

Guide to Designing Energy-Saving, Translucent Wall Systems

- **ARCHITECTS**
- **CONTRACTORS**
- **OWNERS**

We're NOT trying to design your building... or even build it. That's not our business.

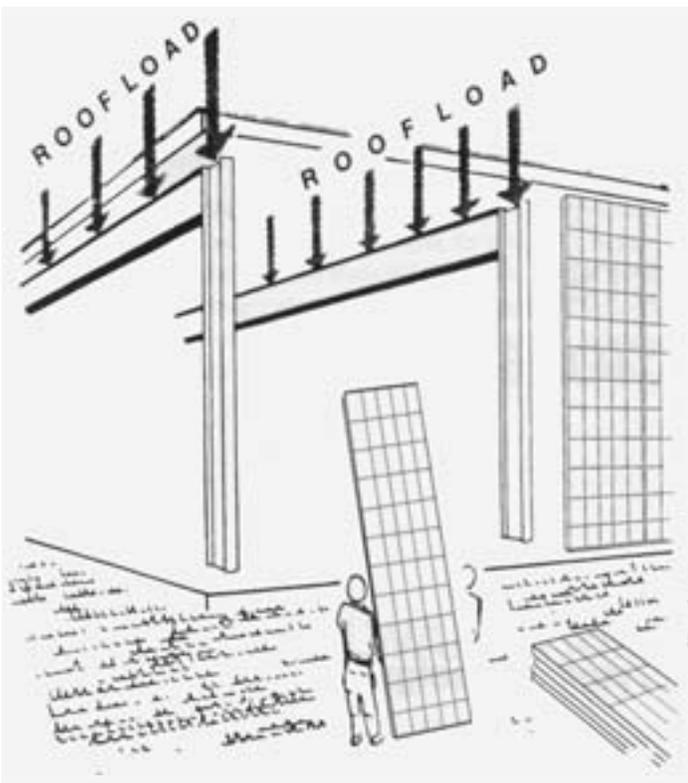
BUT, if you'd allow us, we'd like to point out how you can

- cut material costs
- cut labor costs

when designing with **Kalwall**[®]

See us @ www.kalwall.com





What is Kalwall?

Kalwall is a lightweight, strong wall unit that combines the beauty and practicality of diffused, natural interior lighting with the functional qualities of high insulation, shatterproof construction and low maintenance. Available in sections up to 5' wide by 20' high (1.5 m x 6 m), its large size and light weight (only 1.5 lb/ft² or 7.3 kg/m²) allow rapid, economical installation.

Kalwall's 2 $\frac{3}{4}$ " (70 mm) or optional 4" (101 mm) sandwich construction creates a wall unit capable of long spans without the need for intermediate supporting members. It's strong enough to withstand hurricane-force winds. That's what makes Kalwall a *structural* wall unit and not simply a glazing-type panel dependent upon supporting mullions and other framing members.

Bear in mind, however, that except in the case of small buildings, Kalwall wall systems are *not* designed to support roof or upper floor loads. Independent structural systems are required.

