ABAA Newsletter October 2017

INTRODUCTION FROM ABAA CHAIRPERSON

By Russ Snow

I hope everyone has had a great summer and has stayed busy. At the ABAA, it has been a very busy time and we have made some exciting progress on some of our initiatives as we move forward. We have recently finalized the location for our 7th Annual ABAA Conference and Trade Show…the beautiful Salt Lake City on May 8-9th, 2018. Coming off a successful conference in Reston, VA, we had asked for feedback from the attendees and as a result, we have made some modifications to our event, ensuring that it is enjoyable by all.

Please check our website for additional details, but currently we have put out a call for abstracts focusing on the following prioritized items:

- Climate specific design guidance in regards to wall assembly and vapor permeability of air barrier
- Trouble shooting of common issues during construction
- Compatibility of various types of air barrier materials
- Solutions to common issues with design, construction or inspection
- Research conducted that impact air barriers or other related building enclosure components
- New standards that impact the air barrier industry
- Specific methods and details for typical situations, including roof/wall, window/wall, curtainwall and storefront, below grade, floor to floor, etc.
- Case Studies of projects with unusual or difficult design or construction
- Product Durability and long-term performance

Another highlight is that we have recently invested in expanding our scope and services for the members. As part of this, there will be an increased marketing effort for our members, along with the benefits of our QAP. The goals of this are to increase ABAA specified projects and to ensure that projects go through the process. In addition, education is a big part of this so that all members of the construction team are aware of the benefits of ABAA and the QAP. To ensure that this is a priority, we have appointed Todd Parrott, as our Sales and Marketing Manager for the ABAA. Todd has a great deal of experience, a high level of energy, and has already started to make a difference in the market.

The goals that have been established are:

- Increased support to Accredited Contractors trying to communicate the benefits of the ABAA QAP
- Additional resource to Accredited Contractors having issues with the QAP being value engineered out
- Architectural training and education to specify and uphold the QAP through construction
- Collaborate on educational and sales efforts with members
- Increase educational efforts to the Architectural community
- Increased involvement with regional BEC, CSI, AIA, RCI and other organizations chapters
- Work directly with specific architects and GC's provided by our accredited contractors

And finally, to assist in continuing and growing our efforts around the country with a concerted effort on education and training, we have developed a Regional Advocate position and are running a pilot project in one of our target markets. This is a volunteer position with the responsibility to assist in the strengthening of the position of ABAA, along with providing added value to the membership. As part of these responsibilities, the individual will monitor and communicate issues and opportunities in the region regarding air barriers and ABAA in general, to the ABAA office for assessment, reporting and action. In addition, this individual will make presentations (as an approved speaker) and participate in ABAA sponsored presentations. We are excited to announce that Roy Schauffele, FCSI, CCPR, FABAA, LEED Green Assoc. (you may remember him) will be our first Regional Advocate in the Texas market. Please stay tuned for updates on how this is progressing.

As we continue to move forward on these, and many other initiatives we have in place, we also want to ensure you that our number one priority is you…our members.

All the best,

Russ Snow

Chair

ABAA Quality Assurance Program

Air Barrier Quality Assurance Program

Do it right the first time

Can you see air leaks and see water leaks in your new building right away?

Do you want your project finished only to then find out that you have installation deficiencies?

Do you want project delays for rework due to faulty installation?

Do you want to spend a lot of money down the road on a damaged building envelope?

The ABAA Quality Assurance Program is a risk management quality assurance program that addresses the potential issues before and during the installation process. The installation is performed by individuals and companies that are educated and have the experience to properly install air barriers.

Doing it Right the First Time is always the most cost effective

Difference Between Quality Control and Quality Assurance

Quality assurance builds the quality into the project at the front end rather than trying to build in quality at the back end of the project. Due to the confusion that sometimes surrounds these terms, too often one is called on to replace the other with the rationale that “we’ll just hire an inspector later for a couple of thousand dollars”. The problem with this analogy is that finding and fixing mistakes after they are made is expensive and time consuming.

Inspection is often referred to as quality control whereby the quality is “inspected in”. Contractor certification is characterized by a quality assurance or total quality approach to controlling errors and non-conformances. Quality assurance is the prevention of quality problems through planned and systematic activities including documentation – or simply put, the quality is “built in”.

