

Frequently Asked Questions

GENERAL

When was SLENDERWALL® first used?

It was first used in 1993 to clad the Health Insurance Plan building at Rutgers University, New Brunswick, NJ.

What is SLENDERWALL®?

It is a patented, lightweight, efficient, permanent, cladding, exterior curtain wall system with extraordinary design flexibility that combines four proven design components: (1) architectural precast concrete; (2) hot-dipped galvanized welded wire fabric reinforcing steel; (3) stainless-steel Nelson® fasteners; and (4) light-gauge galvanized steel studs. It allows interior finishes, such as drywall/gypsum, to be applied directly to the stud frame.

Has SLENDERWALL® been tested?

Yes, SLENDERWALL® has passed rigorous structural, fire and thermal testing by third party and independent laboratories. Copies of the testing data are available upon request.

What is the life of SLENDERWALL®?

SLENDERWALL® has been used in more than 100 projects, beginning in 1993. It is comprised of components that have a 50 to 100-year history and a proven track record in the construction industry.

What is the warranty?

The manufacturer of SLENDERWALL® typically warrants that the panels are made free of defects from materials and workmanship for a period of one year.

Where have SLENDERWALL® projects been built?

There are in excess of 100 completed projects in the United States, Canada and Mexico with many new ones underway.

Do I need any permits?

Permits may be required as with all building and construction projects. Consult your local building and zoning office for the requirements for your project.

Who produces SLENDERWALL®?

We extend our manufacturing reach by using a network of Easi-Set® licensed producers across North America. We also have the ability to partner with certified precast manufacturers that

enjoy a firm position in the local construction market with Easi-Set® providing engineering and in-plant technical assistance.

What is the timeline for production, delivery and installation?

The timeline for SLENDERWALL® is similar to that of traditional architectural precast.

Who installs the SLENDERWALL® panels?

SLENDERWALL® is typically installed by

1. Precast concrete erectors certified by PCI (Precast/Prestressed Concrete Institute) in Category A, or S1 or S2, or
2. Precast concrete erectors certified by another national or international certification organization, or
3. Precast concrete erectors who have a minimum of 5-years' experience installing SLENDERWALL® or have shown competence to work to standards for the erection of architectural precast concrete panels

How do you deliver the panels?

Panels are delivered to the project on trailers in the order of installation requested.

Do you provide drawings?

Yes. Easi-Set® Industries has engineering and design teams that are specially qualified to produce drawings for the SLENDERWALL® system.

Are the drawings reviewed and stamped by an engineer?

Yes, all SLENDERWALL® drawings are stamped by licensed design professionals.

Can SLENDERWALL® be an envelope system?

Yes, the SLENDERWALL® manufacturer can deliver panels with windows and insulation installed and take responsibility for applying the fire stopping, the smoke seal and the panel-to-panel sealant on the project. This approach provides a single-point responsibility for the warranty. Contact your SLENDERWALL® manufacturer to discuss further.

FEATURES

What special features does SLENDERWALL® offer compared to other types of wall systems?

There are five proprietary benefits that come only with the SLENDERWALL® system: (1) thermal break protection (THERMAGUARD™); (2) precast concrete isolated from the

superstructure (DURAFLEX 360 o™ technology); (3) OPTIONAL secondary, in-the-caulk-joint, water-penetration protection/detection system (H₂Out™); (4) OPTIONAL fast panel installation (Lift-and-Release™); and (5) OPTIONAL “Class A” architectural precast concrete brick finish (Second Nature™).

Can SLENDERWALL® span from floor-to-floor?

Yes, it is typically designed to span from floor-to-floor for floor heights up to 12-feet. In some instances, panels can be used to span multiple floors.

Do you provide openings for the HVAC units?

Yes. Consult Easi-Set® Industries for maximum size openings and locations for your particular project needs.

Can windows be installed in the plant?

Yes, depending upon the panelization design. However, since a long lead-time is typically required for the delivery of the windows; selection of the windows must be made by the architect sufficiently in advance of SLENDERWALL® production and delivery. (Installed windows are properly protected to prevent damage during shipping.)

Can SLENDERWALL® be used over existing structures?

Yes, SLENDERWALL® can be used to re-clad or over-clad existing structures. For maximum economy of installation, Easi-Set® recommends that the exterior of the existing structure be removed. However, SLENDERWALL® can be designed for installation over an existing structure from the outside, so the building can remain occupied during the installation process.

Can SLENDERWALL® be used as a screen wall on top of a building?

Yes; the SLENDERWALL® panel is made of components that are susceptible to the elements, so the back of the panel must be protected from the elements either by sealing with a stain, a waterproof coating, or by applying a weather-tight sheathing on the back of the frame. There is also the option of using stainless steel framing and stainless steel connection hardware that is weather resistant.

Can the panels be used on a parking garage?

Yes; however, SLENDERWALL® panels have not been designed for vehicle impact; therefore, cables or curbs would have to be placed in front of (before) the panels.

What finishes can I specify?

All architectural precast industry finishes are available, including Second Nature™ Architectural Precast Concrete Brick (APCB).