How to Cut Costs When Designing Translucent Wall Systems

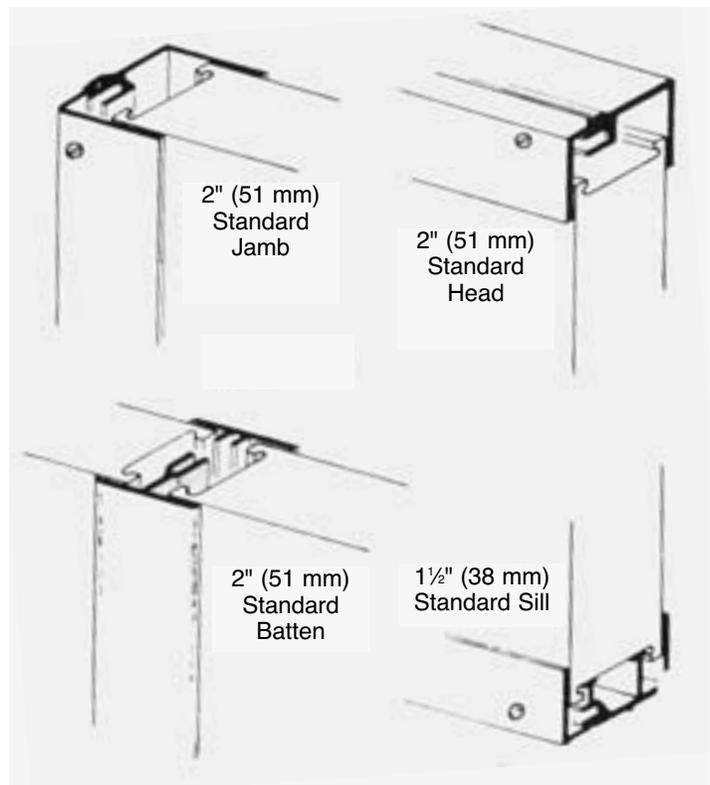
1. The Clamp-tite™ Installation System

This unique installation system maximizes the strength capabilities of Kalwall. There is no need for high-cost, conventional *structural* curtain wall framing: the extra strength isn't needed.

Kalwall's Clamp-tite closures are designed for the purpose of sealing translucent Kalwall to the building – and the continuous *clamp-action* does the job better than any other system. The rugged, two-piece aluminum extrusions, joined by stainless steel screws and combined with Kalwall Sealing Tape, provide a positive, weather-tight wall installation. Kalwall Clamp-tite systems have proved themselves in thousands of projects worldwide – in all types of climates and under all conditions – since 1955.

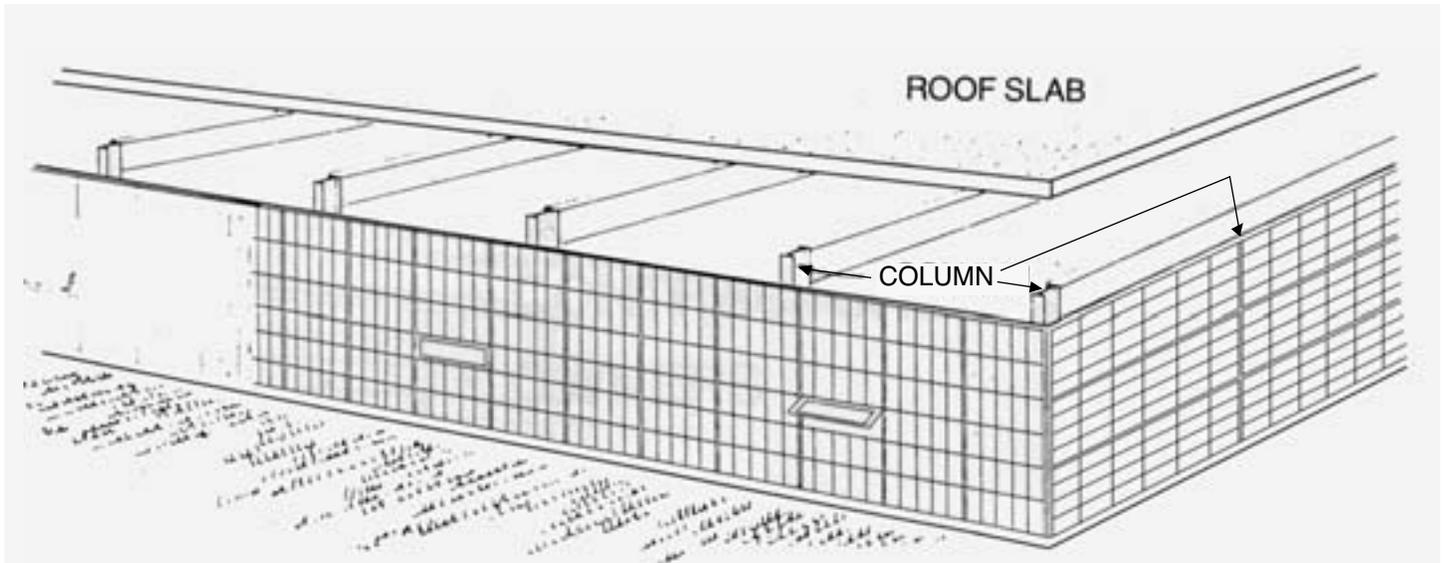
Clamp-tite closures are available to meet any installation requirement. Various shapes are made for head, sill, jamb and unit-to-unit closure. Also, special extrusions such as the 3 $\frac{1}{4}$ " (83 mm) IS stiffener and the fin battens allow greater unsupported spans; others provide design emphasis at vertical joints. And our super thermal break design is 30% more efficient than others!

