



The Eco-\$mart Library

Structural Insulated Panels Secure-Lock™ Technical Data



TECHNICAL DESCRIPTION

Pressure laminated composites of baked, polyester-coated steel coil sheets that have been roll formed to produce a patented locking system, and computer cut and routed expanded polystyrene foam (EPS). These elements are laminated under pressure with an adhesive to produce a panel having structural and insulative properties. The panels are custom laminated from white or ivory .024 or .032 stucco embossed aluminum coil 3105-H-194, .024 cedar woodgrain embossed aluminum coil 3105-H-194, .032 smooth aluminum coil 3105-H-14 or .26 gauge smooth or stucco embossed coated galvanized steel ASTM-A527 #G-90.

SIZES

Depending on the "R" rating or span one wishes to achieve, panels are available 2" to 8" thick. The panels are manufactured in lengths up to 32 ft. and widths of 23-1/8" and 48" if using aluminum skins and 48" if using steel skins.

EPS FOAM CORE

Density of the core is 1 lb./cubic ft. according to the ASTM-D303 /D1622/ C177/ C518/ D1621/ C203/ D1623/ D723/ E96/ C272/ D696/ D2863. A 1lb. density panel will support loads up to 72 lbs. per sq. ft. combined with various wind loadings up to 150 m.p.h. The foam core performs as a thermal barrier with thermo transmission of 0,0588 BTU/(sq. ft. hr. degrees Fahrenheit). On average every panel has a thermal resistance value of R-4 per inch.

WEIGHT OF PANEL

A standard 4' x 8' .026 ga. steel panel is approximately 71.27 lbs. or 2.227 lbs./sq. ft. Even though the panels are light, the system is structurally superior to conventional stud frame methods. The panel's high capacity to resist loads is due to the double "T" type beam design and the continuous interface of the walls and roof.

PATENTS

The Secure-Lock™ insulated panel holds patents 4,769,963 and 5,086,599 in the United States, Canada, U.K., Australia, Mexico, Chile and has a patent pending in Argentina.

SPECIFICATIONS

General STRUCTALL BUILDING SYSTEMS, INC. of Oldsmar, Florida, manufactures the patented Secure-Lock™ Insulated Roof and Wall Panel and carries a wide selection of extrusions, fasteners and building components. The panel is ideal for carports, walkway covers, and canopies as well as various other commercial applications and residential home uses.

Design Loads All components shall be designed to meet or exceed the specified vertical and horizontal load requirements in accordance with engineering data and BOCA and National Building codes. Secure-Lock™ Insulated Roof Panels are capable of supporting up to 57 lbs. per square foot combined with various wind loadings up to 120 m.p.h. (Optional) Calculations are available to meet local building codes and for special projects.

Roof Panels Secure-Lock™ Insulated Roof Panels are available in various gauges of aluminum and steel and are coated with a selection of baked enamels of 1.0 mil. Finishes include stucco and cedar (optional) embossed. Panels are available in 23-1/8" and 4' widths, 3" to 8" thick and are capable of supporting 57 lbs. live load per sq. ft. at up to 20' spans between framing members under normal application.

Columns Columns shall be a minimum of 3" x 3" x 1/8" aluminum posts. Adequate reinforcing to support bolted connections at the top shall be provided. Standard clearance minimum of 7' for all structures. Other columns available.

Beams 6" - 9" self-mating beams are available in white or bronze. Ivory available for limited sizes. (See engineering chart to determine appropriate size.)

Fasteners The Secure-Lock™ Insulated Roof Panels shall be secured on the top side thru panel and into cross beams with #10 screws and 1-1/2" neoprene metal washers. The fascia and trim will be secured with #8 x 9/16" self drilling tek screws. See installation instructions to determine quantity requirements.

Drainage Optional gutters and fascia are available.

Installation The general contractor or manufacturer's agent shall follow installation instructions supplied with Panels.