Can SLENDERWALL® be made in different colors?

Yes, SLENDERWALL® can be colored either by staining or using pigmented concrete.

What is Second Nature™ Architectural Precast Concrete Brick (APCB)?

It is a SLENDERWALL® proprietary finish that is the only Class “A” precast concrete brick on the market with the quality level necessary for Class “A” commercial building projects.

Can SLENDERWALL® panels be installed before the upper floors are completed and the roof is in place?

Yes; however, provisions such as a temporary roof covering should be considered to protect on-going interior work that can be damaged by exposure to the elements.

TECHNICAL

What codes does SLENDERWALL® meet?

SLENDERWALL® meets IBC, ACI, AISC, IECC, PCI Design Handbook, CRSI Manual of Standard Practice, ASTM/ANSI/AWS, and most local or state building codes.

Can SLENDERWALL® be designed in self-bearing and/or load-bearing wall applications?

Typically, SLENDERWALL® panels are curtain walls and not intended to carry structural loads. They can be designed to be self-bearing (stacked panels) in multi-story applications. Additionally, special designs can be used to modify the panels to be structurally-loaded (load bearing) for specific applications.

What is the typical dead load of the SLENDERWALL® panel?

30 pounds per square foot for the SLENDERWALL® cladding

What wind loadings can SLENDERWALL® panels be designed to accommodate?

SLENDERWALL® panels can be designed to accommodate any level of wind as per IBC requirements. For site-specific wind loading designs, contact Easi-Set® Industries.

What is the R-value of a SLENDERWALL® panel?

The prescriptive R-value is dependent upon the thermal break dimension and the depth of closed-cell foam insulation needed to meet specific project temperature zone requirements. Sprayed polyurethane closed-cell foam products typically have an R-value of 7+ per inch. In independent 3rd party laboratory tests, a SLENDERWALL® panel has demonstrated a performance R-value of 24. Contact Easi-Set® Industries for specifics.

Can SLENDERWALL® be a fire-rated wall?

With the proper fireproof insulation and the appropriate fireboard backing attached to the frame, SLENDERWALL® can achieve the ratings required by codes for firewalls.

What is the fire rating?

A SLENDERWALL® panel tested in accordance with ASTM E119 and ASTM E2226 (hose stream) achieved fire rating of 60-minutes.

Is there a vapor/air barrier?

Sprayed polyurethane closed-cell foam with a minimum density of 1.5 pcf (2.4 kg/m³) at a minimum thickness of 1½-inches provides the vapor/air barrier. Additionally, other vapor/air barriers can be applied, as per the contract specification.

Where are vapor/air barriers applied?

Polyurethane closed-cell foam insulation is sprayed into the thermal break and stud cavity to a minimum depth of 1 ½-inches.

How soon after casting can polyurethane closed-cell foam be sprayed onto the concrete?

Once the architectural concrete has achieved its “initial set” and is “dry to the touch,” it is ready to be spray foamed. Typical closed-cell foam manufacturers’ guidelines are 4-6 hours. Check with your closed-cell foam manufacturer for their specific guidelines.

How do you handle water penetration?

SLENDERWALL® uses a concrete mix that incorporates an integral water-repellant admixture which reduces the capillary properties of the concrete, providing a dense concrete mix that repels water.

Has an in situ water penetration test been performed on a SLENDERWALL® panel?

Yes. An in situ water penetration test was performed by a 3rd party engineering firm on a panel in accordance with AAMA 503, “Voluntary Specification for Field Testing of Storefronts, Curtain Walls & Sloped Glazing Systems,” utilizing testing methodology per ASTM E1105, “Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors & Curtain Walls by Uniform or Cyclic Static Air Pressure Difference.” The test area of 84-inches X 72-inches also contained a repair. The panel withstood a water spray of 71psf (168 MPH for 15-minutes with no leakage observed.

What is the gauge of the frame and track?

The typical stud is 16-gauge steel and the track is 14-gauge.

How thick is the galvanizing?

Both the studs and the track are G90 galvanized.

What is the purpose of the gap between the frame and back of concrete?

To provide a thermal break to accommodate continuous insulation.

Can windows be installed at the manufacturing plant?

The ability to install windows at the plant is dependent upon the type/size of the window, the location within the panel, and the specific SLENDERWALL® manufacturer. For more information, contact your nearest manufacturer or Easi-Set Industries.

How large can window openings be?

Openings in the SLENDERWALL® panel can be designed to fit most standard and custom window sizes available from window manufactures. Standard SLENDERWALL® panels can typically accommodate windows up to 7-feet wide, although panels can be designed to accommodate larger windows when required.

How are windows attached to the panel system?

Framed openings are provided in the SLENDERWALL® panel and the windows are typically attached using shims and screws to the framing in accordance with window manufacturer's guidelines.

How deep can the reveals be in a panel?

The standard depth of the reveals can be up to 3/8-inch.

How large can a projection be on the panel?

SLENDERWALL® panels can accommodate a wide range of projections. The Design Engineer should review the framing design for panels containing projections to ensure that special framing needs are incorporated.

