



photo: Chuck Choi

# KALWALL®

high performance translucent building systems

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## FACADES

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Wall Systems

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Unitized Curtain Walls

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Window Replacements

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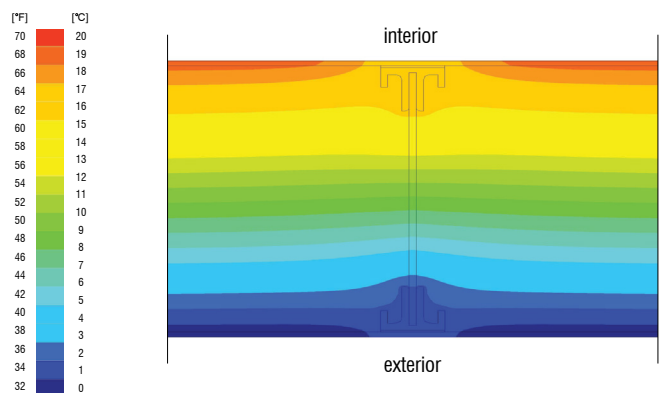
photo: Halkin|Mason Photography

University Heights Charter School | Newark, NJ USA | KSS Architects (above)

### Thermal Break Technology

For any high performance building envelope to perform optimally, careful consideration must be given to specify adequate levels of thermal insulation, minimize air infiltration, provide sufficient solar control, and eliminate thermal bridging to the greatest extent possible. To address potential thermal bridges, which can produce localized areas of higher heat transfer, Kalwall systems employ proprietary thermal break technologies for both the Kalwall panel and the Clamp-tite™ fastening system. The diagram on the right shows a thermal gradient, generated using THERM 7 software, to illustrate the effectiveness of the 2-3/4" (70 mm) Kalwall panel's thermally broken grid core.

### Thermal Gradient Analysis: 0.14 "U" (0.79 W/m²K) panel



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# Wall Systems

Translucent Wall Systems offer many budget-friendly, elegant side lighting solutions. From single story applications to mid-rise construction, Kalwall Wall Systems transform sunlight into glare-free daylight to enhance any space.

## Standard Wall Systems

For certain climate zones and building types, non thermally-broken Wall Systems provide sufficient envelope performance that is both cost effective and meets energy codes.

**Standard, aluminum interlocking I-beam panel grid core**

**Standard aluminum Clamp-tite™ fastening system**

**U-factors range from 0.53 - 0.18 (3.01 to 1.02 W/m<sup>2</sup>K)**

**Solar Heat Gain Coefficients (SHGC) from 0.65 to 0.10**

**Visible Light Transmission (VLT) values from 3% to 50%**

STANDARD SYSTEM | BACK FASTENED SYSTEM | CONCEALED FASTENERS | KALCURVE | 1-9/16" SYSTEM



## Thermally Broken Wall Systems

For more demanding climate zones and building types, Thermally-Broken Wall Systems provide enhanced envelope performance to meet or exceed the toughest energy codes.

**Thermally-broken, interlocking I-beam panel grid core**

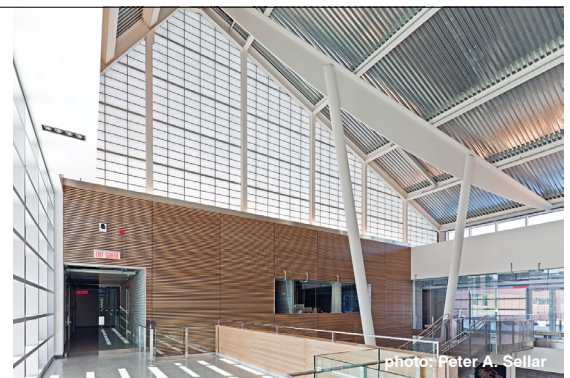
**Thermally-broken aluminum Clamp-tite™ fastening system**

**U-factors range from 0.23 - 0.05 (1.31 to 0.28 W/m<sup>2</sup>K)**

**Solar Heat Gain Coefficients (SHGC) from 0.28 to 0.10**

**Visible Light Transmission (VLT) values from 3% to 50%**

THERMAL BREAK+STRUT SYSTEM | BACK FASTENED SYSTEM | CONCEALED FASTENERS | KALWALL 100



## Specialty Applications

Kalwall offers many product configurations for projects that require special performance criteria to protect from extreme weather events and manage human safety + security

**Class A fire ratings available for Wall Systems and Unitized Curtain Walls**

**Windborne debris protection - tested and certified up to large missile D**

**Blast resistant systems meet DOD UFC 4-010-01 anti-terrorism force protection**

**Factory Mutual certified systems: Class I exterior wall FM 4881 & FM 4411**

**Factory Mutual explosion venting / pressure release systems: FM 4440**

WINDBORNE DEBRIS PROTECTION | EXPLOSION VENTING | ANTI-TERRORISM FORCE PROTECTION | FM CLASS I



Sports Hall | Bussy-Saint-Georges, France | Marc Duplantier Architectes (below)



Please visit [KALWALL.COM](http://KALWALL.COM) for all wall system specifications, CAD details, BIM families & performance charts online



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# Unitized Curtain Walls

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Unitized Curtain Walls can do everything Wall Systems can but, with the added benefits offered by factory unitization. In addition to translucent wall panels, designers can integrate fixed and operable windows, opaque panels and fixed louvers. From single-story window walls to multi-story curtain walls, Kalwall Unitized Curtain Walls provide modular daylighting solutions that balance aesthetics, performance, and cost.



