KALWALL®

high performance translucent building systems



photo: Brad Feinknopf

FACADES

Wall Systems

Unitized Curtain Wall

Window Replacement

Translucent Insulated Glazing Units (TIGU)

KALWALL.COM

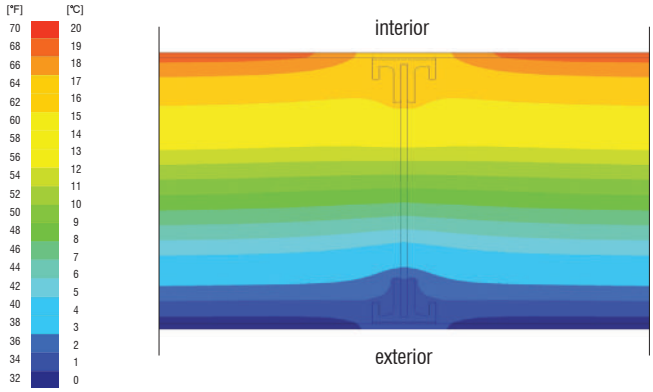


University Heights Charter School | Newark, NJ USA | KSS Architects (above)

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 | 2-3/4" (70mm) Standard Thickness

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/m²K)

Solar Heat Gain Coefficients (SHGC) from 0.55 to 0.10

Visible Light Transmission (VLT) values from 3% to 58%

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



Thermally Broken Wall Systems | 2-3/4" (70mm) Standard Thickness

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

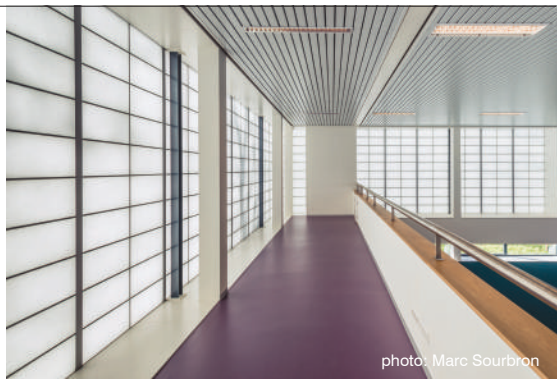
Thermally-broken aluminum Clamp-tite™ fastening system

U-factors range from 0.23 - 0.05 (1.31 to 0.28 W/m²K)

Solar Heat Gain Coefficients (SHGC) from 0.36 to 0.04

Visible Light Transmission (VLT) values from 3% to 35%

THERMAL BREAK+STRUT SYSTEM | BACK FASTENED SYSTEM | CONCEALED FASTENERS | KALWALL 100 (4" SYSTEM)



Specialty Applications | 2-3/4" (70mm) Standard Thickness

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 4880 & FM 4881

Factory Mutual explosion venting / pressure release systems: FM 4440

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



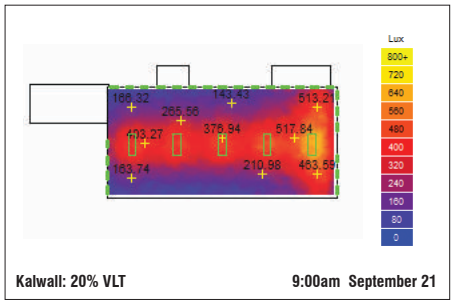
Design Prototyping and Testing Centre (DPTC) | University of Sheffield, UK | Bond Bryan Architects (below)





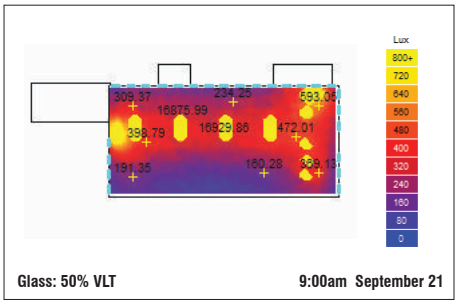
Facilities Services Complex, University of Tennessee | Knoxville, TN | Cope Architects (above)

Daylight Modeling Studies: a complimentary service to optimize your daylighting design



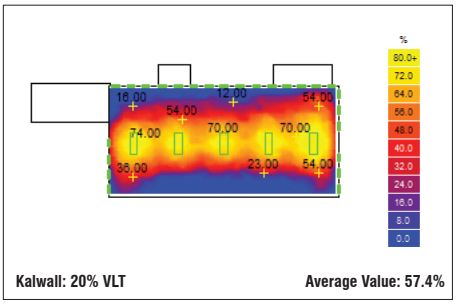
Radiance Illumination

Provides a "snapshot" of daylight levels at a given point in time. Typically, simulations are made to study light levels at the Fall and Spring Equinoxes during the early morning, at solar noon, and late in the afternoon on both sunny and overcast skies anywhere in the world.



