



**Oldcastle BuildingEnvelope™**

*Engineering your creativity™*

architectural  
windows



“When you are designing complex, custom windows, you need to rely on experts.”

—Robert Siegel and Charles Gwathmey, Gwathmey Siegel & Associates Architects

400 FIFTH AVENUE, NEW YORK CITY



“ We approach every project with a fresh eye, a meticulous attention to detail, a keen appreciation for environmental and economic concerns and a strong belief in collaborative efforts. Oldcastle BuildingEnvelope™ helped us achieve our vision for this building. ”

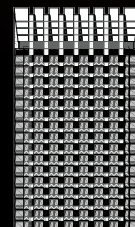
—Robert Siegel and Charles Gwathmey, Gwathmey Siegel & Associates Architects

**CHALLENGE**

“Located near the Empire State Building, this 57-story hotel and condominium tower required a highly-customized faceted window profile established within the podium creating a visually unique facade.”

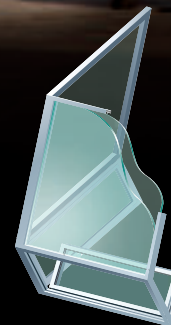
**SOLUTION**

“Oldcastle BuildingEnvelope™ provided precisely what was needed. These windows are faceted or angulated, with outside corners at the condominium levels that are all glass. Residents enjoy a stunning view of midtown Manhattan.”



**CONCEPT**

400 Fifth Avenue is a 57-story hotel and condominium tower containing 191 hotel rooms and 324 residences. A signature design element of the project is a complex, customized, faceted window.



**ENGINEERING**

Due to the complex nature of the window design, Oldcastle BuildingEnvelope™ created a full-scale mock-up, which allowed the design and engineering teams to review aesthetics and performance.

why specify us?

**1** **LIMITLESS PRODUCT RANGE**  
All of our architectural windows are designed and engineered to fully integrate with our curtain wall and window wall, storefront systems, doors and architectural glass products.



**CUSTOM**

Unlike traditional window manufacturers, we can start with a clean sheet of paper.

**COST FACTOR 100**



**MODIFIED STANDARD**

We also offer many standard models that have the ability to be modified to suit a project's needs.

**COST FACTOR 50**



**QUICK-SHIP**

We stock many standard models for quick-shipment when timing is critical.

**COST FACTOR 35**



**GLASS**

Oldcastle BuildingEnvelope™ is the only company that also custom manufactures glass so we can stand behind the total system.



**TESTING**

Our exclusive computer design and analysis software applications allow us to test, simulate and fully develop custom architectural window designs.

2

3



📍 **Fifteen Central Park West**

Location: New York, NY  
 Architect: Robert A.M. Stern Architects  
 Product: 37E Series fixed and In-Swing casement hidden ventilators

This 19-story building with a 35-story tower located on one of Manhattan's most glamorous streets features large windows that provide natural light and views in all directions.

## project showcase



**Offices** | 100 Cambridge Street

**PROJECT OVERVIEW:** This 22-story mixed-use complex of offices, residences, retail shops and gardens represents a significant transformation from its earlier days as an abandoned government office building surrounded by bleak plazas. A 5-story structure that wraps around the corners of the site complements the 19th century residential buildings facing the site. The installation of new energy-efficient windows is a dramatic improvement.

**PROJECT DETAILS**

Location: Boston, MA  
 Architect: Elkus Manfredi  
 Product: 34E Custom Renaissance fixed units



**Schools** | North Central Junior High School

**PROJECT OVERVIEW:** The design of this 82,000-square-foot school focused on sustainability, incorporating LEED® concepts and strategies every step of the way. The Oldcastle BuildingEnvelope™ 24E Series Evenline window systems made it possible to optimize natural light while reducing maintenance and operating costs, by using materials whose environmental impact is minimal.

**PROJECT DETAILS**

Location: North Liberty, IA  
 Architect: Neumann Monson Architects  
 Product: 24E Series Evenline, fixed and project-out casement units



**Stadiums**

San Francisco Giants' AT&T Park

**PROJECT OVERVIEW:** With its breathtaking views and classic design, this ballpark for Major League Baseball has a seating capacity for 41,503 fans. Part of the splendor of this ballpark are the Renaissance Series architectural windows that create a sloped exterior profile. This ballpark has been described as “the city’s sparkling new jewel by the bay.”

**PROJECT DETAILS**

Location: San Francisco, CA  
 Architect: Populous (Formerly HOK Sports)  
 Product: 16PF Renaissance Series with sloped exterior profile and operable windows



**Hospitals**

Columbia St. Mary's Hospital in Ozaukee

**PROJECT OVERVIEW:** This new hospital is a highly efficient, cost-effective facility designed to reduce patient stress by providing a pleasant, welcoming environment full of light and air. The 34P Series Facade provides a unique profile sightline on the exterior. Shadow lines and setbacks cast a distinctive exterior visual appearance to the window system.

