



WE WANT TO SHOWCASE YOUR QAP PROJECT!

EMAIL LOUISE AT: LHARDMAN@AIRBARRIER.ORG

Projects will be reviewed and upon acceptance, will be showcased on our website, weekly email, and social media outlets.

FEATURE QAP PROJECT:

OPS 156TH & IDA STREET – NEW HIGH SCHOOL



On this unique high school and YMCA collaboration, the architect and design team were looking for a system to control air and moisture movement. Liquid Foam Insulation Inc. was the accredited contractor to install a Henry fluid applied system to achieve a high industry performance standard.

ARCHITECT: BCDM Architects

GENERAL CONTRACTOR: Sampson Construction

LOCATION: 15800 Summit Street, Omaha, NE 68007

TYPE: Liquid Applied Air Barrier

VALUE: \$92,000,000

BUILDING AREA (sq. ft.): 315,000

TOTAL AIR BARRIER AREA (sq. ft.): 91,317

ACCREDITED CONTRACTOR: Liquid Foam Insulation, Inc.

➤ **MORE INFO:** <https://bit.ly/3G8JTIL>

4TH QUARTER NEWSLETTER

2021

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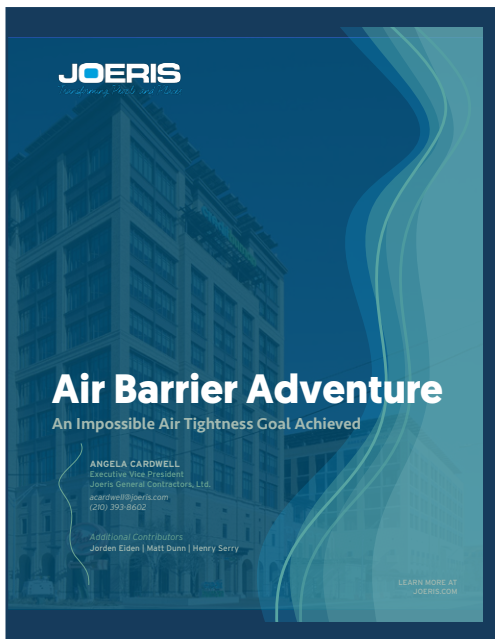
SPANISH TRANSLATIONS OF ABAA ARTICLES AND TECH TIPS

To better assist our members, four articles from recent contractor newsletters have been translated into Spanish and were recently published!

Please share these with your team members to give everyone the availability to the best of air barrier knowledge, link below.

➤ **ARTICLES:** www.airbarrier.org/technical-information/abaa-articles/





AIR BARRIER ADVENTURE – AN IMPOSSIBLE AIR TIGHTNESS GOAL ACHIEVED

In today's instantaneous world, this effort took longer than an email. ABAA started working with this group over five years ago. Joeris had requested an ABAA presentation from Roy Schauffele, FCSI, CCPR, FABAA, CABS, followed by several more over 18 months. After that time, Roy suggested to Joeris that QAP Auditor and Independent Consultant Tom Kita, CDT, give several of his presentations regarding the ABAA QAP and quality items in general.

➤ **ARTICLES:** <https://bit.ly/3lldAc7>

The development of these relationships and credibility is not an overnight success. What follows in this document is the results of several years of effort by Tom & Roy on behalf of ABAA.

GREETINGS FROM THE CHAIR | BRIAN STROIK

Sometimes it is good to sit back and reflect, as we enter the Holiday Season. I had an opportunity to spend some time with Mr. Craig Wetmore, Co-Chair of the Marketing Committee, and Secretary for the Executive Committee of the Air Barrier Association. We talked about family, friends, and of course, the ABAA.

We discussed the association's past and imagined the future for this fantastic organization. Then as only Craig can do, he brought us back to the here and now, and we talked about what I believe is the fundamental mission of the ABAA – to improve the construction industry.

THE ABAA HAS DONE A GREAT JOB DEVELOPING A TRIED-AND-TRUE FORMULA FOR SUCCESS:

- Make sure there are good products for people to use
- Provide knowledgeable and trained technicians to install these materials
- Check the work installed which allows us to improve our knowledge and processes – or the ABAA Quality Assurance Program (QAP).

Let's think about this "improving the construction industry" in another way.

