

PANEL WEIGHT

The 3" thick panels weigh .66 pounds per square foot. #5104 trim adds .50 pounds per lineal foot and #5105 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 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 and 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 building departments consider the panel to have 50% blow through when fully covered with mature plant material.

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 calculation 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.

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