



CX 44 Side Wall Panel

Why work so *HARD*?

Stick . . . Stack . . . DONE!

- ✓ Closed cell EPS foam that eliminates condensation
- ✓ Integrated framing built into the panel
- ✓ Engineered locking features built into the stud
- ✓ Integrated vertical and horizontal electrical raceways
- ✓ Complete thermal break from the container
- ✓ Easy installation
- ✗ No holes
- ✗ No welding
- ✗ No spray foam
- ✗ No off-gassing
- ✗ No special tools
- ✓ No problems

Complete Solution for **every** part of the Container *Interior and even Exterior*

End Wall Inserts + Panels



Doors with EXe panels



Ceiling Inserts + Panels



Floors with UX panels



Simplicity

InSoFast takes the complex wall assembly of a shipping container and makes it simple. In just one step, the framing and insulation is done and ready for electrical.

A Complete Thermal Break

The fully insulated studs provide a complete thermal break unlike steel studs or welded stringers which can cut the performance of the wall assembly by over 50%.

Production Advantages

InSoFast panels are volunteer friendly so when a disaster strikes that creates a housing crisis, up-cycling shipping containers is a sensible solution. InSoFast is stageable and repeatable.

Eliminates Condensation with Closed Cell Foam

The InSoFast CX 44 panels and inserts are sealed to the shipping container's profile providing an airtight fit without relying on a spray foam contractor.

