



Straw structural insulated panels

Prefabricated wall, floor, and roof panels: dense-packed straw in a timber frame, sheathed and ready to raise. Structure, insulation, and airtightness arrive as one component.



• 14 1/2"

Panel thickness, including framing, insulation, and exterior sheathing

• R-38

Standard straw wall panel assembly. Higher values available – see over.

• 350 lb

Typical standard panel weight. Set with a telehandler or crane.

• DIMENSIONS

Standard sizes

Panel widths	24", 39", 48" widths are standard. Custom widths are also available.
Panel heights	8', 9', 10', 11', 12'. Panels stack to reach wall heights above 12'.
Thickness	14 1/2" overall, including: structural framing, insulation, and exterior sheathing.
Typical weight	350 lb for a standard panel. Confirm per panel with your shop before rigging.
Shear strength	Provided by the 1/2" CDX plywood exterior sheathing.

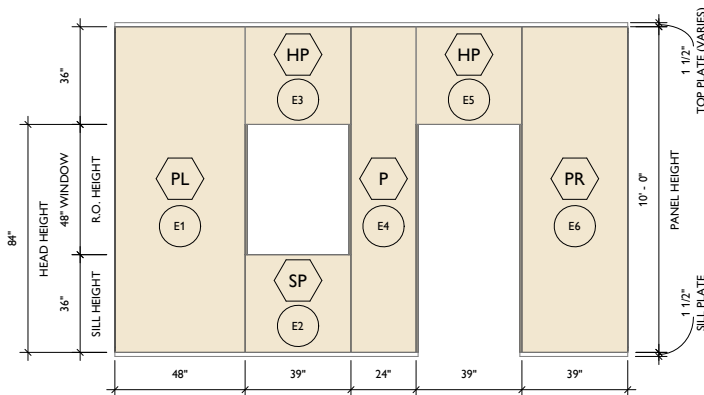


• THERMAL PERFORMANCE

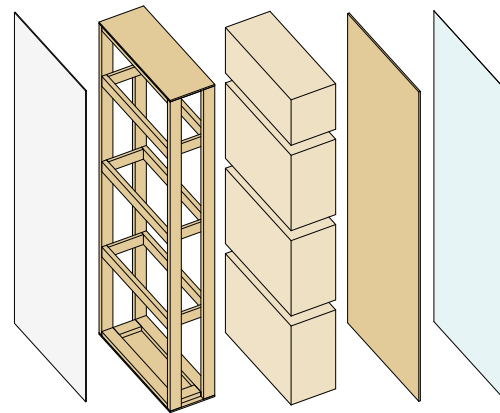
R-values by panel type

PANEL	FILL	R-VALUE
Wall – standard sizes	Straw	R-38*
Wall – custom sizes	TimberHP TimberFill	R-53
Floor	TimberHP TimberFill	R-55
Roof	TimberHP TimberFill	R-60

*Additional insulation layers may be added if desired to reach higher R-value for walls.



Typical elevation. Every panel carries a type mark – P standard, PR and PL corner, SP sill, HP header, plus its own ID based on its location in the structure.



What a straw panel wall is made of: interior air barrier, wood framing, dense-packed straw insulation, exterior sheathing, and a weather resistant barrier.

• AIR SEALING

Two ways to run the interior air barrier

Option 1 – membrane

A vapor-variable air barrier membrane on the interior face acts as the primary air barrier, sealed on site with high-performance tapes at the head and base of the wall and at every transition and rough opening.

2x4 strapping laid flat over the detailed barrier creates a plumbing and electrical chase and the fixing point for wall board. Finishes must be vapor-open – veneer plaster, non-latex paint, or wood with a vapor-open finish.

Option 2 – natural plaster

A base coat of lime plaster on the interior face acts as the primary air barrier, applied in the shop or on site. Panel seams receive a base coat once assembled, then finish plaster goes over the sealed assembly.

Electrical and plumbing run through the baseboard and trim assemblies; those chased sections are sealed with a vapor-variable membrane and high-performance tapes.

Either can be shop-applied before shipping, for an additional cost.



● EXTERIOR FINISHES

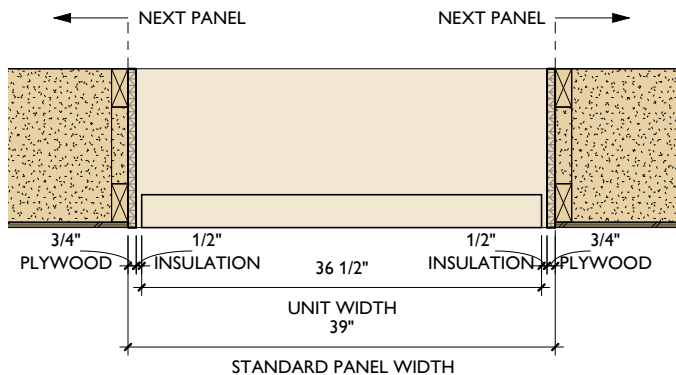
Sheathing and cladding

- 1/2" CDX plywood sheathing provides the shear strength of the panel assembly in most cases. Panels include custom engineering per project, and may be stamped upon request in some locations.
- A self-adhered air and weather barrier membrane can be applied in shop or on site over the sheathing.
- A rain screen siding application as the exterior finish – strapping applied and detailed, then siding installed.
- Natural plaster exterior finish can be specified instead, depending on the project and location.

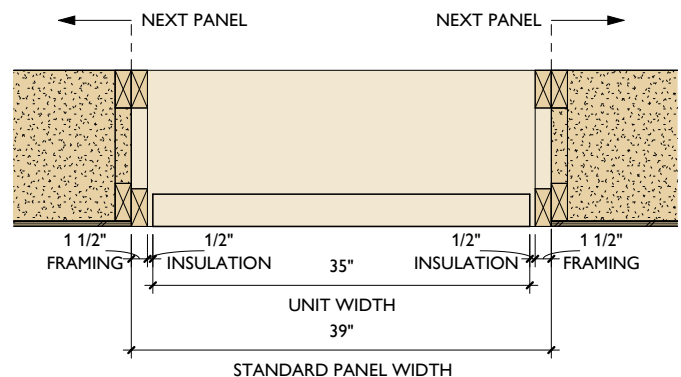
● OPENINGS

Window + door placement

Standard panel sizes can accommodate a variety of window and door frame sizes, and can be adjusted for the specific design and structural needs of your project. The window and door rough openings (ROs) are created by the panels on all 4 sides. Panels arrive ready to accept window installation; no additional framing is needed in most cases once the header panel is installed.



Typical window plan detail with 3/4" plywood to support the header panel.



Window plan detail with additional structural support.

Engineering. Our teams can act as an engineer of record for your project, or supply panel engineering to load analysis specified by your EOR.

Code. Straw bale construction has its own chapter in the model code – Appendix AS of the 2021 International Residential Code.

Every shop, one system. These panels are made by the member shops of the Seed Collaborative, each serving the projects within reach of its own workshop. Figures here are the standard specification; confirm dimensions, lead time, and engineering route with the shop nearest your site.