Quality Assurance	Quality Control
• Total Approach • Control Errors • Prevention • Systematic	• Inspection

Are there significant costs to errors and defects on construction?

The simple answer is Yes. The farther along a project goes, the price increases. Once the project is complete and the air barrier is covered up, the costs become more significant.

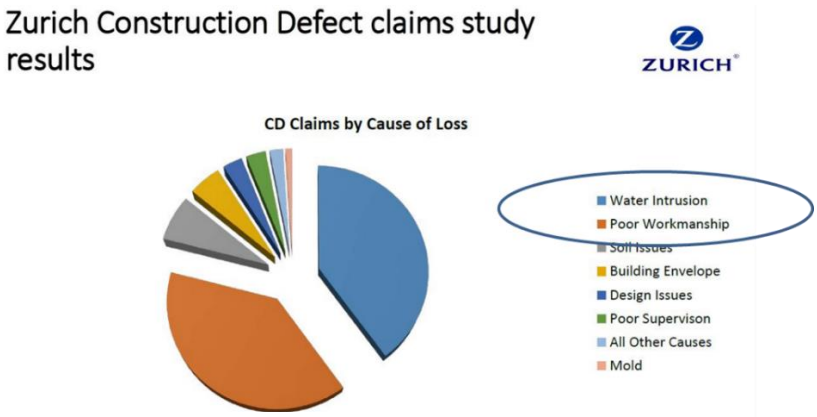
Cost Scenarios	
During Construction	After Construction
Time (GC, Design, trades, Manufacturer) Schedule Maybe remove cladding or insulation Re-work (removal, new material) Additional testing and QC	Time (more than during construction) Remove cladding/Insulation Remove AB Repair Damage (substrate, structure, sheathing) Re-install Material Re-install Cladding Legal Fees

Do I have a risk?

Absolutely. If the air barrier is covered over with the exterior cladding and is not done properly, you will have potential problems of moisture damage, increased energy costs, less durable envelope and damage to other wall components.

Workmanship and water intrusion make up 75% of claims. Air barrier defects are usually always related to workmanship and most likely will result in water/moisture issues.

In 2012, Zurich estimated that the insurance industry spent $5 Billion to settle construction defect claims. (About 20,000 claims)



2012 Construction Defect Claims

What are the Components to the Air Barrier Quality Assurance Program

ABAA EVALUATED MATERIAL

A listing of materials which have been tested and confirmed that they meet the requirements set out by ABAA. This saves a tremendous amount of time for the design professional and keeps liability off the design professional. These evaluated materials are listed in master specifications which provide wording for specifying an air and water resistive barrier installation.

Link to find evaluated materials: https://www.airbarrier.org/technical-information/evaluated-assemblies/

ABAA EDUCATION AND TRAINED CONTRACTORS WILL BID ON THE WORK

Contractors that have met ABAA's requirements and signed agreements to use ABAA certified labor, follow installation guidelines and correct any deficiencies listed on the ABAA website. These contractors have the experience, know-how and track record of performing installations. The Design Professional is not required to pre-qualify or try to determine who is qualified and who is not. ABAA Accredited Contractors must meet minimum requirements for insurance, ability for bonding, employ certified installers, and possess the necessary equipment to install and test their work, be trained in the Site Quality Assurance Program and sign a licensing agreement dictating professional conduct and the right to terminate their license should they not meet the requirements of the program.

ABAA EDUCATED AND CERTIFIED LABOR FORCE

ABAA Certified Installers have been trained and certified to do the installation. These installers have the related trade experience and are trained in various air and water resistive barrier systems installation requirements. Installers need a minimum 3000 hours of documented work experience in air barrier /water resistive barrier or related trades in order to qualify for certification. Certification is provided for various material types and dependent of experience.

ON THE JOB – DOCUMENTATION AND QUALITY CONTROL

Each ABAA specified project is required to have at least one Certified Installer on site, at all times. It is not a matter of simply having a site foreman (that is only on the site infrequently, if at all) trained. Certification is provided to the actual individuals that are performing the work and are onsite all the time.

Installers are required to perform a visual inspection of the substrate, prior to the installation of material, to confirm the substrate is properly prepared. The installer is also required to perform a visual inspection on the completed installation for that day and fix any deficiencies.