EVERYWHERE I TRAVEL I HEAR ABOUT THE LACK OF TRAINED CONSTRUCTION PERSONNEL. YET IN 2021, THE ABAA HAD OVER:

- 1,100 Certified Air Barrier Installers
- over 1,300 Registered Installers
- Equaling 2,400 trained Air Barrier Installing Technicians around the country, representing over 350 companies in the United States.

Remember, 20 years ago, there was a total of Zero trained installers for this critical part of our building enclosure, as the ABAA was just starting up. On top of these impressive numbers is that over the last four years, the ABAA has been one of the top providers of Building Science Education to our industry. Not only to Architects, but also to General Contractors, Code Officials, Installers, and Enclosure Consultants. I believe this speaks directly to the goal to improve the construction industry – Education.

It was fun to take the time to slow down and look at everything the ABAA is doing for our industry: trained installers, industry-leading Certifications (CABS) & Whole Building Tightness Testing, continued Research, and of course sharing Education – all of which is being done by our amazing volunteers, all wanting to make our industry better!

I wish you the best during this Holiday Season and hope you have some time to relax with a friend, reminisce past experiences, and dream about how you can make a difference in the future.

Stay safe,

Brian Stroik

Chair: Air Barrier Association of America
American Contractors Insurance Group
Performance Excellence & Quality Consultant

IS ASTM E283 INTERCHANGEABLE WITH ASTM E2178?

BY LAVERNE DALGLEISH

The short answer is no. The results you get from ASTM E283 will be different than from ASTM E2178. They are not the same test method. ASTM E283 is simply the procedure to determine air leakage rate across a specimen while ASTM E2178 is to determine the air leakage rate across a building material.

That may seem to be the same thing, but ASTM E283 was developed to determine the air leakage rate through exterior windows, curtain walls, and doors. In the standard, it defines the specimen as being full size, the height of full story building or the height of the unit, whichever is greater. It goes on to require the specimen to consist of the entire assembled unit, etc. The test method gets into how you calibrate the test apparatus, what the test conditions need to be and the procedure for testing. Finally, it provides requirements for calibration and outlines what is required for the report of the test.

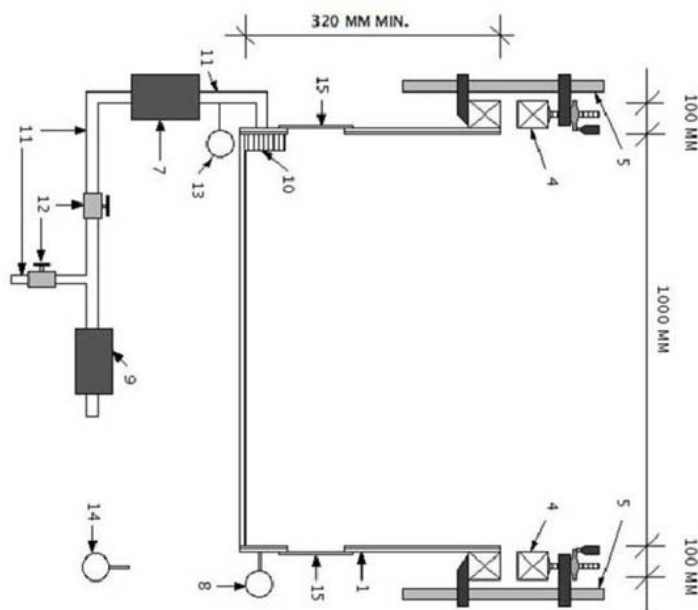
The summary of ASTM E283 in clause 4, talks about taking one side of a specimen, sealing it against a chamber, then supplying and measuring the air flow rate to maintain a set pressure difference. ASTM E283 provides information on how to calibrate the test apparatus and how to calculate the results of the test. It works for windows, walls and doors as the specimens are all constructed units. There is no specimen preparation required so the test method can focus on how to conduct the actual testing of a single unit. There are no required pressure differential requirements in ASTM E283, the proponent decides on whatever they want.



If no other information is provided, ASTM E283 cannot be used for comparing one air barrier material to another. To be able to compare materials, the specimens need to be the same and the procedure for testing and reporting needs to be the same.

The air barrier industry developed ASTM E2178 specifically to test the air leakage rate of building materials to determine what materials may be considered an air barrier material. This standard requires that five (5) specimens are used to determine the air leakage rate and that these specimens are a minimum of one (1) meter by one (1) meter. This is an important requirement as we have learned that no material is truly homogeneous. The minimum of five specimens helps to determine the true air leakage rate of the material. We are also measuring air leakage rates that are very low in a lot of materials and if the specimen size is small the results are not accurate.