## Factory Unitization

Large panel units, up to 5' x 35', are assembled and glazed at the factory. They can incorporate both translucent panels, fixed and operable vision glazing, as well as opaque panels and fixed louvers to provide superior fit, especially when compared to systems assembled in the field.



## Rapid Installation

Once delivered to the site, these large units can be installed rapidly in order to save both time and money. This approach also allows the building to be enclosed in a fraction of the time compared to conventional curtain wall systems allowing interior work to commence much earlier.



## Superior Performance

Once in service, unitized curtain walls offer higher levels of performance over the full lifetime of the system without sacrificing design flexibility. Perhaps, that is why architects, contractors, and owners alike can all reap the benefits without compromising their project goals.

Tintern Middle School | Melbourne, Australia | Architectus (below)

photo: Brendan Finn



Please visit [KALWALL.COM](http://KALWALL.COM) for all unitized curtain wall specifications, CAD details, BIM families & performance charts



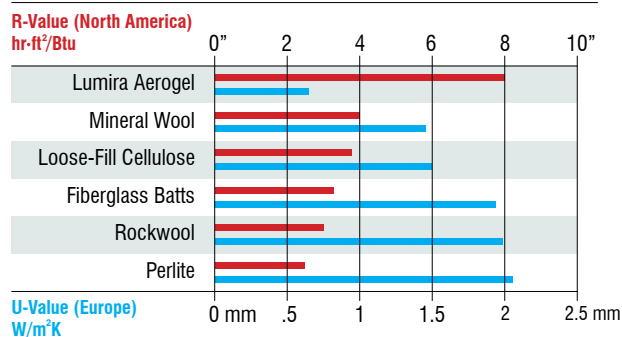
photo: Peter Aaron | OTTO

Yale Sculpture Building | New Haven, CT | Kieran Timberlake Architects | Double Skin Facade System with Schuco® and Kalwall+Lumira (above)

### Kalwall+Lumira® Aerogel

Aerogel is among the lightest and most effective insulating materials in the world. Cabot's Lumira aerogel is a solid which consists largely of air (>90%) contained in a structure with pore sizes less than the mean free path of air molecules, which severely inhibits heat transfer through the material, enabling world class performance. Cabot produces Lumira aerogel at its state-of-the-art manufacturing facility located near Frankfurt, Germany, where it began commercial production in 2003. Kalwall was the first company to offer Lumira aerogel in partnership with Cabot in its 2-3/4" (70 mm) translucent daylighting panel. Center of panel U-values of 0.05 (0.28 W/m<sup>2</sup>k)

### Thermal Insulation: values per inch (25 mm) of material tested



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# Window Replacements

Retrofits and Energy Upgrades with Kalwall Window Replacements result in dramatic savings by stopping heat loss and reducing electric light usage by offering glare free-usable diffuse daylight, eliminating the need for shades, and decreasing solar heat gain. Our high performance systems are very competitively priced, virtually maintenance free, and offer increased security compared to typical glass retrofits, for both increased impact resistance and vandalism.



## Window Replacement Systems

Kalwall Window Replacements offer budget-friendly fenestration options that deliver glare-free daylighting while simultaneously increasing energy performance and decreasing maintenance requirements. Delivered in unitized formats, specifiers can combine translucent and vision glazing to provide diffuse daylight, views and ventilation. Perfect for deep energy retrofit (DER) & renovations, these systems can be installed in existing rough openings rapidly, minimizing disruption to building occupants.

**Graffiti and vandal resistant face sheets including high impact options**

**Highly insulated to reduce heating+cooling costs from HVAC systems**

**Various head, sill & jamb detail options for retrofits in existing R.O.s**

**Much lower maintenance requirements compared to conventional glazing**

**Windborne debris protection - tested and certified up to large missile D**

## HC-2000 Windows

Kalwall manufactures its HC-2000 Windows for commercial and industrial applications where both budget and performance are primary drivers. HC-2000 windows have been engineered and tested to ensure reliability.

**HC-2000 available: fixed, project-in, project-out (max sizes vary)**

**HC-2000: AAMA/ANSI Performance Class: PI-AW50, PO-HC55, F-AW80**

## E-Series Windows

Kalwall manufactures its E-Series Windows for architectural applications where performance and craftsmanship are paramount. E-Series windows are engineered and tested for the most demanding applications.

**E-Series available: fixed, project-in, project-out (max sizes vary)**

**E-Series: AAMA/ANSI Performance Class: PI-AW60, PO-AW70, F-AW80**

**E-Series Large Missile Impact: Design pressure 80 PSF (3.83kPa) tested and certified to TAS 201, TAS 202, TAS 203, ASTM E1886 & ASTM E1996**

**STANDARD SYSTEM | THERMAL BREAK+STRUT SYSTEM | CONCEALED FASTENERS**



**Before Window Replacement**

Old, energy-inefficient single-pane glazing



**During Window Replacement**

Replacement system installed in existing R.O.s



**After Window Replacement**

New, energy-efficient Kalwall system in service.

Please visit [KALWALL.COM](http://KALWALL.COM) for all window replacement specifications, CAD details, BIM families & performance charts

# Experience the world's most advanced daylighting systems



Indoor Football Practice Facility, Clemson University | Clemson, SC | Infinity Architecture



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