

800-228-7230 inquire@kellyklosure.com www.kellyklosure.com

Kelly's smaller buildings use a 2:12 pitch trussed gable roof structure and shear walls to resist wind, snow and seismic loads. These buildings are preengineered in widths from 6' wide to 24' wide and eave heights up to 14'-0".

Standard Features:

- Fast assembly with minimal equipment; buildings assemble 4 times faster than stick built structures.
- Pre-engineered to IBC 2015 for all 50 States with wind loading up to 160 MPH and roof loading up to 50 PSF
- Buildings are relocatable and reconfigurable due to the modular panel design.
- Roof structure can support loads from lighting, HVAC, plumbing etc.





Pre-Engineered Widths & Heights for 2:12 Pitch Trussed Roof Buildings



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- BUILDING CONFIGURATIONS 2:12 PITCH TRUSSED GABLE ROOF

Kelly buildings arrive at the site via flat bed trucks in easy to handle racks and crates. All material can be easily handle with a small fork lift. For smaller buildings installed in areas where equipment is restricted, all components of the building can be handled individually by hand.



A Kelly Klosure Building Ready for Shipment





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Pre-framed, modular building panels for the smaller 2:12 pitch trussed roof buildings up to 24' wide are fabricated using 2" A529-50 steel angle. Taller wall panels will use angle/channel construction or are upgraded to 3" angle depending on combination of wind and roof loading. The bolting of adjacent panel members creates a combined member and is the basis for the structural system.

The basic structural system for snow and roof loads is the truss system in the roof and the vertical members in the sidewall panels. There are roof trusses every 3'-0" on center down the length of the building. The top chord of the truss is formed by the combined member of two adjacent hinged roof panels. A tension tie spanning from eave to eave forms the bottom chord. Web bracing finishes the truss structure. Refer to page 5 for the Small Building Component Parts diagram. Snow load on the roof is transmitted through the roof truss to the sidewall panel vertical members. The sidewall panel members transmit this load to the foundation as a "gravity" load.

The basic structural system for wind and seismic resistance in the small trussed roof buildings is the shear strength created in the plane of the roof and walls. The shear strength refers to the ability of the wall or roof panel to resist loads parallel to the panel. Wind load against a wall of the building is resisted by the roof and the adjacent wall. For example, wind against the sidewall of the building is transmitted through the roof to the endwalls. The shear strength of the endwall transmits the load to the foundation. Buildings with higher seismic requirements will include "braced" wall and roof panels to resist seismic forces.

The shear strength of the 2" wall panels has been thoroughly tested, and the results are used in the design and layout of buildings. The width, length and height of the building and the design loads for the building's location will result in a certain number of "clean" panels required in each wall to resist those loads. Clean panels refer to panels that are not interrupted by personnel doors, equipment doors, windows or large openings. A Kelly representative will work with you to determine a building layout that will meet your needs.



WALL PANEL SHEAR STRENGTH TESTING (Conducted at the Kelly Klosure facility in Fremont, NE)

Design allowable shear loads were developed using a safety factory of 2.5 below the "loss of weather-tight" load which is much more conservative than the wall panel's "ultimate load".



BRACED WALL PANELS IN A 2-STORY FLAT ROOF INTERIOR OFFICE AND BREAK ROOM BUILDING

(Building shown being assembled at customer's facility on a steel skid)