The test chamber to be used is fully detailed in ASTM E2178 and includes the length, width and height whereas in ASTM E283 the requirements for the test chamber are very general revolving around making the chamber airtight. There are no detailed requirements for Flow Measuring Devices (Air Flow Metering System in ASTM E283) in ASTM E283 whereas you have very specific requirements in ASTM E2178. I have seen many laboratories who have not obtained the proper flow measuring device (normally a mass flow meter) or have constructed a completely sealed chamber and have reported an air flow rate of 0.00 L/s·m². To me this means they need to upgrade their chamber and their air flow measuring equipment.



The specimen preparation is detailed out in ASTM E2178 for size, how to place the specimen on the test chamber, how to seal it to the chamber, how to determine the extraneous air leakage rate, etc. With ASTM E283, it just talks about the specimen being

full size, etc. The specimen size is fully up to the entity asking for the test to be conducted which could be 25 mm by 25 mm.

The ASTM E2178 test procedure requires six test pressures to be used on each specimen. They are 25, 50, 75, 100, 150 and 300 pascals. ASTM E2178 requires that the results are to be reported at 75 Pa. With ASTM E283, the entity asking for the test to be conducted determines the pressure difference for the test and only a single pressure difference is required. ASTM E2178 requires that the pressure testing is conducted in accordance with ASTM E283. The final value for each specimen is measured after the material has been subjected to the six pressure differences, with 300 pascals being the highest pressure difference to determine whether the high

pressure difference has caused the air leakage rate of the material to increase.

The calculation clause in ASTM E2178 requires that an error analysis be performed, this is not required in ASTM E283.

The reporting clause of ASTM E2178 requires that the flow rate equation be established by fitting the data, and errors estimated. The ASTM E2178 provides Annex A1 as a recommended procedure for doing this. ASTM E283 does not require this. ASTM E2178 requires a regression line based on the air leakage data to have an $r^2 < 0.99$ or an explanation given. ASTM E283 does not require this.

TABLE 1 – Comparison of Two Standards: ASTM E2178 and ASTM E283		
	ASTM E2178	ASTM E283
Specimens required	five	one
Chamber requirements	detailed	simply airtight
Flow measuring device requirements	specific	none
Specimen preparation	very detailed	none
Specimen sealing to chamber	very detailed	none
Procedure for determining extraneous air leakage	detailed	none
Number of pressure differences for the test	six	one
Specific pressure differences	yes	chosen by entity
Requirement to test at reporting pressure after subjecting the specimen to all loads	yes	no
Error analysis required	yes	no
Regression line greater than $r^2 < 0.99$ required	yes	no

SUMMARY

ASTM E283 cannot be a substitute for ASTM E2178. You cannot use results from an ASTM E283 test to compare the air leakage rate of one air barrier material against another air barrier material as the specimens may not be the same. If you wanted to

use ASTM E283 tests for comparison, you would have to ensure that all of the requirements of ASTM E2178 have been met. If they have, then you have test results from an ASTM E2178 test. If they have not been met, then the results cannot be compared to test results from ASTM E2178.

TOP CERTIFIED TALENT OF 2021!

ABAA CERTIFIED AIR BARRIER SPECIALISTS - CABS

By becoming a Certified Air Barrier Specialist, these professionals have proven their knowledge across all the air barrier fields and are qualified to be your trusted air barrier advisor.



Daniel Buck, PE,
CABS



Eric Turcotte,
CABS



Justin Boone,
CABS



Matthew Ritchie,
RBEC, CABS, CDT



Petersen Lambert,
PE, BECxP,
CxA+BE, CABS



Corey Zussman, AIA, NCARB,
ALA, RBEC, RRC, REWC, RWC, RRO,
CDT, CQM, CxA+BE, BECxP, CABS,
LEED AP BD+C, Level 1 Therm.



