

Building Envelope News

ZERODRAFT Building Envelope Specialists Zap Ice Dams and Cold Drafts in New York



With lake effect snow and frequent freeze-thaw cycles, New York State residents know that winter can bring big storms, big energy bills and big comfort problems. Ice damming is a constant problem, often resulting in “ice palaces” that feature monster icicles stretching from the eaves right to the ground.

Last winter, residents filed hundreds of thousands of dollars in insurance claims for damage caused by ice damming. The problem was so severe it was covered on the local news on several occasions, with residents being advised to get up on their roofs with shovels to clear the snow.

Enter Zerodraft Building Envelope Specialists to the rescue. Sam Waterbury and John Flanagan started this ‘comfort company’ 18 months ago after attending an educational seminar with Canam Building Envelope Specialists President Tony Woods.

“We were installing fiberglass insulation and doing the best we could for our customers,” says Waterbury. “Then we listened to Tony speak and really saw the light. Air sealing and proper ventilation are solutions. Storm doors and adding more and more insulation are merely band-aids.” ...Continued on page 2

ZERODRAFT Montreal Goes Underground with Sewer Pilot Project

We’ve all cursed aloud after driving over a sewer grate that’s fallen victim to frost heave. Drivers can’t help but wonder what damage they’ve done to tires, alignment, shocks and struts after hitting one of those crookedly raised devils.

Now Zerodraft Montreal might have found a solution that can save wear and tear on vehicles, extend the life of the grates, the asphalt around them and even the sewer access shafts.

“We’re spraying the ZERODRAFT® 2-component polyurethane foam on the insides of the sewer access shafts, from the surface to about four-feet down before the ladders are installed,” says Darren Newhook of Zerodraft Montreal. “So far we’ve done about 50, and we’re scheduled to do 500.”

The winter climate in Montreal is cold and damp, with frequent freeze-thaw cycles. The metal

sewer grates conduct the cold, causing asphalt to crack and heave with each freeze-thaw, creating hazards for motorists and greatly reducing the life expectancy of road and shaft.

The work being performed by Zerodraft Montreal is part of a pilot project for a condominium development on the island. The engineer in charge of the development chose ZERODRAFT over bringing in a traditional urethane truck because the portability of the insulating air seal kits allows for a faster, more cost effective installation, especially in the tight confines of the sewer access shafts.

Newhook says that if all goes well with the sewer insulation pilot project, Zerodraft Montreal will take its findings to Transport Quebec to gauge interest in performing further testing on Montreal highways.



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Waterbury and Flanagan brought their background in insulation for commercial buildings to the ZERODRAFT® Weatherization Materials Authorized Applicator training sessions, where they learned even more about building science, air migration in commercial and residential structures, how to diagnose problems and locate the source, air sealing and ventilation, weatherization materials including 1- and 2-component spray foam insulating air seal kits, weatherstripping, firestopping and proper installation for different applications.

Now they take that training and use it to not only solve comfort problems for their customers, but to educate them on how and why it works.

“I don’t like glib salesmen,” says Waterbury. “We educate our customers instead of trying to sell them a bag of tricks.”

“Sam has a great style with the customers,” says Flanagan. “He builds a relationship. We show our customers where the problems are in their homes, and create a report that includes pictures and outlines solutions. As a result, we have a 90 percent closing rate. Once we have the job, we don’t leave until the customer is 100 percent satisfied. Most of our business comes from referrals.”

Zerodraft Building Envelope Specialists’ weatherization services and education-first attitude have come to New York State at a time when both are needed. The crews are hard at work at the Mansion Acres town home community outside New York City. One homeowner, desperate to retain the value and improve the comfort of her

\$600K townhouse unit and reduce her \$900/month energy bill, contacted her local utility, who referred her to Canam and ZERODRAFT, who in turn brought in Flanagan and Waterbury.

“When we did the original assessment, we found the house had no air sealing and really poor insulation,” says Waterbury. “There were huge chaseways allowing warm air movement from the basement to the attic. There was a significant ice damming problem, and to top it, the house was drafty and uncomfortable.”

