QUANTAPANEL®
INSULATING GLASS SYSTEM

Your Existing Windows. Our Advanced Window Technology.

Enhance the comfort, energy savings and design of your building with the revolutionary QUANTAPANEL® Insulating Glass System.

If your building has beautiful windows with breathtaking views of the outside, but your occupants are plagued with the problems associated with older windows, maybe it's time to consider an upgrade in window-technology that works *with your existing windows…*

Alternatively, if you are engaged in the adaptive reuse or preservation of a historic property, and seek to retain the original windows, but need to offer your tenants state-of-the-art performance in terms of energy, comfort and reduced noise infiltration…

The **QUANTAPANEL® Insulating Glass System** may be your best option. The QUANTAPANEL® low-e storm window system installs on either the exterior or interior of your existing windows to deliver state-of-the-art performance in terms of:

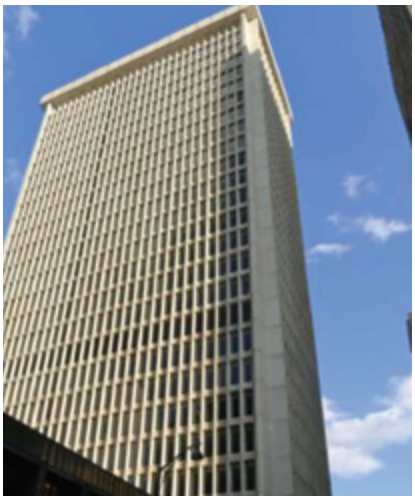
- Window insulating properties (improved U-Factor and SHGC),
- Substantially reduced air infiltration,
- 95% reduction in noise infiltration (STC),
- Enhanced Occupant Comfort.

PERFORMANCE

Installation of the **QUANTAPANEL® Insulating Glass System** on the interior of your existing windows can have a substantial impact on your energy utilization and occupant comfort. **QUANTAPANEL® Systems can:**

- **IMPROVE the Thermal Performance** of your existing windows by a factor of 2 – 3 times, with minimal impact on visible light transmission.
- **REDUCE air infiltration** by up to 10X, depending on condition of existing window.
- **REDUCE exterior noise transmission** by 95%.
- **ENHANCE COMFORT** by maintaining more uniform room temperature, and room-to-room temperature; while reducing the unfavorable effects of interior glass temperature variation (induced draft, and mean radiant temperature effects to occupants).

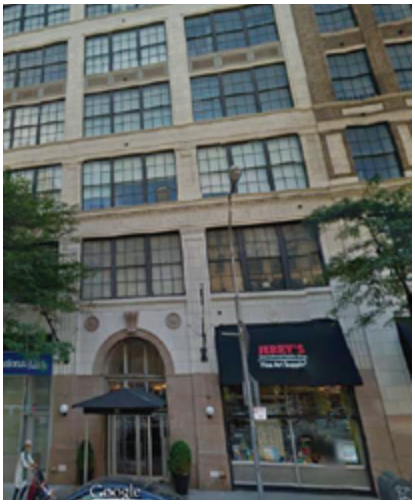
PERFORMANCE IMPACT		EXISTING CONDITION (metal frame, single glazed window)	FINISHED CONDITION typical performance using QUANTAPANEL® 600 Series
Thermal Performance ↑ 2.8X R-value	U-Factor	1.06 BTU/hr-ft² F	0.38 BTU/hr-ft² F
	SHGC	0.72	0.56
Visual Performance	Visual Light Transmission	0.77	0.60
Air/Dirt Infiltration ↓ 10X Reduction	Air Infiltration	2 - 4 cfm/ft²	< 0.1 cfm/ft²
Noise Reduction ↓ 95% Reduced Exterior Noise	STC (Sound Transmission Class)	STC = 25	STC = 40
Comfort Factors ↑	Interior Glass Temperature	Can be substantially lower or higher than interior air temp.	Typically within reasonable range of internal air temp.



777 Main Street (Hartford, CT)

This 26 story tower, built in 1969, was the former world headquarters for the Hartford National Bank and is being converted into 295,000 SF of residential space with 286 units.

The existing windows are large monolithic glass retained within the exposed aggregate structure of the exterior façade. The building owner has a goal to achieve a 30% energy reduction compared to an ASHRAE baseline. The interior low-e glass system developed for this property will enhance energy performance while improving occupant comfort.



111 4th Avenue (New York City, NY)

This Greenwich Village full-service loft co-op building was developed by Teitelbaum Holdings. Each floor has 11 different units with 13’ 6” ceilings and 10-ft high windows. Under a program implemented by the Co-op Board, individual residents have opted to install the **QUANTAPANEL® 600 Insulating Glass System** (interior). In addition to the drastic improvement in energy and comfort, the **QUANTAPANEL® 600 Series** has provided residents with a substantial reduction in exterior noise.