Can SLENDERWALL® be made to cantilever past a floor or roof?

Yes. For more information, contact your SLENDERWALL® manufacturer or Easi-Set® Industries.

How is SLENDERWALL® attached to the building?

SLENDERWALL® is attached to the building perimeter by gravity and lateral connections at the floor slab or steel/concrete frame. (For more information, see SLENDERWALL® Architectural Details.)

How does SLENDERWALL® interface to other wall systems?

SLENDERWALL® is compatible with most other types of systems made from metal, brick, and glass with a sealant joint.

What loads can be applied to the SLENDERWALL® panel for canopies, awning, and signage?

Only minimal loads can be applied to the SLENDERWALL® frame itself. Larger loads must be transferred to the structure by penetrating the SLENDERWALL® panel and attaching to the building superstructure. Consult your SLENDERWALL® design team for specific help on your project. Light weight signage can typically be designed to attach to the SLENDERWALL® concrete facade using toggle-style bolts.

Can handrails and screens be attached to the SLENDERWALL® panels?

Yes; however, prior to attaching the screens or handrails to SLENDERWALL® panels, the design must be approved by the structural engineer and the SLENDERWALL® design team early in the design process.

How is the gap between the floor and panel closed?

After sealing the gap with a fire-rated product such as mineral wool, a piece of light-gauge break metal, provided and installed by the drywall contractor during drywall installation, is used to cover the gap.

How is the firestop between floors handled?

The firestop is field-installed by application companies compliant with project specifications. See the Design Details for more information.

How do you seal the joint between panels?

Weatherproofing the SLENDERWALL® system is handled by caulking contractors that use the most up-to-date sealants on the market. Typically, one or two lines of caulk or the OPTIONAL H2Out system are used. Some conditions may require that flashing be considered.

How do you seal parapet panels?

Parapet panels are connected to the roof by use of a roofing membrane provided by the roofing contractor. Design of the roof membrane connection is dependent upon the type and style of the panel that you choose for your project. (See SLENDERWALL® Architectural Details.)

What is the standard size of a SLENDERWALL® panel?

SLENDERWALL® panels are designed for each project. The building façade is separately “panelized” to produce the most panel repetition and the largest practical size, based on the building features. As a result, there is no standard size panel; however, a typical size is 10-feet by 30-feet (300 sf)

What’s the largest practical SLENDERWALL® panel I can design?

The largest practical panel size for most highways is 12-feet by 38-feet, but is dependent upon the location of the project, the type of trailer being used, highway requirements, and the manufacturer.

What does a SLENDERWALL® panel weigh compared to a conventional precast panel?

The weight is around 30 pounds per square foot; the average conventional precast panel weighs around 75 pounds per square foot, so a SLENDERWALL® panel is approximately 40% the weight of a conventional precast panel.

What's the tallest building clad with SLENDERWALL® panels?

The tallest building is the 508-foot high, 38-story Westin located in the Virginia Beach Town Center in Virginia Beach, VA.

How is the frame attached to the 2-inch architectural precast?

The frame is attached to the concrete using stainless-steel Nelson® fasteners welded to the frame and partially embedded in the concrete at the time of casting.

Where do I find the details of how the steel frame is assembled and welded?

Informational drawing can be found in the SLENDERWALL® Design Details which can be accessed through www.SlenderWall.com after registering.

Will SLENDERWALL® support high rise building window cleaning apparatus?

SLENDERWALL® panels are not designed to carry the vertical loads produced by window cleaning apparatus. It is recommended that the apparatus use an outrigger beam, secured to anchors in the roof or other suitable points to avoid vertically loading the panels.

Is there a minimum number of welds to be completed prior to releasing the crane from the panel during erection?

The Design Engineer determines the number of welds required. The number of welds should be contained in the Erection Drawing, General Notes and should be coordinated with the Erector.

Should a survey of the superstructure be performed before SLENDERWALL® panels are installed?

Yes, the survey should include both the floor-to-floor spacing and the floor levelness.

PRICE

How competitive is SLENDERWALL® in cost compared to other cladding systems?

Construction costs vary from region to region. SLENDERWALL® is very competitive with other types of cladding due to its lighter weight, larger panel sizes, drywall-ready stud frame, in-plant installed foam insulation and windows and use of smaller construction cranes.

SLENDERWALL® panels facilitate early interior “build out;” thereby, reducing construction schedules and saving construction costs.

What is the installed cost per square foot?

Installed costs are dependent upon project location, building design complexity, finish and size of panels. SLENDERWALL® does provide significant cost savings to the project, compared to other systems, when used in the building design. Contact your nearest SLENDERWALL® manufacturer or Easi-Set® Industries for more information.

Can you provide quotations from conceptual design renderings?

Budget numbers can be given on basic concepts and renderings; however, to provide a more accurate estimate and hard quote, drawings with sections and elevations are required.

How long does it take to get a price?

Most preliminary estimates and reviews of the project take about a week, depending upon project complexity. Your SLENDERWALL® manufacturer and/or Easi-Set® Industries will strive to work within your timeframe to provide thorough estimates on a timely basis.