMPLETED THE ABAA EVALUATION PROCESS

Self Adhered Sheet Materials		
Manufacturer	Material Name	ABAA Model Specification
Carlisle Coatings & Waterproofing www.carlisleccw.com	CCW-705	Section 072761
Air Permeance (ASTM E2178): 0.00 L/(s • m^2) @ 75 Pa [0.000 cfm /ft^2 @ 1.57 psf] **Water Vapor Permeance (ASTM E96 - desiccant method):** 4.79 ng / Pa•s•m^2 [0.083 US Perms] **Water Vapor Permeance (ASTM E96 - water method):** 5.47 ng / Pa•s•m^2 [0.095 US Perms]		
Carlisle Coatings & Waterproofing www.carlisleccw.com	Fire Resist 705 FR-A	Section 072761
Air Permeance (ASTM E2178): 0.00016 L/(s • m^2) @ 75 Pa [0.000032 cfm /ft^2 @ 1.57 psf] **Water Vapor Permeance (ASTM E96 - desiccant method):** < 0.572 ng / Pa•s•m^2 [[< 0.01 US Perms] **Water Vapor Permeance (ASTM E96 - water method):** < 0.572 ng / Pa•s•m^2 [< 0.01 US Perms]		
Cosella-Dörken Products Inc. www.cosella-dorken.com	DELTA-VENT SA	Section 072761
Air Permeance (ASTM E2178): 0.0015 L/(s • m^2) @ 75 Pa [0.0003 cfm /ft^2 @ 1.57 psf] **Water Vapor Permeance (ASTM E96 - desiccant method):** 1763 ng / Pa•s•m^2 [30.9 US Perms] **Water Vapor Permeance (ASTM E96 - water method):** 2830 ng / Pa•s•m^2 [49.5 US Perms]		
Grace Construction Products www.na.graceconstruction.com	Perm-A-Barrier® Wall Membrane	Section 072761
Air Permeance (ASTM E2178):		

ABAA EVALUATED AIR BARRIER ASSEMBLIES

Self Adhered Sheet Materials		
Manufacturer / Material	**Air Leakage of Building Assembly (ASTM E2357)**	**Supporting Information**
Carlisle Coatings & Waterproofing CCW-705	0.0222 L/(s • m^2) @ 75 Pa [0.0044 cfm /ft^2 @ 1.57 psf]	Air Barrier Construction Design Details Air Barrier Master Specification
Carlisle Coatings & Waterproofing Fire Resist 705 FR-A	0.007 L/(s • m^2) @ 75 Pa [0.0014 cfm /ft^2 @ 1.57 psf]	Air Barrier Construction Design Details Air Barrier Master Specification
Cosella-Dörken Products Inc. DELTA-VENT SA	0.039 L/(s • m^2) @ 75 Pa [0.0078 cfm /ft^2 @ 1.57 psf]	Air Barrier Construction Design Details Air Barrier Master Specification
Grace Construction Products Perm-A-Barrier Wall Membrane	< 0.004 L/(s • m^2) @ 75 Pa [< 0.0008 cfm /ft^2 @ 1.57 psf]	Air Barrier Construction Design Details Air Barrier Master Specification
Henry Company Blueskin® SA	0.006 L/(s • m^2) @ 75 Pa [0.0012 cfm /ft^2 @ 1.57 psf]	Air Barrier Construction Design Details Air Barrier Master Specification
Soprema Inc. SopraSEAL Stick 1100T	< 0.0022 L/(s • m^2) @ 75 Pa [< 0.0004 cfm /ft^2 @ 1.57 psf]	Air Barrier Construction Design Details Air Barrier Master Specification

INSTALLATION

QUALITY ASSURANCE

Manage your risk by specifying the ABAA Site Quality Assurance Program:

- Air Barrier Materials Evaluated
- **Air Barrier Subcontractor Qualified**

AIR BARRIER INFORMATION SUPPORTING DOCUMENTATION EDUCATION & CERTIFICATION

SEARCH FOR MEMBERS

Home Page

You may search for ABAA Members by state or limit your search to the name of a member company.

ABAA Member Search Form

1. SEARCH BY LOCATION

Choose Company Type

- (•) Accredited Contractors
- ( ) Design Professionals
- ( ) Air Barrier Manufacturer
- ( ) Distributors
- ( ) Component Suppliers
- ( ) Equipment Suppliers
- ( ) Testing Labs
- ( ) Building Envelope Consultants
- ( ) Licensed Field Auditors
- ( ) General Contractor

Select Location to Search In

Select a Location to Search ▼ | Search Location

2. SEARCH BY MEMBER NAME

INSTALLATION

QUALITY ASSURANCE

Manage your risk by specifying the ABAA Site Quality Assurance Program:

- Air Barrier Materials Evaluated
- Air Barrier Subcontractor Qualified
- **Air Barrier Installers Trained**

INSTALLATION

QUALITY ASSURANCE

INSTALLATION

QUALITY ASSURANCE

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- Air Barrier Installers Trained
- **Air Barrier Installers Certified**

INSTALLATION

QUALITY ASSURANCE

This certification card must be carried by the Certified Installer at all times when installing air barriers. The Certified Installer named on this card agrees to abide by all the requirements for certification as set forth in the certification scheme by BPQI. The Certified Installer also agrees to abide by all the requirements of the be Building Envelope Quality Assurance Program as set out by the licensing agreement and the Air Barrier Association of America. This card is property of Building Professionals Quality Institute Inc. (BPQI) and shall be returned upon request.