Bill Geisheker,
CABS



Stanley Thomas,
CxPP, BSC CP,
CBCP, CMVP,
CABS



Roy F. Schauffele,
FCSI, CCPR,
FABAA, CABS



Jeff Stickney,
CABS, CPHT,
CCPR CDT, MBA



John Wurzbach,
CABS



Man Tan Huynh,
CABS



Paulina Beeche Larrain, AIA, LEED AP, CDT,
CABS



Ryan Rosenberger,
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Greg Wiatrek,
CABS

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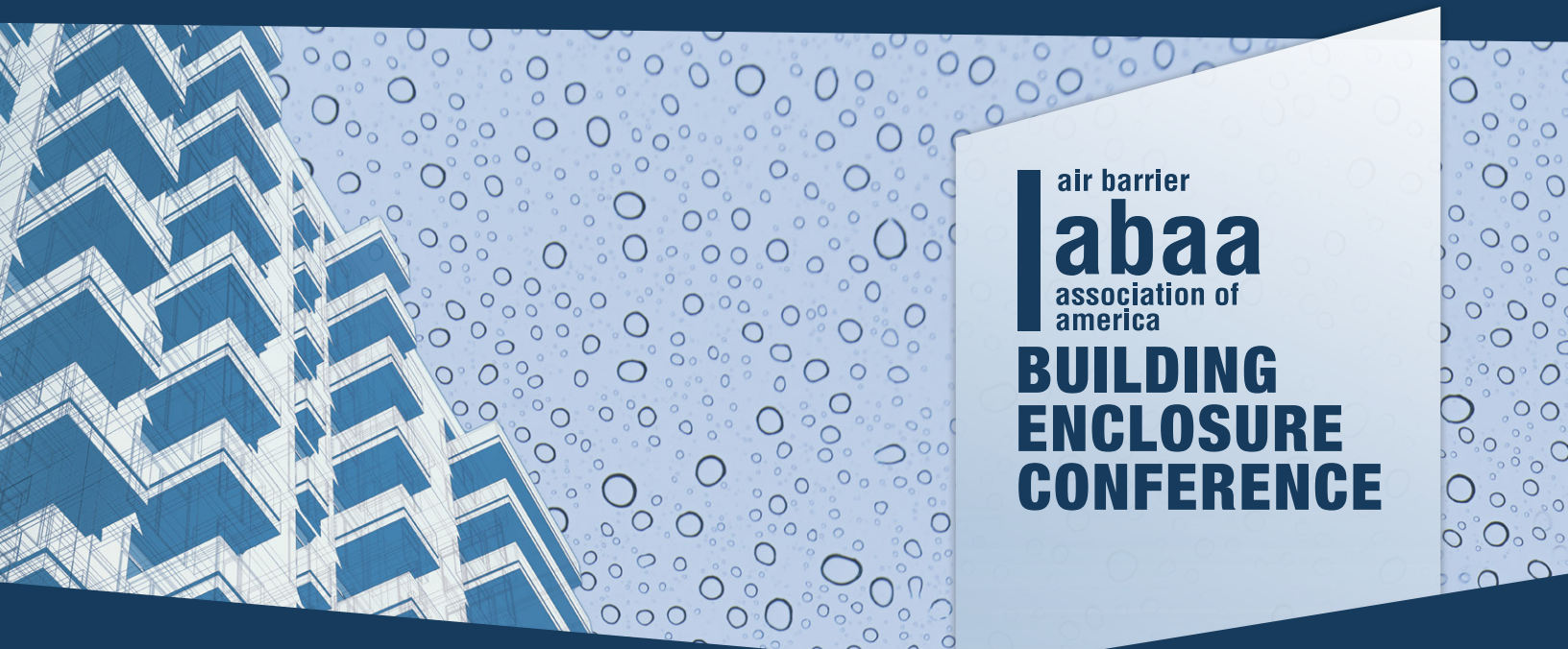
EXPERTISE

WHEN YOU SHARE YOUR KNOWLEDGE, YOU WIN!

Publishing an article can be a great way to advance your career and create new opportunities. Do you have an article or idea in mind? We can pair ABAA Members with ABAA Mentors that will advise you on your article, and verify technical details.

You have skills and knowledge others are trying to obtain. We are looking to assist with articles on a wide range of air/moisture barrier topics, from absolute beginner to highly technical. Maybe we will all be reading it right here in this very newsletter!

