

PANEL WEIGHT

The 3" thick panels weigh .70 pounds per square foot. #5104 channel trim adds .50 pounds per lineal foot and #5105 edge trim adds .30 pounds per lineal foot. The weight of plant materials grown on the panels is an issue that has been analyzed on previously completed projects. There are a number of variables that affect the overall weight; including type of plant material, level of maturity, and moisture content. We have taken what we assume to be the worst case scenario which accounts for panel weight with full perimeter #5104 channel trim and fully mature vines on a cold wet day. In this case it has been our experience that this weight would never exceed between 2 to 3 pounds per square foot. (Refer to ASTM E 2397, Report Annex, p.4, Plant Weight).

PANEL OPENNESS

It has been calculated that a standard 4' x 8' panel without any plant growth gives 8.25% coverage in elevation, meaning the panel is 91.75% open. However, most engineers when calculating wind loads, consider the panel to have 50% blow-through when fully covered with mature plant material. Plant material is frangible, and will be removed at higher wind speeds.

WIND EFFECTS ON PANELS

It is assumed that plant material is frangible and will blow off in a mild wind long before hurricane speeds are reached (a 140 mph 3 second gust is considered to be a low category 3 hurricane.) What this means is that as the wind blows harder it will remove more and more plant material, thereby controlling the amount of lateral wind pressure to an indeterminate amount. Furthermore, loss of plant material will also decrease the vertical load on the mounting clips more and more as wind speeds increase. Lastly, it should be noted that the G_{cpi} (internal pressure coefficient) is 0 when considering an Exposure C location.

PANELS ARE NOT CLADDING

The panels do NOT meet the definitions of "Main Wind Force Resisting Systems" or "Components and Cladding" (Building Envelope) as given in section 26.2 of ASCE 7-10. This means that the panels are not required to be designed for wind resistance.

WIND LOAD RESISTANCE QUALIFIER

Generally vegetated Greenscreen® panels will adequately resist wind load when mounted to structure according to our recommendations. Rooftops and conditions >20 feet above ground involve higher wind speed and may require engineering calculations to validate the panel size, span, and number and type of clips and their fastening method. If required, we are able to provide stamped calculations to validate the Greenscreen® application in a given wind speed. We do not design or provide engineering for the structural support system.

GENERAL

Metal components (except fasteners) are factory finished with general purpose, alkaline, water based cleaner / degreaser applied at 240 degrees F. and primed with zinc-rich epoxy powder coat. The topcoat is comprised of polyester or polyester-urethane powder coat in one of our six standard colors.

PANELS

Panels are a rigid, three-dimensional welded wire grid fabricated of 14-gage ASTM A641 galvanized steel wire. Wires along the face are welded at each intersection to form a 2" x 2" face grid on the front and back of panels. The face grids are separated by bent wire trusses spaced at 2" centers and welded to front and back face grids at each truss apex. The standard panel thickness is 3". Length and width of panels are in 2" nominal increments. Allow for a tolerance: 1/8" in width and 1/4" in length.

ACCESSORIES

Trim is fabricated from 20-gage ASTM A879 galvanized steel. Typically, #5105 trim is placed around the full perimeter of each panel group, but not at panel seams. Refer to submitted sketches or shop drawings for exact trim placement. Clips are fabricated from ASTM A879 galvanized steel. Spacers are made from UHMW black plastic will hold the clip away 1/2" from the mounting surface. Spacers are optional when mounting directly to steel. Anchors for attaching to a structure are excluded and should be provided by the installer based on site conditions. A min. 460 lbs. pull out value is recommended when attaching to concrete, masonry, structural steel, light-gage steel framing, or wood framing. EIFS applications typically require additional blocking for clips and anchors to attach to.

EXAMINATION & INSTALLATION

Inspect substrates and conditions affecting work of section. Do not proceed until unsatisfactory conditions have been corrected. Install panels plumb and square, and align to maintain modular grid. Avoid cutting panels in field. Where field cutting is essential, apply touch-up paint to cut edges. Custom formulated touch-up paint can be purchased from Greenscreen®. Install panels securely with fasteners as shown on drawings/product data sheets. Repair bent or damaged panels. If panels cannot be repaired to satisfaction of architect, remove from job site and replace with new panels.

DELIVERY, STORAGE, AND HANDLING

Protect materials from damage and store panels flat. Provide edge protection when strapping is used. Do not apply loads to panel edges. Panels should never be transported on a flatbed truck or moved with a forklift.