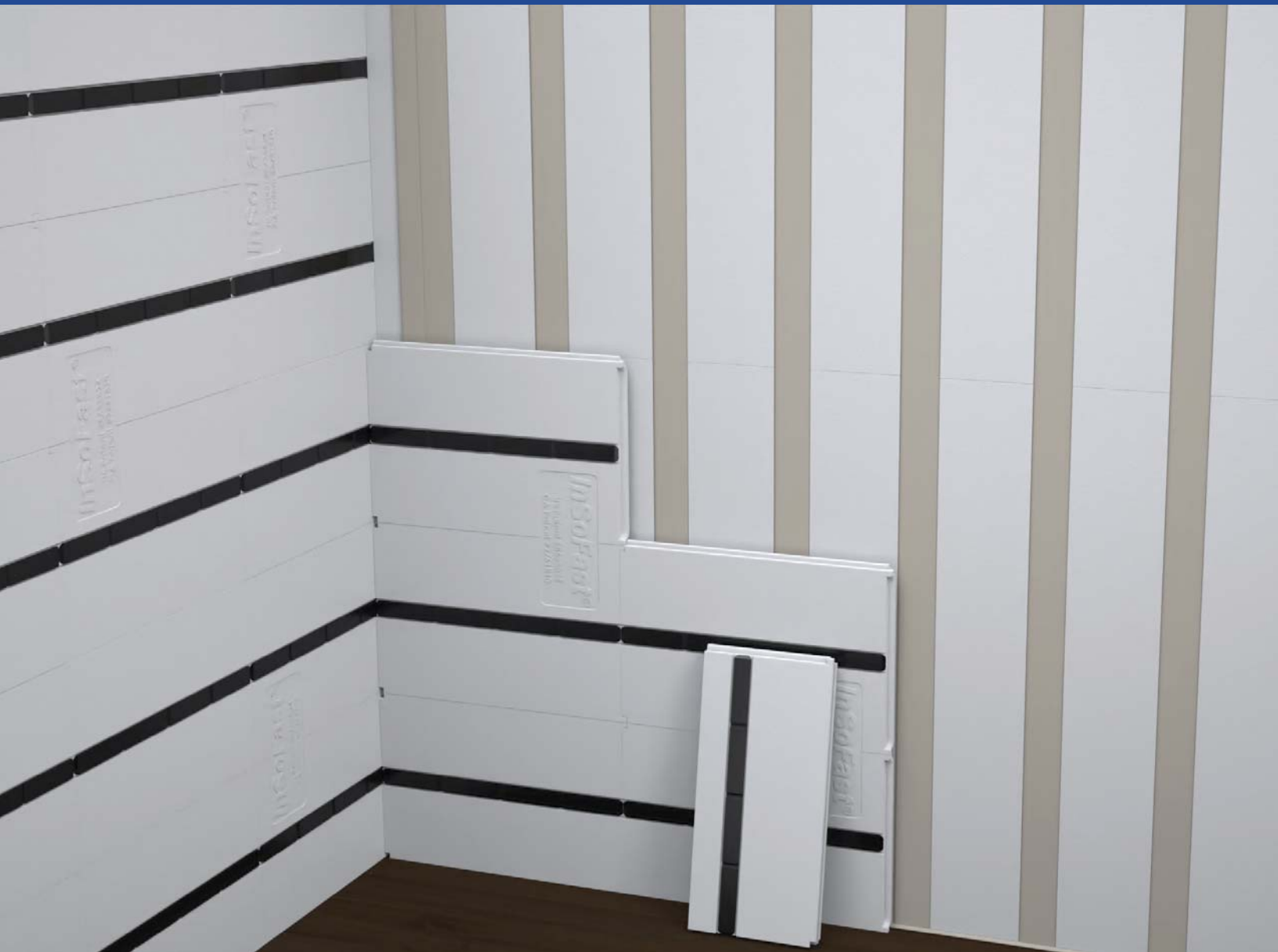
Space Saving Design

The 2" thin profile of the InSoFast panel take up 40% less space and outperforms a conventional 2x4 framed wall with R-15 cavity insulation.

Healthy Indoor Air Quality

InSoFast panels are fused and cured with steam. Unlike spray foam, there are no chemicals to mix on site and no worries about uncured foam in an air tight container that will only off-gas to the living area inside.

Why work so hard?



Easy to install Flat Panels over Inserts save space - 40% thinner than 2x4 construction.

Use either the 2" Flat Panel or the 2.5" Flat Panel when additional R-Value counts.

The 16" o.c. horizontal studs allow for easy installation of sheet goods and vertical boards.

Electrical raceways run horizontally and vertically.



- Continuous Insulation System
- Uses Locally Sourced Sheet Foam
- Interior Space uses only $\frac{3}{4}$ " per side
- Easy Exterior Siding Attachment



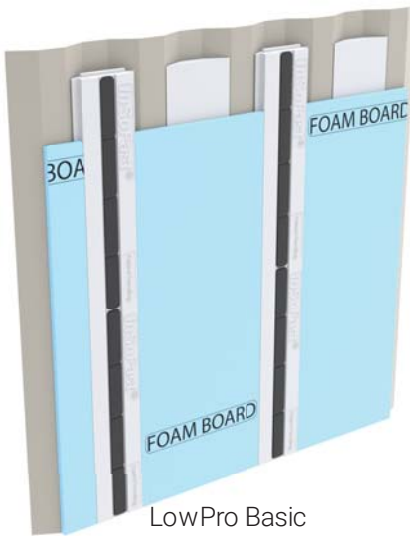
CX LowPro[®] Insulated Stud



A Low Profile Solution for Insulating Containers Inside or Out

The CX LowPro Insulated Stud takes up only $\frac{3}{4}$ " of interior space in a shipping container.

Insulating a shipping container is a balancing act between interior space, indoor comfort, energy efficiency, and humidity control. CX LowPro provides one more engineered solution.



LowPro Basic



LowPro Plus



LowPro with Rain Screen

Unlimited R-Value Possibilities

The CX LowPro allows a balance approach to interior and exterior insulation to meet your project needs.

Simple Installation Process

The CX LowPro Insulated Studs are ideally suited for exterior wall applications. LowPro insulates and provides attachment for exterior finishes without perforating the shipping container with hundreds of holes.

Unlimited Finishes

Virtually any type of siding or cladding can be installed directly to the insulated studs which as the equivalent holding power of a 20 gauge steel stud using a screw gun or nail gun.

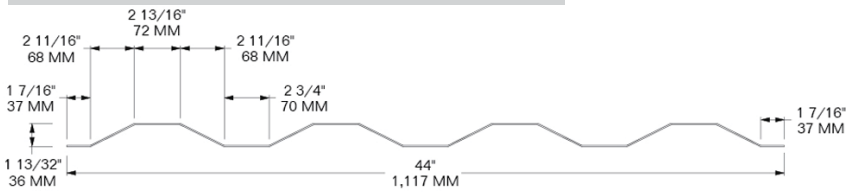
- Siding
- Adhered Stone
- Stucco
- Drywall
- Thin Brick Veneer
- EIFS

Please consult the finish manufacturer's installation instructions for fastener size and spacing.