On the other hand, there is no need to over-engineer a project as this will increase your costs significantly. These special extrusions should be used only when necessary to fulfill specific design requirements. Your most economical choice is standard Kalwall with the standard-series installation system.



All members can be thermally broken.

2. Design with Kalwall in Front of or Behind Columns



Vertical Installation

Horizontal Installation

When walls start and stop at each column, extra jamb Clamp-tite closures are needed, significantly increasing costs. The rough opening width is often an odd size, requiring more expensive, non-standard-width wall units as well as additional labor. Whether you're planning a wood post-and-beam building or one of structural steel or concrete, these items can unnecessarily strain the budget of your wall installation.

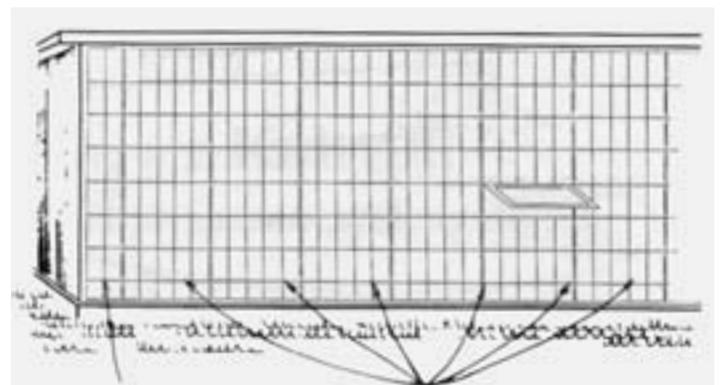
Instead, the Kalwall Translucent Wall can run continuously in front of or behind the columns – and save you money. Kalwall's long-span capability allows complete independence of the wall and the columns. With vertical installations, it's not necessary to tie wall units to the columns, so there's no need to worry about matching the placement of columns and unit-to-unit battens. This allows you to use economical, standard-width units for most of the wall.

3. Kalwall Standards and Options for Economy

For maximum economy, utilize the maximum number of standard-width modules – 4' and 5' (1.2 m and 1.5 m) nominal. There are options to “fill-in” the remaining areas not covered using standard modules:

- a. Use a minimum number of non-standard “filler panels” (up to 5' wide or 1.5 m).
- b. Use optional wide battens (2½", 3¼", 4" or 63 mm, 83 mm, 101mm) and/or deep jambs (2½", 3" or 63 mm, 76 mm) to take up the slack.

Note – changing from a 4' (1.2 m) standard module to a 4' 3" (1.3 m) non-standard width module on a long wall can add more than 15% to the cost of the job!



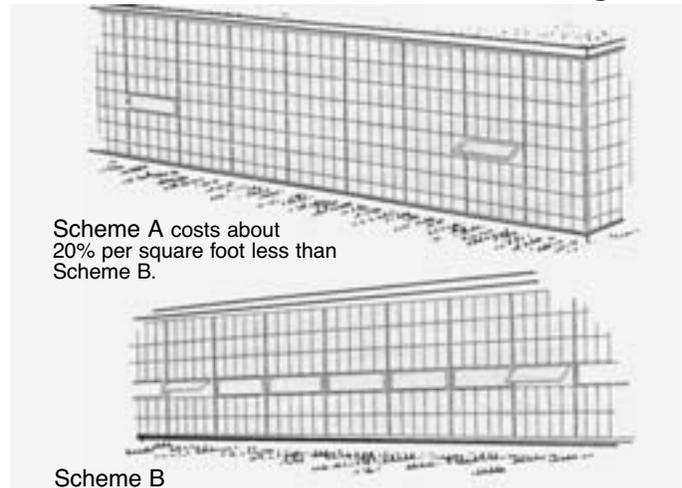
Kalwall
Non-Standard
“Filler Panel”