Depending on the installed and adhered materials, materials are subject to a pull adhesion test, thickness test and density test. The installer is required to perform at least one adhesion test (consists of three separate disc pulls) on the area installed for the day.

The Certified Installer is also required to document the entire installation process on “daily job site reports”. Daily Job Site Reports are submitted to the Site Quality Assurance Program office monthly, are provided to the general contractor / construction manager and design professional.

PROJECT AUDITS

Every ABAA specified project has a minimum of one site audit conducted. The number of audits performed on a specific project is determined on the total square footage of air barrier material being installed. For example, a project with up to 10,000 square feet of air barrier material applied would require one audit conducted (per the ABAA Site Quality Program). Additional audits may be performed due to non-compliance by the contractor/installer, if more specified in the contract documents or if the owner, architect or general contractor request more. In all cases, the cost of the audit is the responsibility of the ABAA Accredited Contractor.

The scope of the ABAA Field Auditor is to confirm compliance with project specifications, manufacturer’s installation guidelines and the ABAA Site Quality Assurance Program. This includes confirming if the installer is meeting the manufacturer’s instructions for substrate preparation, compatible materials, and actual application and repair procedures.

The ABAA Field Auditors are typically industry consultants, engineers, or auditor agencies and are overseen by a QAP management team. Each audit goes through a quality control review prior to being issued. The first job of the Auditor is to document compliance to the Site Quality Assurance Program and manufacturer’s installation guidelines. The second job of the Auditor is to provide solutions to site issues and act as a resource for installers to be better. Once the audit is completed, an audit report and photo log are forwarded to the Site Quality Assurance Program office for review, filing, and distribution to the Owner, Architect, Manufacturer, and General Contractor and Accredited Contractor. A punch list will be left on-site with the air barrier contractor and general contractor.

CONFLICT RESOLUTION

If any concern arises on a project from the Design Professional or Owner, a dispute resolution process is in place to deal with problems. The Site Quality Assurance Program has a system for handling complaints regarding a material or installation.

TECHNICAL SUPPORT

Independent 3rd party support is provided to the construction team to address issues, provide guidance, and be an on-going resource.

How do I get the ABAA Quality Assurance Program?

It needs to be specified in the contract documents. It can be done numerous ways, but this is one way to capture everything you need:

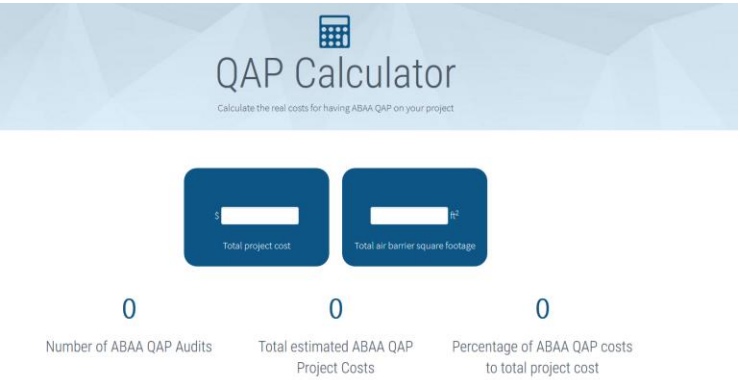
"Obtain primary ABAA Evaluated Materials from a single ABAA Evaluated Manufacturer and implement the ABAA quality assurance program utilizing ABAA accredited contractors, ABAA certified installers and ABAA site audits"

Does it cost money?

Yes. $0.085 per square foot of air barrier installed plus cost of audits ($2,000)

To find out exactly how much the QAP will cost for your project, you can use our online calculator.

www.airbarrier.org/qap/qap-calculator



Committee Updates

ABAA has a number of working committees that undertake a tremendous amount of work.

Technical Committee

The Technical Committee has been working very hard on a number of initiatives. Here are a few updates of action over the last couple of months:

- The building code sub-task group has formed again to monitor and review code changes and updates to the International Code Council (ICC), along with ASHRAE 90.1. The intent of the committee will be to review and suggest proposed modification to items related to air barriers. A new chair has been appointed to the Codes Task Group, Mr. Stephen Shanks with CTI Consultants.

- A new material evaluation criterion has been developed for the Open Cell Sprayed Polyurethane Foam. It is currently working its way through the ballot process to approve the document. When complete, manufacturers will be able to submit this type of material for ABAA evaluation. Once complete, a new specification for this material type will be created.