Glare Pattern Analysis

Helps to identify potential problem areas where glare is a concern such as offices, classrooms, athletic facilities and other spaces where visual acuity is critical. These studies are especially useful when designers and specifiers call for a mix of translucent and vision glazing (glass).



Daylight Autonomy

Gives average daylight values and shows what percentage of the time the space can operate at the target light level with daylight alone. sDA (spatial daylight autonomy) and ASE (annual sunlight exposure) are all available for LEED® documentation for daylighting credits.

Unitized Curtain Wall

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)



Please visit KALWALL.COM for all unitized curtain wall specifications, CAD details, BIM families & performance charts

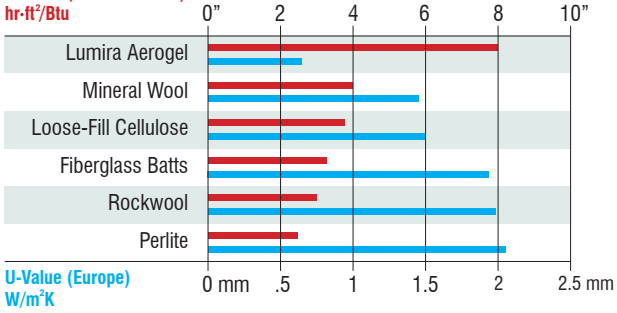


Yale Sculpture Building | New Haven, CT | Kieran Timberlake Architects | Double Skin Facade System with Schuco® and Kalwall+Lumira (above)

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/m²k)

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



KALWALL®

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Window Replacement

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.









Before Window Replacement

Old, drafty single-pane glazing produced excessive glare and inhibited learning

After Window Replacement

Energy-efficient Kalwall system creates a comfortable and productive classroom

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.

STANDARD SYSTEM | THERMAL BREAK+STRUT SYSTEM | CONCEALED FASTENERS

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 options available: for 2-3/4" Wall Systems: Fixed, Project-in, Project-out and for 4" Wall Systems: Fixed, Project-out (max sizes vary)

E-Series options available: for 2-3/4" and 4" (above) Wall Systems: AAMA Performance Class: PI:AW-PG60; PO: AW-PG70; Fixed:AW-PG80

E-Series options available: for 2-3/4" Wall Systems: Large Missile Impact: Design pressure 80 PSF (3.83kPa) tested and certified to:

TAS 201, TAS 202, TAS 203, ASTM E1886 & ASTM E1996

Please visit KALWALL.COM for all window replacement specifications, CAD details, BIM families & performance charts

Translucent Insulated Glazing Units (TIGU)

TIGUs are available for 'plug and play' integration in captured curtain wall systems in formats up to 5' x 15' (1500mm x 4500mm). Standard grid patterns include Shoji and Ladder. VertiKal™, Tuckerman, and other orthogonal grid patterns are also available. U-factors from: 0.10-0.28 Btu/hr/ft²/°F offer leading performance. NFRC 100, 201 and 202 values available for all Crystal-White FRP face sheet combinations and exterior cloud series Kal-tints™ including Cumulus, Cirrus, Nimbus, Stratus. For storefront systems and curtain walls with 1" glazing pockets, specify KALWALL 275CWA (the 2-3/4" (70mm) option with a 1" (25mm) curtain wall adapter). For storefront systems and curtain walls with 1-3/4" glazing pockets, specify KALWALL 175CW (the 1-3/4" (44mm) option). For more details, visit KALWALL.COM.



The Mall, Walthamstow | London, UK | ESA Architecture | KALWALL TIGUs mixed glazed in RAICO THERM+ Curtain Wall

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