CERTIFIED IN THE FOLLOWING PRODUCTS

Self Adhered Membranes

Fluid Applied Membranes

Spray Polyurethane Foam

This Certification card is valid in North America

Authorized by BPQI CEO Ryan Dalgleish

115-38 Rev 0 (12/19/06)

INSTALLATION

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- **Project Inspections**

SPRAYFOAM 2016 CONVENTION AND EXPO FEBRUARY 8-11 ORLANDO, FLORIDA

INSTALLATION

QUALITY ASSURANCE

air barrier abaa association of america

DAILY JOB SITE REPORT
SPRAY POLYURETHANE FOAM
Air Barrier System

Job Site Report #_____
Date: _____

Crew # ____ of ____

Licensed Installer: _____ Licensing #: _____
Licensed Installer: _____ Licensing #: _____
Registered Apprentice: _____ Registration #: _____
Registered Apprentice: _____ Registration #: _____

PROJECT INFORMATION

Air Barrier Contractor: _____
ABAA Licensed Contractor # _____
General Contractor _____
Project Name: _____
Project Location: _____
Substrate Type: _____ **Substrate Temperature:** ___°F **Ambient Temp:** ___°F
Substrate Surface Conditions and Preparation Required: _____

Substrate Conditions Acceptable for Application of SPF Foam and Transition Membranes __ Yes __ No

MATERIAL INFORMATION

Manufacturer: _____ Product: _____

	"A" Component	"B" Component
Lot #:		
Expiry Date:		(OR)
Manufacture Date:		

Materials / System approved by ABAA Yes ___ No ___

EQUIPMENT INFORMATION

Mixing Chamber Size: _____ Hose Length: _____
Heater Temperature: Primary: _____°F Hose: _____°F
Pressure: "A": _____PSI "B": _____PSI

INSTALLATION & TESTING LOCATION

Job Site Report #_____
Date: _____

Location of Installation for 2 locations:

# 1 Time Started:	Time Completed:	# 2 Time Started:	Time Completed:
On Gridline		On Gridline	
Between Gridline:	to	Between Gridline:	to
Between Elevation:	to	Between Elevation:	to
Wall location: North South East West		Wall location: North South East West	

TESTING RESULTS

VISUAL INSPECTION:

Visual Inspection completed at: Location 1 __ Location 2 __
# of Deficiencies: _____ **# of Deficiencies corrected:** _____
Describe Deficiencies & Corrective Action Taken: _____

DENSITY TESTING:

Density Test: mass: _____g volume: _____ml
Density = g/ml x 1000 = _____kg/m^3

SPF THICKNESS TESTING:

Specified Thickness: _____ Number of Passes of Material Required: ____
SPF Thickness Testing completed at: Location 1 __ Location 2 __

Results:	Test 1: Location:	Test 2: Location:	Test 3: Location:	Test 4: Location:	Test 5: Location:	Test 6: Location:
	Test 7: Location:	Test 8: Location:	Test 9: Location:	Test 10: Location:	Test 11: Location:	Test 12: Location:

ADHESION TESTING: SPRAY POLYURETHANE FOAM (SPF) AND TRANSITION MEMBRANES (T- MEM)

Adhesion Testing completed at: **Location 1 __ Location 2 __ Disc size:_____ Diameter / inches**

Indicate bond strength result for each test (gauge reading) and indicate if the disc released from material (PM) or if the material released from substrate (MS) and if SPF Cohesion Separation occurred (CS). If testing was not completed, you must indicate why: (Minimum disc size 2 1/4 inch, Maximum disc size 4 inch)

Results:	**SPF Test 1 Location:**	**SPF Test 2 Location:**	**SPF Test 3 Location:**	**T-Mem Test 1 Location:**	**T-Mem Test 2 Location:**	**T- Mem Test 3 Location:**

Comments: _____

Date

Level 3 Certified Installer / Level 2 Certified Installer Signature

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- Project Inspections
- **Technical Support Before and During**

INSTALLATION

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- **Implement the ABAA Quality Assurance Program by using the ABAA model specs – download for free**

AIR BARRIER INFORMATION SUPPORTING DOCUMENTATION EDUCATION & CERTIFICATION

ABAA QAP CALCULATOR

Home Page

CALCULATE THE REAL COSTS FOR HAVING ABAA QAP ON YOUR PROJECT

DISCLAIMER

The ABAA QAP project costs are included in the air barrier project bid by all ABAA Accredited Contractors. The number of audits required for a project is based on the total air barrier square footage being applied on the ABAA specified project.

If the project specification calls for a greater quantity of audits over the ABAA QAP's Frequency of Site Audits table, the greater quantity shall always be provided and included in the bid.

CALCULATOR

Print

Enter total project cost: $ 10,000,000

Enter total air barrier square footage: 40000 ft^2

Number of ABAA QAP Audits: **3**

Total estimated ABAA QAP Project Costs: **$9400.00**

Percentage of ABAA QAP costs to total project cost: **0.094%**

ABAA SPECIFIED PROJECT COSTS

- Project Audit Costs Estimates: $2,000 / audit
- Industry Development Fund (IDF): $0.085 per square foot of total air barrier material being installed
- The Industry Development Fund is used to administer the Quality Assurance Program and to further the industry.

AIR BARRIER ENERGY CALCULATOR

Coming soon:

- Calculate savings based on environmental conditions, type and size of building
- Base line (what we typically build) and you can choose three options of airtightness
- Available March 2016

Thank you for your time!

Question and Answer Period

This concludes The American Institute of Architects Continuing Education Systems Course

Laverne Dalgleish

Air Barrier Association of America

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