**PROJECT DETAILS**

Location: Milwaukee, WI  
 Architect: Hellmuth, Obata + Kassabaum Inc. (HOK)  
 Product: 34P Fixed and structural glazed In-Swing hidden vent



**Condominiums**

Rhythm at Music Row

**PROJECT OVERVIEW:** This 14-story building features condominiums that are designed over three levels of elevated parking and ground-level, upscale retail space. 61E Series Swing Terrace Doors lead to outdoor private balconies with scenic views of downtown Nashville. Architectural windows by Oldcastle BuildingEnvelope™ are part of the charm and functionality of this building.

**PROJECT DETAILS**

Location: Nashville, TN  
 Architect: Wakefield Beasley & Associates  
 Product: 61E Series Swing Terrace Doors



**Historical**

University of Notre Dame

**PROJECT OVERVIEW:** To achieve the architect's vision for the South Dining Hall, a single source supplier that was able to plan and deliver a comprehensive replacement and new construction window strategy was key. This Oldcastle BuildingEnvelope™ strategy with four unique window systems tied together the classical/gothic look and complements the design of the entire Notre Dame campus.

**PROJECT DETAILS**

Location: South Bend, IN  
 Architect: Ellerbe Becket  
 Product: 34 PR Renaissance Series, four unique window systems



**Single/Double Hung**

Using heavy-duty block-and-tackle balances for smooth & energy-efficient operation, many muntin profiles are available.

**Performance**

**AAMA:** HC-55 performance levels  
**CSA:** A3 B7 C5 performance levels  
**THERMAL:** Using 1" insulating glass units with clear uncoated annealed glass  
**AAMA:** CRF: 62 (frame); 63 (glass)  
**U-Value:** 0.55  
**CSA:** Condensation Index: 45 (frame); 61 (glass)

**Features + Options**

- Thermally broken aluminum profiles
- High-performance sill
- Automatically locking sashes
- 1/2" caulk return leg allows for consistent exterior seals at masonry interface for a weather-resistant installation



**Tilt-Turn**

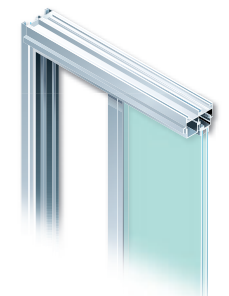
These highly-engineered windows tilt for ventilation, with multi-point locking & a durable center-sealed gasket for a warm & dry interior.

**Performance**

**AAMA:** AW-80 performance level  
**CSA:** A3 B7 C5 performance levels  
**THERMAL:** Using 1" insulating glass units with clear uncoated annealed glass  
**U-Value:** 0.55  
**CSA:** Condensation Index: 64 (frame); 61 (glass)

**Features + Options**

- Rain-screen sill design facilitates drainage of water, keeping the insulating glass seals dry
- Sturdy 4" corner keys, crimped in place, maintains critical rigidity of the sash, even with sizes up to 5' x 8'
- Testing includes 2500 repetition Life Cycle assessment to certify durability



**Thermal Slider**

These high-performance windows feature heavy-duty structural members & cold-rolled steel wheels set in a sturdy nylon housing.

**Performance**

**AAMA:** AW-55/HC-65 performance level  
**CSA:** A3 B7 C5 performance levels  
**THERMAL:** Using 1" insulating glass units with clear uncoated annealed glass  
**AAMA:** CRF: 43 (frame); 69 (glass)  
**U-Value:** 0.55  
**CSA:** Condensation Index: 52 (frame); 62 (glass)

**Features + Options**

- Full 3-1/4" & 4" frame depths for strength and ease of installation
- Strong sash rails pass structural testing in excess of 80 PSF loads
- Double-sliding sashes provide indirect ventilation
- Optional intermediate rail depths available for high loads



**Projected**

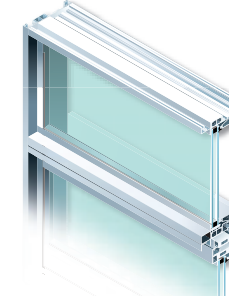
These thermally-broken windows include awning, hopper and casement configurations; they can be installed with or without adjacent fixed lites.