The team used the books and manuals they received as part of their applicator training to educate the homeowner, who agreed to the project. They even took her up to her attic and taught her how to spray the foam insulation. While the crew was working on the house, other residents from the community became curious and approached both the crew and the homeowner, who promptly recommended Zerodraft Building Envelope Specialists’ services to her neighbors.

“She was really pleased with the work and with the improved comfort,” says Waterbury. “We talk almost once a week now and have become friends.”

As a result, Zerodraft Building Envelope Specialists are working on a proposal to air seal over 100 homes in the Mansion Acres community. There are another 15 to 20 communities of the same size with similar comfort and ice damming problems within a 20-mile radius of the Mansion Acres complex. As word spreads and referrals grow, Waterbury and Flanagan are in increasing demand.



“Our work completely and permanently changes the comfort dynamics of the house,” says Flanagan. “We’re able to reduce people’s energy bills and make them comfortable in their own home again. That’s a great feeling.”

In addition to their on-going residential projects, Zerodraft Building Envelope Specialists have done work for schools, strip malls, churches and other commercial and institutional buildings.

“We did a liquor store that had a soffit wall almost completely open to the exterior. Not only did our work have a profound impact on their energy bills,

we eliminated a sound transfer problem that allowed music played outside the building to come into the store and annoy customers and employees.”

Flanagan and Waterbury credit some of their success to the support they receive from Steve Tratt and Tony Woods at Canam Building Envelope Specialists and ZERODRAFT Weatherization Materials.

“Steve and Tony are so knowledgeable, and so eager to share that knowledge. I have nothing but respect for both of them,” says Waterbury. “Steve is also incredibly supportive,

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Continued from page 2 helping us to match new weatherstripping from old samples, and coming down to assist with presentations to big potential customers.”

Flanagan and Waterbury take pride in their own customer service as well.

“All too often, contractors are viewed with skepticism and unfortunately, a lot of homeowners have had bad experiences. We’re trying to change that perception by offering education to our customers, providing a service that really works and delivering it on time with a friendly, customer-focused attitude,” says Flanagan.

Zerodraft Building Envelope Specialists crews always conduct air leakage tests before and after work is performed, to show customers both the problem and the solution. They also perform carbon monoxide testing on all homes heated with fossil fuels, to ensure systems are not emitting fumes that could reach dangerous levels after air sealing.

“We believe 100 percent in what we do,” says Waterbury. “We’re proud to be able to help people enjoy their homes in comfort.”

John Flanagan (left) and Sam Waterbury founded Zerodraft Building Envelope Specialists in 2003.



Stop Air Movement and Smoke Spread – and improve energy efficiency and comfort too!

By Jim Bunting, Canam Building Envelope Specialists

The dangers of smoke migration in high-rise buildings are real. Most damage, deaths and injuries result from smoke, and in the case of most multiple-death fires in residential high-rise buildings many fatalities occur in the egress routes (stairways and corridors) as occupants attempt to evacuate the building.

The same common air migration factors that cause high energy consumption and poor indoor comfort conditions – such as wind and stack effect – can exacerbate vertical smoke spread. In fact, in cold weather lower-floor fires cause the most smoke spread to upper floors.

Uncontrolled and uncontrollable air leakage in and out of a building caused by stack effect can be strong enough to overcome exhaust

fans in parking garages. Simply complying with the Fire Code does not always provide optimum fire safety. Egress systems must provide sufficient evacuation time before smoke reaches lethal levels.

How do we diagnose the problems?

Canam consultants perform a building envelope assessment, including depressurization testing and the use of air leakage detectors and infrared thermography to find every gap, crack, leak and hole that allows air – and smoke – to travel throughout the building.

Overall building leakage is assessed, and a plan is prepared to create air barrier continuity.

How do we fix the problems?

Whether the impetus behind the work is for energy savings or smoke control, air leakage

pathways are sealed in the same order: at the top of the building first, followed by the bottom, vertical shafts compartmentalization and finally, the outside walls and openings.

