The Air Barrier Pre-Installation Meeting

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Pepper Construction Company
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The Air Barrier Pre-Installation Meeting

Course Description

The air barrier is chosen and specified and the installer has submitted their shop drawings and submittals. Now the contractor must install the product on your specific building. Making sure that the system specified is reviewed thoroughly, shop drawings and submittals are submitted properly and completely, and all the project specific details are understood is the next big task for a successful air barrier installation. We will go over what makes a good pre-installation meeting necessary, informative, and has the ability to verify understanding among all players and adjacent transitions. Using job site photos and drawings to present the information.
The Air Barrier Pre-Installation Meeting

Learning Objectives

1. Understand what to include in an air barrier submittal and pre-installation meeting.

2. Identify and understand the systems that are to be used, and how they are to be integrated into the project specific details with other building products.

3. Learn how to prevent constructability/compatibility issues prior to construction.

4. Create an action plan for installation for team to follow.
Why do a pre-installation meeting?
Now that an air barrier contractor has been chosen...now what?

- Submittals
- Two Coordination Meetings
  - Building Envelope with all trades that touch the air barrier
  - AIR BARRIER PRE-INSTALLATION MEETING
- Mock-Up (Destructive) with building envelope trades
- First Work in-place review
- On-going job site review and verification (QC).
Now that an air barrier contractor has been chosen...now what?

In order to have a successful Pre-Installation Meeting, we need:

- Submittals
- and
- Building Envelope Meeting with all trades that touch the air barrier

A successful Pre-installation Meeting will produce:

- Clear understanding of expectations
- Mock-Up description (Destructive) with building envelope trades
- First Work in-place review guidelines
- On-going job site review and verification (QC) procedures
What submittals are needed?

**Submittals**

- Job Specific Quality Plan
- Product Data
  - Installation instructions
  - Data sheets of all components in the installation
  - Latest Manufacturer’s Technical Bulletins (*project related*)
  - Hot or cold weather requirements (*as needed*)
  - Equipment to be used (*other than by hand*) to verify site logistics
- Manufacturer & ABAA Certifications
- Job Specific Details (*each location*)
  - Base of wall
  - Parapet or T/Wall
  - Penetration (*before & after*)
  - Building expansion joints
  - Openings (head, sill, & jamb)
  - Transition details
  - Soffit / Overhang
  - Wall Expansion Joints
Who is needed for a Building Envelope Meeting?

**Design**
- Architect

**Contractor**
- General Contractor
- General Contractor Quality

**Trades**
- Concrete
- CFMF / Sheathing *(if used)*
- Masonry
- Air Barrier
- Exterior Skin Contractor (Metal Panel, EIFS, Etc.)
- Curtainwall / Window
- Roofing
- Wood Blocking / General Trades
Who/What is needed for a Pre-installation Meeting?

- Expectations
- Specifications
- Drawings
- Building Envelope Meeting Minutes
- Subcontractor Scope of Work
- Submittals
- Testing Criteria
- Minimum time allotted 2-3 hours

**Design**
- Architect
- Field observer

**Contractor**
- General Contractor
- General Contractor Quality
- Sub Contractor – **FOREMAN A MUST**
- Manufacturer(s)

**Owner**
- Owner
- Testing Agency
Quality Assurance

This is our chance to discuss the Quality expectations by the team to the installers & office...

identifying lessons learned prior to the start of installation will help assure a better overall product.
The air barrier is one of the most important items on any building – The installation and process must reflect the importance expectations.
No preconceived ideas

The team must be open to understanding the requirements, sometimes new, for the exact product that is being installed or being installed adjacent too…

“You must unlearn what you have learned”
Quality plan

Ask for a job specific quality plan
Has your Team ever installed the specified product before? If so, when?
Contractor’s Lessons learned

What have you learned?
identify Top concerns...
DISCUSS INITIAL COMPLEXITIES
Trade Sequencing before?

Air Barrier Installation

Trade Sequencing after?

