

WINTERGREEN

Volume 11, Issue 7

July 2010

A monthly update on Steven Winter Associates, Inc.'s work in the realm of Energy Efficient, Sustainable, and High-Performance Buildings

First LEED for Homes Midrise Condo in New York City



357 Dean Street, Brooklyn, NY

After acquiring a ramshackle tear-down in Park Slope, Brooklyn, **Trident Developers LLC** decided their 6-unit condominium project for 357 Dean Street 'Green on Dean' would serve as a pilot for incorporating high performance design into future developments. After the initial project meeting revealed eligibility for the LEED for Homes Midrise Pilot Rating system, Trident set its sights high for certification at the Gold level.

Designed by **Sears & Tamasco Architects PC** the building envelope features a series of insulated walls including perlite-filled CMU and EIFS. At the front-facing brick façade, south-facing ENERGY STAR® windows are shaded in the summer by external shading devices, further reducing heat gain.

With a modeled projection of over 30% energy cost savings, all condominium units were equipped with best in class ENERGY STAR® modulating gas furnaces rated at 97% AFUE. Indoor air is filtered via MERV 13 filters at both the air handler and central **ALDES** rooftop heat recovery ventilator (HRV), which provides a continuous supply of fresh air to apartment bedrooms while exhausting air from the bathrooms. In addition to addressing outdoor air requirements, the building was closely monitored during construction for implementation of best practices airsealing including the use of spray foam around window rough openings and interior pipe penetrations to installation of self-sealing outlet covers. The close attention to these details paid off as all units passed the required LEED for Homes apartment tightness testing.



Choosing MERV filters

Domestic hot water is provided to each unit via an instantaneous tankless gas-fired domestic hot water heater with low-flow showerheads, lavatory faucets, and ENERGY STAR appliances further reducing overall water consumption. Site-water consumption was limited at the rear garden by planting native species and limiting conventional turf while storm-water runoff was addressed with a Green Grid roofing system and dry well.



Green Grid Roof

Green materials and finishes were used throughout the project, including recycled wood flooring, recycled insulation, GREENGUARD certified countertops, and low-VOC paints, coatings, and sealants. A final preoccupancy flush-out and filter replacement were completed before condo owners moved in.

The project has since sold out all units and Trident Developers has moved on to their next project two miles away. With lessons learned from 357 Dean Street, a new 27-unit project is rising targeting Multifamily ENERGY STAR and LEED for Homes Midrise certifications. Stay tuned. For more information, contact [Ryan Merkin](#).

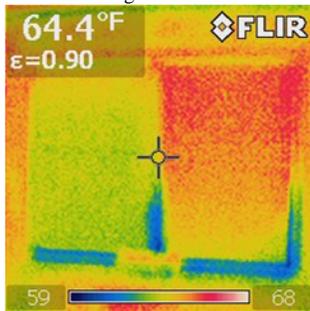


97.0 AFUE Furnace

Window Treatments that Reduce Heat Loss



In the IR image below, taken from inside the house when both window shades were closed, the window shade on the left has side tracks; the shade on the right does not.



Greening the Orange



Photo Courtesy of EDR

University Village Apartments, Syracuse, NY designed by **Holmes King Kallquist & Associates, LLP.**

For more information
visit the SWA Website:
swinter.com

It's no secret that windows are a liability when it comes to heat loss in homes. Conductance of quality insulated, low-e windows is typically 0.30-0.35 Btu/ft²hr°F, or about R-3. If installed in a wall that performs at R-20, heat lost through windows is 6-7 times higher (per unit area) than heat loss through the rest of the wall. Various window treatments have been used for years to reduce this loss and make homes more comfortable. Working through the **Department of Energy Building America Program** with partner **Comfortex Window Fashions**, SWA performed a simple study measuring how much window treatments can reduce heat loss.

SWA and Comfortex installed double-honeycomb shades in four windows in a relatively new Connecticut home. Two of the shades were equipped with "ComforTrak Plus™" – a system that includes side-tracks and a simple gasket to reduce air movement around the shade. The two other shades did not have any side tracks.

SWA installed several temperature sensors behind each shade, in the rooms, and outdoors; temperatures were recorded for 3 weeks during February and March. Based on these temperature measurements, SWA calculated approximate, effective R-values for the shades. When shades were installed without side tracks, the shades seemed to add R-1.2 to R-1.5 ft²hr°F/Btu to the window assemblies. When side-tracks were installed, effective added R-values were typically between R-4 and R-5. It's clear that limiting air movement around the shade assembly has a dramatic effect on heat transfer. Infrared images corroborate this.

The warmer temperatures behind the shade without tracks – along with the cold edges near the bottom – are a result of much more warm air moving in behind the shade and cold air moving back into the room near the bottom of the window.

While the numbers generated from this simple study are approximate, it's clear that insulating window treatments can make a big difference in cutting heat loss through windows. Systems like the ComforTrak Plus tested here – which limit air movement through the shade – can reduce heat loss even more. For more information, contact [Robb Aldrich](#).

University Village Apartments on Colvin offer 120 en-suite apartments to **Syracuse University** students, with full kitchens, in-unit laundry, plus one bath per bedroom. In addition to creature comforts, the project developed by **Education Realty Trust** on land leased from the university pledged early commitment to sustainability, achieving Gold certification under the LEED for Homes rating system.

Units passed rigorous tightness testing to verify minimal air, sound, and odor transfer through common walls. As with most multifamily projects, ventilation proved challenging initially. A redesign used continuous bath exhaust to satisfy ASHRAE 62.2, but fans surpassed rated airflows resulting in over-ventilation. The LEED Rating team conducted field tests and the HVAC contractors performed rigorous balancing to adjust flow rates and arrive at a satisfactory solution to avoid energy penalties. All units in the project have earned the ENERGY STAR label and it was the third Low-Rise project to receive incentives under NYSERDA's Multifamily Performance Program.

Despite the slow residential market, there is a continued interest in sustainability for university housing. Stay tuned for SWA's partnership with **The Ruby Group** and **Sullivan County Community College's** Eco Community Housing, a potential SUNY dorm project, and more . . . For more information, contact [Karla Donnelly](#).

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