What materials are used?

Canam uses air seal/fire stop systems that meet ULC System Nos. SP196, SP229, SP230, SP341, SP758, and SP767, including 2-component polyurethane foam air seal kits and 1-component polyurethane foam sealant with flame spread ratings of 20, smoke spread ratings of 35. Door and window weatherstripping and seals meet ASTM/E283 Standard for Airtightness Performance.

To view a full-length version of this article, visit:

www.canambuildingenvelope.com/smokecontrol

Representative Canadian Residential High-Rise Fires*

- 1981 Toronto Hotel – fire began on 2nd floor of 23-storey building, significant smoke spread to upper floors caused 6 fatalities
- 1992 Toronto Apartments – fire began on 9th floor of 25-storey building, smoke spread to all above floors within 10 minutes and to exit stairwells causing 1 fatality
- 1995 Toronto Apartments – fire began on 6th floor of 30-storey building, rapid smoke spread throughout building resulting in 6 fatalities

**Fire Safety in High-Rise Apartment Buildings, Ken Richardson, Fire Technologies Inc., published by CMHC and OAA*

Success stories

Forest Laneway Apartments

Canam helped this Toronto complex to control smoke, odour and improve thermal comfort by compartmentalizing mechanical rooms and fire stopping service penetrations. Floors were decoupled and fire cabinets, garbage chutes, air supply grilles were sealed, while fire, parking garage and doors were weatherstripped.



B.G. Schickendanz Homes Condominium

Canam helped this townhouse-style condominium to control air migration, smoke and exhaust fumes from the underground parking garage by sealing 600 vertical penetrations using a fire stop with three-hour fire rating and ULC FP229 and ULC FP230 approved installation of foam and mortar combination.



ZERODRAFT

your way to increased profits

ZERODRAFT Authorized Applicators (ZAA) include many different kinds of small and medium-sized companies in both the residential and the industrial, commercial and institutional/public sector (ICI) markets. Many have a background in insulation, renovation, heating and air conditioning, energy conservation or even roofing, siding or windows.

ZERODRAFT Authorized Applicators benefit from:

- Comprehensive ongoing training programs
- Premium quality ZERODRAFT products at reduced ZAA prices
- Complete sales and marketing support
- Sub-contracting opportunities in major renovation projects won by Canam Building Envelope Specialists

Once you have trained as a ZERODRAFT Authorized Applicator, you will find few competitors.

To learn more, visit www.zerodraft.com

BEN is now Online

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Air Barrier Association of America Workshops

The Air Barrier Association of America (ABAA) is offering a series of half-day workshops this fall, featuring AIA continuing education credits, demonstrations, case studies, and product exhibits by leading-edge companies showcasing their products and services.

The workshops are designed for everyone connected to the building and design community including architects, engineers, building consultants, general contractors, sub-trades, building owners and other industry representatives that want to develop a solid understanding of air barrier technology.

Session 1 – A Solid Foundation to Build Upon:

(3.0 AIA HSW Learning Credits)

- Building science – understanding how our buildings work
- Introduction to air barriers
- How to incorporate air barriers into buildings

Session 2 – Advanced Materials, Design and Construction:

(2.5 AIA HSW Learning Credits)

- Air barrier materials and assemblies – what's new
- Case study: air barrier design challenges
- Case study: air barrier field application
- Round table discussions
 - Materials
 - Design issues
 - Construction issues
 - Quality control issues

Dates and Locations

- **November 30, 2004**
Milwaukee, WI
- **December 2, 2004**
Madison, WI

Pricing and Registration

The cost to attend the workshops is \$95 for a single half-day (lunch included) and \$150 for both half-days. Students receive a discounted price of \$55 for a single half-day and \$90 for both half-days. Group pricing for both half-days is \$100 per person (minimum four people per company).

To register, visit www.airbarrier.org or call **866-956-5888**

ZERODRAFT CONTRACTOR LIST

If you are interested in becoming a ZERODRAFT Contractor contact Steve Tratt at 1-877-272-2626

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