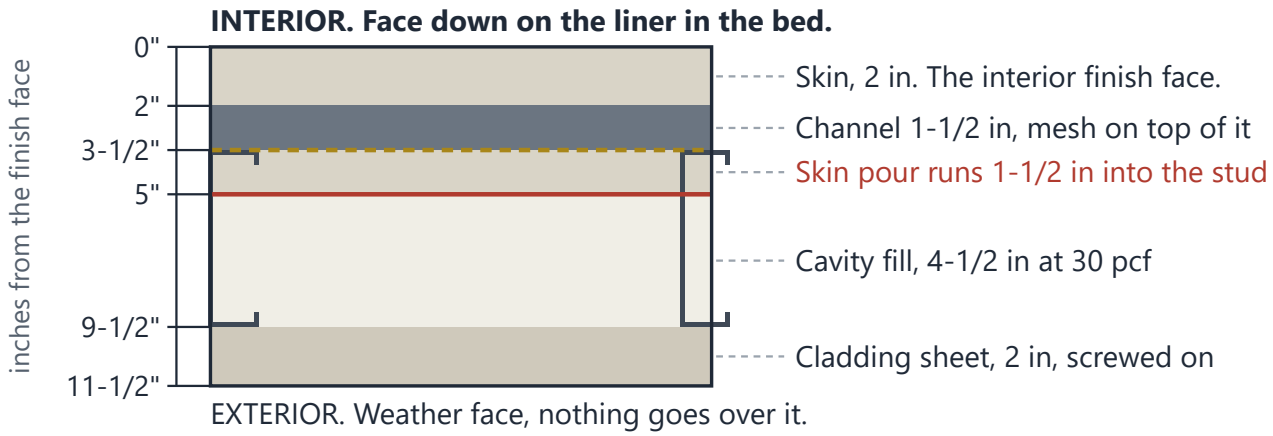
# The panel and what it is made of

A wall panel is 4 ft wide and 10 ft tall, and it finishes 11-1/2 in thick. It is cast flat, on its face, in a slot in the casting bed. The face that lies on the liner becomes the inside wall of the finished building.




Section cut through the wall, to scale. Across the page is the panel width, down the page is the 11-1/2 in thickness. The two C shapes are 600S162-54 studs at 16 in on centre. Dimensions are inches from the finish face. Every number is from public/config/wall.config.json.

## The stack, from the finish face out

| From the face | Layer | Thickness | What it is |
|---|---|---|---|
| 0 to 2 in | Skin | 2 in | Cast cellular concrete, 35 pcf. This is the interior finish face of the building. |
| 2 in to 3-1/2 in | Channel zone | 1-1/2 in | 1-1/2 in cold-rolled channel rows, buried by the skin pour. The basalt mesh lies on top of them, on the 3-1/2 in line, under the stud flange. |
| 3-1/2 in to 9-1/2 in | Stud zone | 6 in | 600S162-54 studs at 16 in on centre. The pour comes 1-1/2 in up into it; the rest is cavity. |
| 5 in to 9-1/2 in | Cavity fill | 4-1/2 in | Pumped full later, on site, at 30 pcf. |
| 9-1/2 in to 11-1/2 in | Cladding sheet | 2 in | Cast cellular concrete, 35 pcf, with mesh. Screwed on after the rough-in. |

# The panel and what it is made of (continued)

## Sizes you will see

| Panel | Width | Height | Where |
|---|---|---|---|
| Standard wall panel | 48 in | 120 in (10 ft) | Walls B, C and D of the house |
| Tall panel | 48 in | 150 in (12 ft 6 in) | Wall A of the shed roof design, which carries the high side of the roof |
| Shower house panel | 48 in | 96 in (8 ft) | The shower house on its skid |

Panels sit 1/2 in apart at the joint. Each panel carries 4 studs, at 0, 16, 32, 48 in across the width. The two outside ones are the edge studs, and they are what the next panel screws to.

## What it weighs

Out of the bed a panel is only the skin pour and the steel, about 17.6 lb per square foot. A 10 ft panel is 40 sf, so about **703 lb**. A 12 ft 6 in wall A panel is 50 sf, about **879 lb**. Finished, with the cladding and the fill in it, the wall weighs about 34.7 lb per square foot.

**SAFETY**

703 lb swings. Every wall panel move is a forklift boom pick, lift height 60 in. Nobody stands under a panel, nobody steadies a panel with a hand between it and something else, and nobody frees a snagged panel by pulling on it.

**STOP**

**The cast face goes to the inside of the building.** It is face down on the liner in the bed and it faces in when the panel stands. A panel stood backwards is a crane job to fix, not a screw gun job.

**NOT SETTLED YET**

The panel's own dimensional tolerances are [PE TO SET]: length, width, overall thickness, skin thickness, squareness, bow, twist, face flatness, opening size and position, and the cumulative run across a wall of panels. No published tolerance exists for a cast panel of this construction, so no number is written here. The engineer of record sets them. Sheet WP-12 lists every one.

**THE RECORD YOU SIGN**

QF-13 Panel and unit traveler. The quality manager opens it when the order is released, with the serial number from QF-28 already on it. It carries the model, the order, the bed and slot, the pour date, the batch numbers and one line for every station. A traveler with an unsigned line cannot be closed and the panel cannot be released.