- A new work item has been created to create a material evaluation process for Engineered Polymer Films document forward. These materials are typically used on interior applications.

- A revised evaluation process for Medium Density Spray Polyurethane Foam has been worked on. The document is currently working its way through the balloting process at the committee level.

- An Ad Hoc Group on Material Categories / Types has met over the last few weeks to look at what material should be included in the ABAA evaluation process. The Ad Hoc Group on Material Categories / Types met on August 11 and 25, 2017. Work continues on developing an outline with the list of recommended material categories. Once the list is complete, it will be circulated to all on the main standing committee to review, provide comments and vote on.

ABAA Would like to thank all the members of the Technical Committee for their contributions:

Committee Chairs: John Posenecker - Building Exterior Solutions, Inc.
Andrea Wagner – Dow Corning Corporation

- Leonard L. Anastasi – EXO-TEC Consulting, Inc.
- Clarke Berdan II, PH.D. – Insulation with Owens Corning
- Daniel Buck - JRS Engineering Corp.
- Jordan Church - Fenestration/Walls with Exova
- Marysusan Courtier - GCP Applied Technologies Inc.
- Jason M Hoerter - NCFI Polyurethanes
- Marcus Jablonca - Dörken Systems Inc.
- Rick LeFevre - Dryvit Systems, Inc.
- Ariel Levy - RDH Building Sciences Inc.
- Dante Marimpietri - Tremco
- Ben Meyer - ECS
- Kevin Nolan - VaproShield, LLC
- Barry Reid - Georgia-Pacific Gypsum LLC
- Michael Rhodes - Rmax Operating LLC
- Ken Roko - The Facade Group, LLC
- Stephen Shanks – CTI Consultants
- Jason Simmons - PRI Construction Materials Technologies
- Russell Snow - W.R. Meadows
- Julie Szabo - Wiss, Janney, Elstner Assoc.
- Craig Wetmore – York Manufacturing Inc.
- Martin Widenbrant – 3M
- Ted Winslow - CertainTeed Corporation

Research Committee

The research committee mandate is to work to identify needed research and undertake credible research with 3rd research organizations. They also work to develop test standards for material testing and other required industry standards. Here are just a few things they are working on currently:

Water Sensor Development

Currently AATCC 127 is a water resistance test that uses a hydrostatic head to determine if a material is resistance to water penetration. This test includes a visual observation to determine if liquid water has passed through the material. As such, the test method can be subjective. Work has been done to create a new test method for resistance to water penetration, along with the development of an electronic sensor to provide accurate reading for water penetration.

The sensor would create a consistent, empirical method of material testing with data outputting to a user-friendly interface. This sensor design and testing apparatus has been designed to comply with the AATCC 1127 specifications.

The sensor has been developed and is currently undergoing round robin testing to use the new test equipment and provide comments on a draft test standard.