**Performance**

**AAMA:** AW-65/HC-55 performance level  
**CSA:** A3 B7 C5 performance levels  
**THERMAL:** Using 1" insulating glass units with clear uncoated annealed glass  
**AAMA:** CRF: 55 or better  
**U-Value:** 0.50 or better  
**CSA:** Condensation Index: 50 or better

**Features + Options**

- 2" to 4-1/2" frame depths for added structural durability
- Thermal broken aluminum profiles
- Flush and overlap sash-to-frame construction
- Diverse hardware combinations
- Rugged architectural performance



**Off-Set**

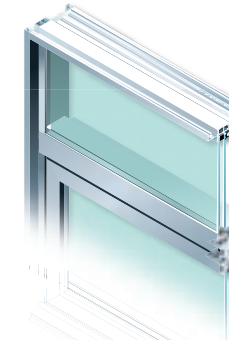
One of the most versatile window systems in the industry. The "off-set" profile adds texture to the building facade and provides a watershed.

**Performance**

**AAMA:** AW-65 to 90 performance levels  
**CSA:** A3 B7 C5 performance levels  
**THERMAL:** Using 1" insulating glass units with clear uncoated annealed glass  
**AAMA:** CRF: 77 (frame); 63 (glass)  
**U-Value:** 0.31  
**CSA:** Condensation Index: 51 (frame); 60 (glass)

**Features + Options**

- Rain-screen sill design facilitates drainage of water, keeping insulating glass seals dry
- Frames side-stack for ease of installation
- Offers the ability to incorporate horizontal mullions of lesser depths to add "texture" to interior view



**Arctic (High Thermal)**

Arctic windows offer superior condensation resistance, making them a wise choice for high-humidity environments in cold climates.

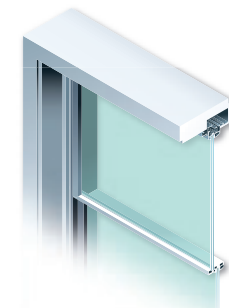
**Performance**

**48" x 60" fixed Arctic window glazed with Solarban 60 1" IGU and high-performance spacer**  
**U-value:** 0.32  
**R-value:** 3.1\*  
\*Values computer-simulated per National Fenestration Research Council protocols

**Features + Options**

- Advances in thermally-enhanced fenestration design
- Designs are supported by computer-aided analysis of project-specific configurations and components

**Blast Mitigation**



**Blast Windows & BlastWall®**

Blast systems offer a sophisticated, patented Energy-Absorbing system approach while providing the highest level of blast protection.

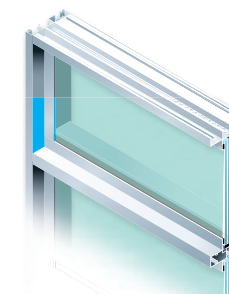
**Performance**

**Department of Defense UFC 4-010-1 requirements**  
**The Interagency Security Committee (ISC):** Security Design Criteria for Federal Building  
**GSA:** Level C  
**GSA:** Level D

**Features + Options**

- Technology utilizes the window wall frames, glazing, hardware and anchoring system as energy dissipating components
- Once hit by the blast wave dynamic loading, components gradually absorb a significant portion of the blast energy, which allows the window wall to stay in the opening

**Hurricane-Impact**



**Fixed**

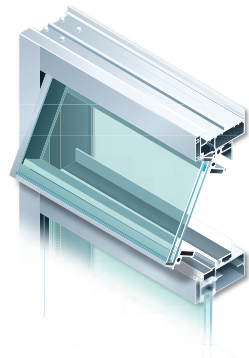
Combining aesthetics, heavy-duty performance & ease of installation, optional 4" & 6-5/8" depths meet Florida Building Code protocols.

**Performance**

**Florida Building Code**  
**AAMA:** TAS 201  
**ASTM:** E 1886/1996 Small and Large Missile Impact Tests  
**Miami Dade County Product Approval**

**Features + Options**

- 4" standard depth, constructed from 6063-T5 extruded aluminum profiles
- Laboratory-tested for water penetration up to 15 PSF
- "Installation legs" extruded in framing perimeter combine with extruded installation clips to minimize the cantilevering of fasteners under test loads



### Zero Sightline

These appealing & energy efficient windows offer ventilation with razor thin sightlines for any curtain wall, window wall or storefront system.

#### Performance

**AAMA:** CSO/AW65 performance levels  
**CSA:** A3 B7 C5 performance levels  
**THERMAL:** Using 1" insulating glass units with clear uncoated annealed glass  
**AAMA:** CRF: 55 (frame); 58 (glass)  
**U-Value:** .60

#### Features + Options

- High performance with minimal exterior metal
- 2-3/4" to 3-3/8" frame depths for strength and structural integrity
- Smooth operation with corrosion resistant hardware
- Structural glazed/flush sash-to-frame design assists with a desire for larger ventilator sizes



### Preference Program

Pre-engineered zero sightline, projected, casement, sliding and fixed window systems with accelerated lead times.

