



Washington State Energy Code (WSEC) 2012 air barrier "building test" services were fulfilled for the new addition of Lexus of Spokane.

Air Barrier Testing Code Requirements and BECx Regional Trends

Increasingly over the last decade, air and water barrier testing, envelope design consultants, and specialty commissioning services such as building envelope commissioning (BECx) have gained momentum. This is due to the ever-expanding number of building envelope products, assembly configurations, and complex interface geometries in addition to energy code requirements.

BECx is a third-party process to provide oversight and review of the building envelope's design and construction process. An important part of the BECx process is being able to provide knowledgeable reviews of design documents and submittals using air/water barrier testing and failure analysis experience. A second important part of BECx is providing photographic documentation and review of the envelope's installation in the field to spot potential issues as they occur and stop installation to make expeditious corrections.

BECx and envelope design consultants are essential to building owners, architects, and general contractors to provide technically capable oversight of the design and installation. Failures can result in extremely expensive rework due to water damage and the legal ramifications that follow, as well as increased long term energy use from mechanical HVAC equipment.

The 2012 International Energy Conservation Code (IECC) specifies commercial buildings must meet specific air leakage requirements

Air Barrier Testing, also referred to as Building Envelope Testing (BET) in the industry, is a process that determines the airflow in and out of a building's exterior (infiltration and exfiltration) at a set pressure, for a building or enclosed space. The test area can be as small as a room or as large as a multi-story building. Currently several state energy and building codes mandate this testing, for example, the 2015 Washington State Energy Code (WSEC) for commercial buildings requires a postconstruction air barrier test using ASTM E-779 or equivalent method with a PASS/FAIL rate of 0.40 CFM/sqft of envelope area. Oregon, Idaho, Montana, Utah, and Nevada have similar requirements. The US Army Corps of Engineers PASS/FAIL criterion is 0.24 CFM/sqft.

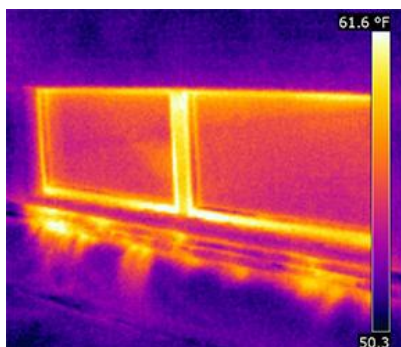
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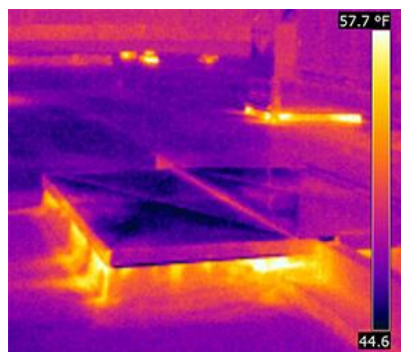
Infrared Thermography Used in Building Envelope Testing



This may appear to be a building on fire, but it is actually an infrared (IR) thermography signature showing hot air escaping from the building's exterior. Thermography provides a way of viewing and analyzing thermal surface signatures that can help spot moisture in walls, missing insulation, and unintended air movement through assemblies by interpreting the images.

A thermographer often works along with the BET professionals during air or water barrier testing to provide detailed analysis of the unseen surface conditions.

First Image: A window retrofit, poorly sealed. Orange rays show air leakage or exfiltration.



Second Image: The capped air handling curb was not sealed. Orange rays show air leakage.

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NWESI sponsored events.***

***Come support your local industry
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4/12-4/13 Northwest Facilities Expo
Portland Convention Center, Portland, OR



4/12-4/14 OSFMA Annual Conference
Oregon School Facilities Management Association, Albany, OR



4/14 ASHRAE Idaho Technical Conference, Boise, ID

4/18 NEBC Oregon's Energy Future 2017
Clean Energy in Oregon--What's next? Portland, OR



4/20-4/22 WSSHE Washington Society for Healthcare Engineering
Spring Symposium, Chelan, WA

04/24-04/27 ACG CxEnergy 2017, Orlando, FL



04/27 Seattle Data Centers Communications Infrastructure
and Innovation, Seattle, WA

5/4-5/5 ISHE Idaho Society for Healthcare Engineering
Spring Symposium, McCall, ID



5/10-5/12 OSHE Oregon Society for Healthcare Engineering
Spring Symposium, Bend, OR

5/11 OAME 29th Annual Trade Show
Oregon Association of Minority Entrepreneurs, Portland, OR



5/11-5/12 USHE Utah Society for Healthcare Engineering
Spring Conference, Salt Lake City, UT



For more details on these events,
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TOM'S TRIVIA

Washington State's code requirement for air barrier testing is a significant step towards improving the energy efficiency of buildings and subsequently conserving natural resources. Past laws within Washington haven't always been so valuable or enforceable.

Four of the regulations below are genuine, and one is fabricated.

1. It is illegal to walk around in public with a common cold.
2. It is illegal to rub a potato on a wart and bury it.
3. It is illegal to put poison in an outhouse.
4. It is illegal to ride an ugly horse.
5. It is illegal to harass undiscovered species, including Sasquatch.

If you think you know the phony one, contact Tom Prevish **by April 30, 2017**.
Correct answers will be entered into a drawing for a prize.

Email Tom Prevish
with your answer at tomp@nvesi.com



Want more information?

Please contact us at 503-639-7525 or visit us at nvesi.com.