Discuss Sequencing and Potential Conflicts
Review clearances
Review Scope

Verify Air Barrier Materials (even other trades)
Review Submittals

*Verify Compliance with the specifications

Product Data
Installation Instruction
Tech Bulletins
Hot/Cold Weather
Certifications

Identify missing / incorrect elements & proper substitution procedures and **SUBMIT**
At this point, there should be a running list of action items to follow up on…

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>ISSUE TO DISCUSS / NEED CLARIFICATION</th>
<th>DATE REQUIRED</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Submit Quality Assurance Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>Submit How Harmless for Lift Use To Review install</td>
<td></td>
<td></td>
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<tr>
<td>03</td>
<td>Submit All Products + Installation Instructions for VFD install</td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>Window Sub needs Sample + Info on details Membrane for Sealant Tests</td>
<td></td>
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<tr>
<td>05</td>
<td>Review w/ Architect the detail of Existing Bldg &amp; Vmg → will it be per 1.2.3.4.5.6.3</td>
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</tr>
</tbody>
</table>
Make sure that substitutions are reviewed prior to submission and properly submitted…

Try not to change between manufacturers
Warranty Information and Requirements

Certifications Should be Required... Such as ABAA
Review Testing Requirements

Have Testing company discuss their successes and procedures
Review Testing Requirements

Discuss testing label and correct patching procedures
Review job site logistics and schedule
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the minimum application temperatures?</td>
<td></td>
</tr>
<tr>
<td>Is there a low temperature product?</td>
<td>N/A</td>
</tr>
<tr>
<td>Verify availability with distributor...</td>
<td></td>
</tr>
<tr>
<td>Are there special markings for low temperature material?</td>
<td></td>
</tr>
<tr>
<td>What are the temperature limitations?</td>
<td></td>
</tr>
<tr>
<td>Low Temp:</td>
<td></td>
</tr>
<tr>
<td>High Temp:</td>
<td></td>
</tr>
<tr>
<td>What are the humidity/damp limitations?</td>
<td></td>
</tr>
<tr>
<td>Humidity:</td>
<td></td>
</tr>
<tr>
<td>Damp:</td>
<td></td>
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<tr>
<td>What is the UV exposure and anticipated time?</td>
<td></td>
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<tr>
<td>UV exposure per manufacture:</td>
<td></td>
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<tr>
<td>Discuss actual time during construction:</td>
<td></td>
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<tr>
<td>DO NOT INSTALL WHEN FOGGY</td>
<td></td>
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<tr>
<td>If UV will be an issue...discuss protection.</td>
<td></td>
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</tbody>
</table>
Review Compatibility of all products

Obtain compatibility letters from EACH manufacture of EACH product being installed in the cavity. Obtain sign-offs from both of the products that are adjacent to each other:

<table>
<thead>
<tr>
<th>Material Combination</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS Drip Edge &amp; Sealant under drip edge &amp; Masonry</td>
<td>✓</td>
</tr>
<tr>
<td>Air Barrier &amp; ETA</td>
<td>✓</td>
</tr>
<tr>
<td>Flashing &amp; Insulation</td>
<td>✓</td>
</tr>
<tr>
<td>Flashing &amp; Mastic or Sealant</td>
<td>✓</td>
</tr>
<tr>
<td>Air Barrier &amp; Mastic or Sealant</td>
<td>✓</td>
</tr>
<tr>
<td>ETA &amp; Air Barrier Mastic or Sealant</td>
<td>✓</td>
</tr>
<tr>
<td>Drainage Mat. &amp; Air Barrier Mastic or Air Barrier Sealant</td>
<td>✓</td>
</tr>
<tr>
<td>Insulation &amp; Flashing Mastic or Flashing Sealant</td>
<td>✓</td>
</tr>
<tr>
<td>Air Barrier &amp; Roofing</td>
<td>✓</td>
</tr>
</tbody>
</table>

Discuss timing of material installation

air barrier association of America

Air Barrier & Roofing VB
Review different product transitions

Asphalt Based products are NOT compatible with flexible PVC
Review substrates & concerns

Review the job specific details

“I’m here about the details.”
What is the detail at the parapet / Roofing? Verify that the AVB membrane either goes under the roofing membrane or to a compatible material to extend the AVB envelope to the roofing system (vapor barrier or adhered roofing membrane).

*Provide sketch...*

Example

*Discuss peel and stick joints and covering them if a single ply roof is being installed (the joints are NOT compatible)*
Confirm assumptions with the Building Envelope Meeting Notes
Discuss and document sequence of installation

Items to consider: Window/Door openings, Foundation Termination Detail, Vertical Wall Terminations, Parapet/Soffit Terminations, etc.

Step 1

Step 2

Step 3
Membrane needs to have bridging…it can typically only span \( \frac{1}{8} \)" to \( \frac{1}{4} \)" maximum…

Review with the manufacturer installation instructions
Installing on a concrete or precast wall?