EMAIL IDEAS AND QUESTIONS TO LOUISE AT: LHARDMAN@AIRBARRIER.ORG



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On Hot topics that you need to Properly Specify an Air Carrier
Dr. Michael J. Smith, DVM, MBA, CEC

Hot Topics: The Importance of Walk to Red Crosses for Your Air Business
Dr. Michael Smith, DVM, MBA, CEC

Please Ponder with Caution: Every Building Encloses is Sustainable and Permissible
Dr. Alan Smith, DVM, MBA, CEC

Quality Control: The Importance of Quality Control in the Air Business
Dr. Alan Smith, DVM, MBA, CEC

Hot, but Verily - Quality Control in your Air Business
Dr. Alan Smith, DVM, MBA, CEC

New Tools to Help Drive Growth in your Air Business Specifications
Dr. Alan Smith, DVM, MBA, CEC

Air Business Mental Training - Why Personal Traits is Good for the Successful, but NOT for the poor Air Business
Dr. Alan Smith, DVM, MBA, CEC

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Dr. Alan Smith, DVM, MBA, CEC

Why Come to Attend Air Business
Dr. Alan Smith, DVM, MBA, CEC

Quality Control: The Importance of Quality Control in the Air Business
Dr. Alan Smith, DVM, MBA, CEC

Why Come to Attend Air Business
Dr. Alan Smith, DVM, MBA, CEC

Why Come to Attend Air Business
Dr. Alan Smith, DVM, MBA, CEC

WWW.AIRBARBER.ORG

UPCOMING SYMPOSIUMS AND PRESENTATIONS

DATE	ORGANIZATIONS	LOCATION
January	CSI Master Specifiers Retreat	TBD
March 20	IIBEC Annual Conference	Orlando, FL
April 12	BEC Minnesota	Minneapolis, MN
April 19	CSI New Orleans	New Orleans, LA
April 21	CSI Great Lakes Regional Conference	Cincinnati, OH
May 10	ABAA BEC *Registration Open!	Reston, VA

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ON-DEMAND WEBINARS AVAILABLE NOW

Specifying Air Barriers To Achieve Air Tightness - <https://bit.ly/3ypRT5M>
 Trust, But Verify – Quality Control For Your Air Barrier - <https://bit.ly/3GLDdka>
 The Importance Of Wall To Roof Connections For The Air Barrier - <https://bit.ly/3GEMzOA>
 Game Plan To Getting Air Barriers Right - <https://bit.ly/3E2NuHe>
 The Elusive Sub-Contractor Responsible For Transitions - <https://bit.ly/33x3lf5>
 New Tools, Research & Site Quality In The Air Barrier Industry - <https://bit.ly/3EWuew1>
 Navigating The Real, Imperfect Air Barrier Details - <https://bit.ly/3dTIRoc>
 Air Barrier Continuity Strategies for Storefront & Curtain Wall Systems - <https://bit.ly/3ytbodF>

NEW

WHOLE BUILDING AIRTIGHTNESS TRAINING AND CERTIFICATION PROGRAM IS COMING!

ABAA is hard at work to bring the industry the first ever Whole Building Airtightness Training and Certification Program! Anticipated roll-out date for the first training course is early 2022.

Make sure to stay in the loop with any updates!



SIGN UP TO BE NOTIFIED

INSTALLER TRAINING

SPRAYED POLYURETHANE FOAM INSTALLER TRAINING

- February 28-March 1,
- SPFA Conference in San Antonio, TX
- May 10-12, Reston, VA
- July 19-21, Online Training
- November 15-17, Online Training

FIELD AUDITOR TRAINING

- May 10-12, Reston, VA
- October 18-20, Online Training

SELF-ADHERED AND FLUID APPLIED TRAINING

- January 25-27, Online Training
- March 29-31, Online Training
- April 19-21, Online Training
- May 10-12, Reston, VA
- June 14-16, Online Training
- August 23-25, Online Training
- September 13-15, Online Training
- December 13-15, Online Training

CERTIFY YOURSELF OR YOUR TEAM!

REGISTER: <https://bit.ly/3dhq59P>

ABAA AND CSI MEMPHIS TEAMED UP!

This September, ABAA and CSI Memphis teamed up for a half day Air Barrier Rodeo that included (finally!) in-person educational lectures, hands-on application of air barriers and networking with

other industry professionals. Participants, including architects, contractors and students, gained both academic and real-life experience of air barrier technology and installation.



WE WANT YOUR FEEDBACK!

We would love to hear your feedback on this newsletters. Do you have an industry related article you would like to see featured in our newsletter? Submit it to us for review and you could see your work published in the next newsletter!

Email it to us at: lhardman@airbarrier.org