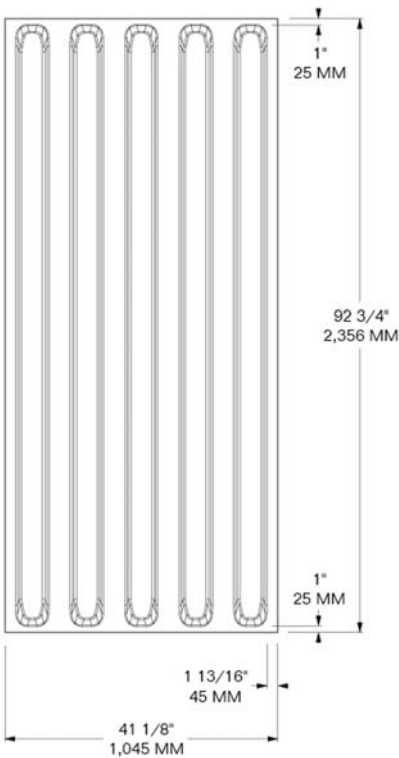
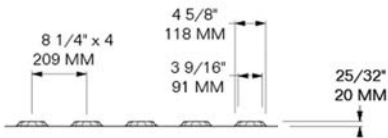
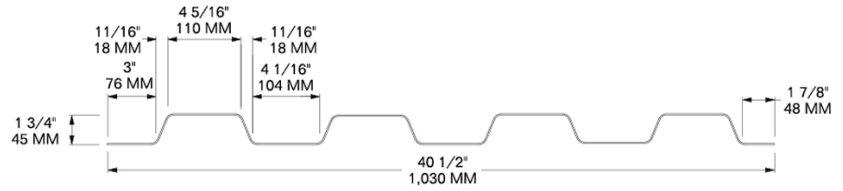


Why work so hard?

Side Wall Inserts



End Wall Inserts



Ceiling Inserts



InSoFast CX-44 Panels 10% Better Performance 3" More Interior Space



InSoFast CX 44 Wall Assembly			
Component	R-Value	Assembly R-Value	
Interior air film	.68		
1/2" drywall	.45		
CX 44 panel	11.0		
Container sidewall	0		
Exterior air film	.17		
R-Value	12.63		
U-Value	.079		
Total InSoFast Wall Assembly R-Value			12.3 (U=.08)

R-15 Cavity Insulation with 2x4 Framing Assembly				
2x4 Framing		Cavity Insulation		Assembly R-Value
Component	R-Value	Component	R-Value	
Interior air film	.68	Interior air film	.68	
1/2" drywall	.45	1/2" drywall	.45	
2x4 stud	4.38	R-15 cavity insulation	15.0	
Container sidewall	0	Container sidewall	0	
Exterior air film	.17	Exterior air film	.17	
R-Value	5.68	R-Value	16.3	
U-Value	.17	U-Value	.06	
% framing at 16" o.c.	25%	% insulation at 16" o.c.	75%	
Total Framed/Insulated Wall Assembly R-Value				

* Calculating Assembly Wall R-Value Formula: $1 / (\text{Assembly U-Value}) = 1 / (\text{U-Value of studs} \times \% + \text{U-Value of cavity} \times \%)$

Flat 2x4 Framing with 1-1/2" Foam Board Assembly



Flat 2x4 Framing		Cavity Insulation		Assembly R-Value	
Component	R-Value	Component	R-Value		
Interior air film	.68	Interior air film	.68		
1/2" drywall	.45	1/2" drywall	.45		
2x4 stud	1.88	1-1/2" cavity insulation	7.5		
Container sidewall	0	Container sidewall	0		
Exterior air film	.17	Exterior air film	.17		
R-Value	3.18	R-Value	8.8		
U-Value	.314	U-Value	.114		
% framing at 16" o.c.	30%	% insulation at 16" o.c.	70%		
Total Framed/Insulated Wall Assembly R-Value					5.75* (U=.174)

Metal framing can steal half of the R-value in a shipping container.

Thermal bridging in traditional home construction has been addressed with continuous insulation on the exterior of homes. A steel container in itself is one large thermal bridge. The cold or heat passes easily through metal or wood studs. Offsetting the studs does provide some disconnect but the reduced insulation at that point will still allow heat transfer. InSoFast panels are designed as continuous insulation. The natural of the stud material along with the "H" style beam of the stud allows only minimal transfer.



ASHRAE 90.1 Correction Factors for Metal Wall Framing

Stud Size	Stud Spacing	Cavity Insulation	Correction Factor	Effective R-value
2 x 4	16" o.c.	R-11	.50	R-5.5
		R-13	.46	R-6.0
		R-15	.43	R-6.4
2 x 4	24" o.c.	R-11	.60	R-6.6
		R-13	.55	R-7.2
		R-15	.52	R-7.8

American Society of Heating, Refrigerating and Air-Conditioning Engineers