French Apartments (NYC, NY)

This New York City based multifamily property undertook a major energy improvement project in 2013 which included the installation of the **QUANTAPANEL® 605-DH Insulating Glass System** (operable, double hung, interior installation).

The project objective was to achieve a 38% energy reduction, a major portion of that improvement being realized by reduced air infiltration and enhanced thermal properties in the existing windows.

A prototype test of the **QUANTAPANEL® 605-DH IGS** demonstrated an Effective Leakage Area (ELA) reduction of 77 – 95% over windows with and without AC units. This translated into an estimated 30% reduction of air infiltration in the overall building.

Zion Garden Apartments (Philadelphia, PA)

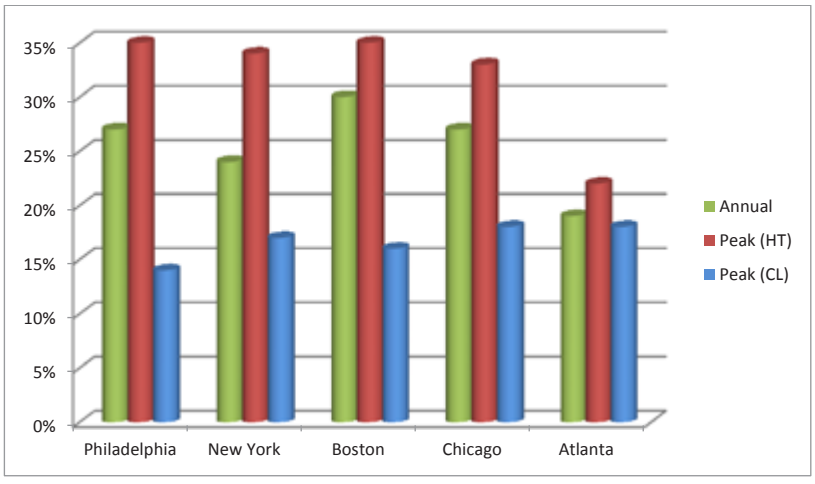
Located in Philadelphia, this apartment complex, built in 1962, has two three story buildings with 101 apartment units. In 2012, the building management elected to install the **QUANTAPANEL® 504-DH IGS** (exterior, operable) to replace existing old-style storm windows. A one-year post-installation analysis of performance revealed the following benefits attributable solely to the **QUANTAPANEL®** window retrofit: a 10% reduction in overall apartment air leakage, a 20% reduction in heating energy use, and a 9 – 15% reduction in cooling energy use.

ENERGY SAVINGS

The actual energy savings will vary by building type, the age and condition of the existing windows, the heating & cooling system (fuel), climate and other factors. Energy savings can be substantial and provide the means to achieve a reasonable payback on the investment.

The chart below shows annual and peak load energy savings in a five story, multi-family, building with 40,000 square feet of conditioned space using natural gas with a 25% window-to-wall ratio with existing metal-frame single glazed windows in five different metropolitan areas. The annual energy savings is the reduction in the building's annual heating/cooling cost attributed solely to the window retrofit. Peak load (heating and cooling) is shown as well; this is most relevant if the building is considering an upgrade or modification in the existing HVAC system, in which case appropriately sizing the system for a better insulated building may reduce capital cost.

Building operating cost improvement can also be realized by reducing the time required to achieve temperature set points after periods of non-use.



RETURN ON INVESTMENT

The cost to acquire and install the **QUANTAPANEL® System** is typically 25 – 33 % of that for replacement windows. Achieving energy savings at a substantially lower capital cost can and does deliver a quick payback and an attractive Return On Investment (ROI).

Phoenixville Library (Phoenixville, PA)

This 1901 Andrew Carnegie building was retrofit in 2012. The architect selected the **QUANTAPANEL® 502-PW Insulating Glass System** (exterior, low-e fixed panel) in a custom color to match the existing trim. This project included an upgrade in the HVAC system in addition to the state-of-the-art window technology.

Carnegie Hall (Lewisburg, WV)

This 1902 Historic Landmark in the heart of the Greenbrier Valley underwent an energy improvement project in 2013. The architect specified the **QUANTAPANEL® 602-PW** (interior, fixed panel) to achieve state-of-the-art energy performance while being essentially invisible from the exterior and interior of the building.

The QUANTAPANEL® Insulating Glass System (IGS) is an advanced, contemporary version of what was once known as a storm window, redesigned with state-of-the-art framing and low-e coated glass to be used in both residential and commercial applications. The **QUANTAPANEL® System** when installed over an existing window, delivers equivalent to superior energy savings as that delivered by a "state-of-the-art" replacement window. QUANTA offers two basic product lines: the **QUANTAPANEL® 500 Series** (exterior installation – designed primarily for single family residences and multi-family dwellings with less than 5 stories); and the **QUANTAPANEL® 600 Series** (interior installation – designed for historic structures and high rise multi-family and commercial buildings).

QUANTAPANEL®
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Because you don't need brand-new windows.
Your windows need brand-new technology.

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