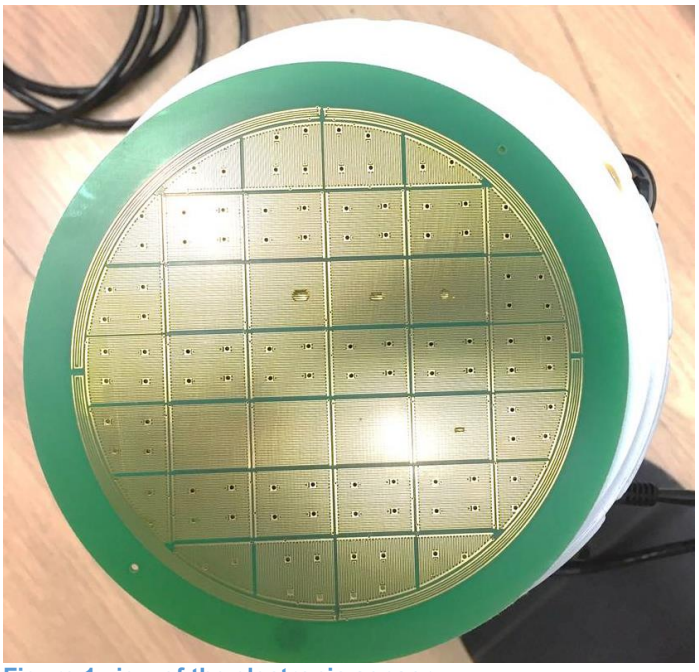


Figure 1 view of the electronic sensor

Figure 2 Test Apparatus at Test Completion

Fastener Air and Water Leakage

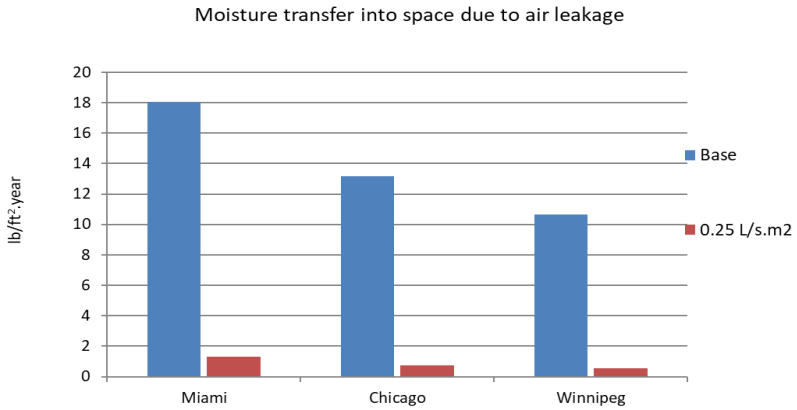
The purpose of this research is to determine the air leakage rate/water leakage rate of different types of fasteners that would penetrate the air barrier.

Currently the group has identified a number of screw types, cladding attachment devices, insulation anchors and brick ties to potential test.

The committee has agreed on an 8 x 8-foot specimen for the wall construction. Once details are finalized, testing would commence of a variety of fasteners.

Expanding the Air Barrier Calculator to add Moisture

The board of directors have approved funding to include moisture transport to the energy calculator for quantifying energy savings based on a building airtightness level. The intent of this project is to now quantify the amount of moisture that would be transported due to poor building airtightness for a variety of climates across the United States.



Pull Adhesion test method and Research

Currently ASTM 4541 is used to test how well the air barrier adheres to the substrate. There are a few flaws in the current test method, as the test method was originally designed for coatings and not all types of air barrier materials.

The question also comes up “how well is the air barrier supposed to stick”? With so many variables in regards to substrate, wall make up, environmental factors and other things, this has not been an easy question to answer. Currently, ABAA requires that 16 psi is achieved for materials that go through the ABAA evaluation process.

Here are a few things that have been completed and are in the works:

- A new Pull Adhesion Test Standard has been created that is specific to air barriers and provides a reference to how to properly conduct the test and report on the results.
- A project has started that is taking 15 years of ABAA audits reports to determine average adhesion values of various materials on various substrates, in a variety of environmental conditions, mode of failure and other key identified criteria.

Standard Test Method for Determining Gap Bridging Ability of Air and Water Resistive Barrier Materials

A new test method has been developed that covers a laboratory procedure for determining the ability of an air barrier material to bridge a gap in the substrate and maintain continuity during substrate movement.

This test method consists of testing five specimens of air barrier material on a substrate surface which contains a gap between two pieces of substrate, placing the specimen in a test machine, and subjecting the specimen to ten cycles of movement either under normal laboratory temperatures or cold temperatures.

This new test method is in draft form and is working its way through the committee balloting process.

ABAA Would like to thank all the members of the Research Committee for their contributions:

- Committee Chairs: Andrew A. Dunlap – Smith Group JJR Inc.
  Sarah Flock – Raths, Raths & Johnson, Inc.

- Marysusan Courtier - GCP Applied Technologies Inc.
- Andre Desjarlais - Oak Ridge National Laboratory (UT-Battelle)
- Marcus Jablonka - Dörken Systems Inc.
- Kevin Nolan - VaproShield, LLC
- Steve Peklenk - Corporate Construction Services, LLC
- Brian M. Stroik - Tremco
- Julie Szabo - Wiss, Janney, Elstner Assoc.
- Martin Widenbrant – 3M

ABAA 2018 Conference & Trade Show

Join us for our 7th annual conference & Trade Show which will take place on May 8-9, 2018 at the Salt Palace Convention Center in Salt Lake City, Utah! Come learn from some of the top minds in Building Science with expertise in building enclosures, moisture management, air barriers, sustainability and enclosure commissioning. The conference provides two days of comprehensive learning tracks specific to design professionals, consultants, general contractors, subcontractors and others interested in the air barrier industry. Exhibitors will include air barrier materials manufacturers, application equipment, testing labs and building enclosure consulting companies. Registrations for the exhibitor and sponsorship program for the 2018 Conference will be available for registration soon!