Standard-Width
Kalwall Units

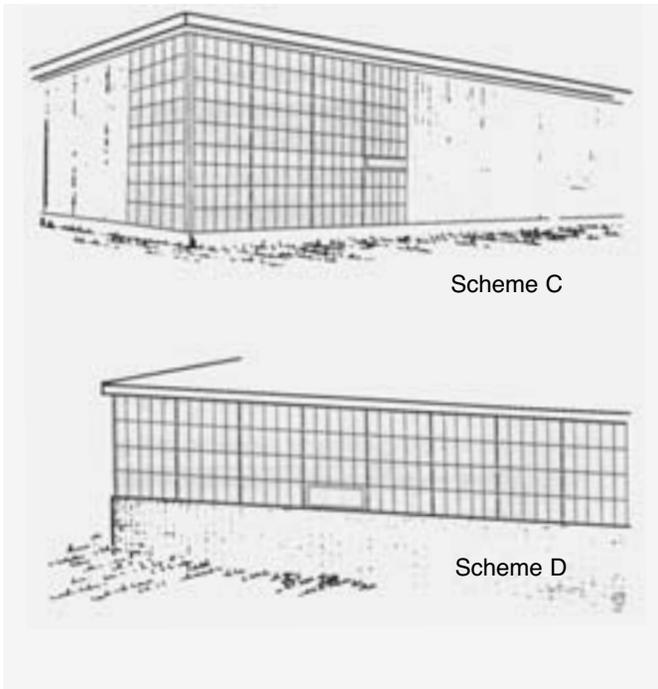
4. Minimize Windows for Vision and Ventilation Only

Because translucent Kalwall provides all of the necessary diffused, glare-free, natural daylight, keep the use of windows to a minimum consistent with your design, vision and ventilation requirements.

Unneeded windows and other special wall components can significantly boost the per-square-foot, installed cost of your walls. Imagine, for example, a 10'-high (3 m) wall consisting of standard-width Kalwall units. Windows in every sixth unit (see Scheme A) will cost approximately 20% per square foot less than windows in every unit (see Scheme B).



5. Make the Most of Kalwall's Long-Span Capabilities



2 $\frac{3}{4}$ "-thick (70 mm) Kalwall, using the standard Clamp-tite installation system, can span over 14' (4.3 m) depending on load and deflection requirements without the need for costly structural mullions, intermediate girts or other structural framing or support!

Remember that Kalwall's unit construction makes it as easy to install a 10'-high (3 m) unit (see Scheme C) as it is to install a 5'-high (1.5 m) unit (see Scheme D). If your design doesn't call for an entire translucent wall, consider the Kalwall Panel-Unit Wall system. This system combines translucent and opaque components and windows into single units as large as 5' wide (1.5 m) by 34' high (10 m). Large areas of wall can be installed with less labor and time than other systems require.

Also, keep in mind that Clamp-tite closures must be used on all four sides of the units, regardless of their size. For a 10'-high (3 m) Kalwall Translucent Wall (see Scheme C), standard closures account for roughly 10% of the wall cost. However, for a combination wall with 5'-high (1.5 m) Kalwall units set on masonry (see Scheme D), the added cost actually rises to 15% per square foot. Considering the higher unit erection cost for Scheme D, the pluses are all on the side of full-wall-height Kalwall units.

6. Call Your Kalwall Representative

Your Kalwall Representative will be pleased to further discuss the features and benefits of this unique Translucent Wall System technology. Detail sheets and samples of Kalwall's various systems demonstrate their

full capability. In addition, Kalwall's Architectural Service Department is fully staffed with estimators, engineers and draftsmen ready to aid you through all stages of your design.

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Various systems and accessories patented and pats. pend.