#### Performance

**AAMA:** HC50 to AW65 performance levels  
**THERMAL:** Using 1" insulating glass units with clear uncoated annealed glass  
**AAMA:** CRF: 53 (frame); 52 (glass)  
**U-Value:** .60

#### Features + Options

- 1/4" monolithic or 1" insulating glass
- 5/8" and 1" blinds with pull cord, slip control and tilt control, hinged or lift-off access doors
- Screens and accessories available
- Trim options available
- Anodized and painted finishes available
- Open or factory glass and glazing

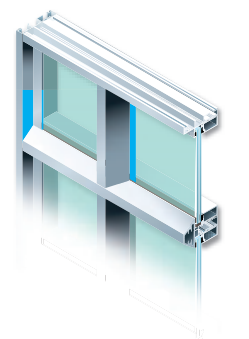


### Integral Blind

These factory glazed access panels & factory installed venetian blinds offer easy maintenance & better thermal/sound performance.

#### Features + Options

- 5/8" and 1" blind slats in 16 standard colors
- Pull cord and tilt control knob with slip clutch feature; standard
- Single interior hardware operation for tilt as well as raise and lower blind feature available
- Improved thermal performance will be achieved
- Improved STC values will be achieved
- Laminated glass can be accommodated within the access panel
- Eliminates cumbersome interior daylight control option such as drapes and free-hanging blinds
- Hinged or lift-off access panels with concealed locks



### Muntin System

The "look" of muntins in new construction and replacement from classic to contemporary is an important design feature.

#### Features + Options

- Beveled, coved and flat profiles available
- True muntin separating glass into individual units
- Applied girds to exterior #1 glass surface and optional application to interior #4 surface of glass unit
- Muntins located within the air space of the insulating glass unit
- Simulated true muntin where the application is on the #1 surface, between the glass and on the #4 surface of the insulating glass unit
- Simulated leaded glass patterns available



### Pinnacle

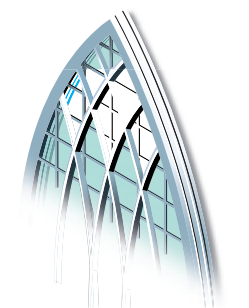
Features a hidden ventilator with a high performance access door for cost and energy efficiencies.

#### Performance

**AAMA:** AW40 performance levels  
**THERMAL:** Using 1" insulating glass units with clear uncoated annealed glass  
**AAMA:** CRF: 58 (frame); 80 (glass)  
**U-Value:** .35

#### Features + Options

- 3-1/4" to 4" frame depth
- Tubular sash and meeting rails
- Structurally glazed, flush sash-to-frame design
- 2,000 lbs impact load capacity
- 1" exterior insulating glass with internal venetian blind option



### Renaissance Historic

Historical preservation and other enhancements are achieved for Neoclassical, Neo Gothic, Tudor & Post Modern designs.

#### Features + Options

- Enhanced architectural performance
- 2-1/4" to 4-1/2" frame depth
- Eurotherm thermal brake option allows for two different finishes & colors
- Profile muntin options simulate classic steel and wood windows
- Allows for matching decorative details (cast columns & medallions) & historic color duplication with 70% PVDF paint finishes (including contour pannings & interior trims)



### High Thermal

Thermal composite systems for more stringent thermal performance requirements with a contribution toward LEED® certification.

#### Performance

**AAMA:** AW65 performance levels  
**THERMAL:** Using 1" high performance insulating glass and glass components with clear uncoated annealed glass  
**AAMA:** CRF: 70 (frame); 75 (glass)  
**U-Value:** .30 to .35  
**AAMA Life Cycle hardware test**

#### Features + Options

- Frame depths from 2-1/2" to 6"
- Triple glazed options with venetian blind access panel & thermal simulations available
- Single source packing of high performance glass with high performance components
- 12 PSF water test pressure
- Operable ventilator and fixed configurations



### Sentinel

An institutional deterrent system designed for medium to maximum security facilities.

#### Features + Options

- Offered in fixed and operating functions. The chain driven roto operated outward projected ventilator incorporates a security screen
- AW65 performance level
- Tool resistant steel bars are available for interior applications
- Systems are exterior glazed for security purposes
- Thermally broken frame options are available
- Glazing options for security glass of 11/16" to 2" in thickness available
- Anodized and painted 70% PVDF finishes

# Architectural Windows are only a part of our comprehensive offering.

As the leading supplier of architectural windows, Oldcastle BuildingEnvelope™ offers the most comprehensive portfolio of products specified to close the building envelope. Our products include custom-engineered curtain wall and window wall, architectural windows, storefront systems, doors, skylights and architectural glass.



**Building Envelope Solutions**

**Architectural Glass**

**Entrances and Storefronts**

**Skylights**



**Oldcastle BuildingEnvelope™**

*Engineering your creativity™*

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