Discuss timing, elevation related to the sun position
Make sure that the CMU is properly covered at the top, not allowing moisture to get into the wall.

Make sure that the roof connection is properly sealed so that moisture does not get into the wall.

And discuss masonry mortar timing.
Review anchors in CMU or Concrete...

If pre-drilled, discuss the procedure for the Mason to follow.
Review masonry anchors and membrane requirements...

Any coordination between trades required?
Review anchors in sheathing...

Review the masons anchor type and procedures
Review membrane specific details and sequence, trade coordination, & condition requirements
Review sheathing prep requirements…

Fasteners? Joints? Edges?
Review sheathing requirements...

Damage and Proper Installation of sheathing
Review protection needed and define scope & responsibility
Discuss wood concerns

Moisture Content
Wrapping of ends
Knots
Splits
Joints
How are window openings being flashed... watch out for membrane build-up and the potential for damage during window install.
Liquid membrane concerns...

Discuss how membrane is to obtain proper Thickness / How many coats Wet mil thickness Dry mil thickness
When membranes are being used

Discuss Expectations
When membranes are being used

Discuss installation expectations and how to correct
When membranes are being used

Discuss Proper primer installation
When membranes are being used

Review Mfr requirements and expectations

Cut Edge

Factor Edge
When membranes are being used:

Review proper overlapping.
When membranes are being used and review equipment needed for proper installation.
When membranes are being used

The Little details do mean the difference between success & failure
When membranes are being used, it is important to discuss proper end of day seal.
Discuss proper penetration details

Discuss patching also...
Material Procedure, Etc.
Will sleeves need to be installed?
Will sleeves need to be installed?
Proper electrical box & multiple pipe procedures/requirements...

Do we have 1 or 2 pipes... How do we Solve?
Discuss proper fastener locations
Coordinate with other trades for the proper installation of the air barrier

Substrate coordination
Are we installing on a CFMF and sheathing... does the CFMF go floor to floor or fly by?

If floor to floor installation, we will need an expansion joint detail at each floor level (typically on the bottom)
Building expansion joints

Make sure that the membrane is continuous to termination...

Verify that the expansion joint specified is for the air barrier also...not just on the building façade...
Expansion & Control Joints…

Review how they are installed…

Review materials needed
Shelf Angles...

Review how the shelf angle is attached and how it will be properly coated...

is there anything to be concerned about...such as bolted connections?
Shelf Angles…

What material are we using?

Would a different material make better sense?
Are we planning on using steel angle as part of the air barrier system?

We need to discuss who will seal the steel at 8’-0” o.c. or similar to create a continuous membrane.
If we plan on installing membrane on the underside,

have a discussion on what will be required.

Consider liquid applied
Will we have a masonry scaffold support system that will penetrate the building wall membrane and will need to be repaired at a later time?

Discuss procedure and who will perform the re-installation.
Review the parapet and coordinate and confirm compatibility with the roofing material.

The air barrier and roofing (if that is the air barrier for the roof) need to connect on the horizontal...not the short overhang of the roofing membrane (it will not work)
Scuppers on your building?

Discuss what needs to happen in order to make a continuous barrier through the scupper...
Projecting steel in your envelope?

Discuss proper procedure to make the installation correct...such as location of spray or the requirement for sheathing around the structural elements...etc.
Review patching procedures

Correcting a damaged area of Tyvek / Sheathing:

**STEP #1**
Hole or tear is identified

**STEP #2**
Cut & peel up Tyvek (1" above tear) and replace damaged sheathing as required

**STEP #3**
Slip new sheet of Tyvek under existing Tyvek – extend 6" up. Creating a "shingle" effect

**STEP #4**
Attach the new slip sheet onto sheathing

**STEP #5**
Tape existing and new Tyvek on all four sides.

**STEP #6**
Install gasketed screws a minimum 16" o.c. – both directions (into studs)

**Quality Notes**
Air Barrier – 03

[Images of the Tyvek patching process]
Discuss procedure for signage installation
Review Mock-up requirements

Purpose
Size/Configuration
Sequence
Inspections
Visual or Destructive

Produce a construction document /checklist
Its about Teamwork…

Stress open discussions

Don’t let this happen on your project…
Problems/concerns might initially appear very large in the beginning of the conversation...

At the end of the meeting, the concerns are typically small and manageable.

It's all about perspective and openness to conversation...
How do we prevent risk

How do we get everyone on the same page

What is our best defense

What is the next step
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Thank You!