- May 8-9, 2018 at the Salt Palace Convention Center in Salt Lake City, UT
  http://abaaconference.com/

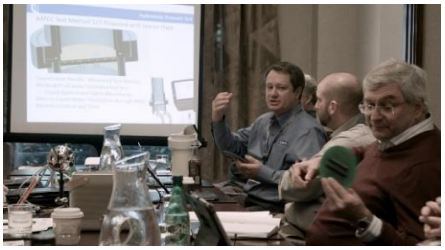
We're currently recruiting experts to help hundreds of professionals by submitting abstracts for the Annual Conference & Trade Show.

Topics that have been prioritized:

- Climate specific design guidance in regards to wall assembly and vapor permeability of air barrier
- Trouble shooting of common issues during construction
- Compatibility of various types of air barrier materials
- Solutions to common issues with design, construction or inspection
- Research conducted that impact air barriers or other related building enclosure components
- New standards that impact the air barrier industry
- Specific methods and details for typical situations, including roof/wall, window/wall, curtainwall and storefront, below grade, floor to floor, etc.
- Case Studies of projects with unusual or difficult design or construction
- Product Durability and long-term performance

Proposals can be submitted no later than November 15th, 2017, visit our link for further details.

The 2017 ABAA Conference & Trade Show took place in Reston, VA from April 18-20. This was our largest one to date with 462 in attendance! Attendees participated in the different aspects of the conference that were offered, such as the trade show, educational presentations, and training sessions.



Upcoming Events

Upcoming Installer and Field Auditor Training

To register for any following training course, please visit our website:
http://www.airbarrier.org/events/category/installer-training-courses/

Self-Adhered and Fluid Applied

- October 24-26, 2017 in Dallas, TX
- December 5-7, 2017 in Charlotte, NC

Spray Polyurethane Foam

- November 7-9, 2017 in East Windsor, NJ
- December 12-14, 2017 in Arlington, TX

Field Auditor Training

- October 31-November 2, 2017 in Irving, TX

Full Day Symposiums

- **October 24, 2017** - Philadelphia Air Barrier Symposium in Philadelphia, PA
  https://www.aiaphiladelphia.org/events/abaa-aia-philadelphia-air-barrier-symposium
- **November 1, 2017 -** San Jose Air Barrier Symposium in Santa Clara, CA
  http://aiascv.org/events/EventDetails.aspx?id=1003553&group
- **November 2, 2017 -** San Francisco Air Barrier Symposium in San Francisco, CA
  http://www.aiasf.org/events/EventDetails.aspx?id=998667&group

Presentations

- **November 14-17, 2017** – MN AIA Conference – Minneapolis, MN
  Achieving a High-Performance Air Barrier System 1.5
  http://www.aia-mn.org/events/convention/
- **January 17, 2018** – CAC (Chicago Area Consultants) RCI – Hamburger University, Chicago, IL
  How to Performance Specify an Air Barrier by Code and by ABAA
  http://www.aia-mn.org/events/convention/

Exhibiting

- **November 14-17, 2017** – MN AIA Conference – Minneapolis, MN
  Achieving a High-Performance Air Barrier System 1.5
  http://www.aia-mn.org/events/convention/

- **January 8-11, 2018** - NIBS Conference –Mandarin Oriental Hotel in Washington, DC
  Achieving a High-Performance Air Barrier System Proper Design, Installation and Field Quality Control
  http://www.nibs.org/?page=conference2018

- **February 28-March 1, 2018** - 4th Residential Building Design and Construction Conference in State College, PA
  Site Quality Assurance Programs - How this has improved air barrier installations
  http://phrc.psu.edu/Conferences/Residential-Building-Design-and-Construction-Conference/4th-RBDCC.aspx

Find ABAA at these industry events:

- **February 1-4, 2018** - CSI 2018 Specifiers Retreat in Fernandina Beach, FL
  https://www.csiresources.org/masterspecifiersretreat/msrfeb2018