



The best panel system since 1970

August 2025



## About us

IN 1970 LUTHER DICKENS, A CHEMICAL ENGINEER EXPERIMENTED AT HOME THE IDEA OF CREATING A COMPOSITE WALL SYSTEM. LITTLE DID HE KNOW, THE EXPERIMENT WOULD BECOME A WORLD CHANGING BUILDING SYSTEM - THERMASTEEL. TODAY, 51 YEARS IN BUSINESS, OUR STEEL SIP REPLACES FRAMING, INSULATION, SHEATHING, AND VAPOR BARRIER. ALL PANELS ARE WITH A THERMAL BREAK BETWEEN THE INTERIOR AND EXTERIOR FACE OF THE WALL. OUR PANEL RANGE IS BASED ON 25 PATENTS AND INCLUDES EXTERIOR WALLS, INTERIOR WALLS, FLOORS, ROOF, CONCRETE FLOORS AND EVEN FOUNDATION PANELS. ALL ENERGY EFFICIENT TRUE LOAD BEARING AND PROUDLY MADE IN RADFORD VA IN A 100% WASTE FREE PRODUCTION FACILITY



# Technology

- Based on proprietary knowledge of 25 patents
- 2 parallel light gage steel frames (ext. + int. ) with a bonding agent is in a press and injected with a modified grade EPS
- Creating a panel 4'x12' with an average weight of 45Lb
- Panels are available at 3.5" ; 5.5" ; 7.5" Thickness
- Equivalent thermal performance up to R61

**STRONG LIGHT AND EASY TO BUILD**





# TECHNOLOGY



Thermally Broken - Dual Opposing Frames

- 8 CSJ STUDS PER PANEL – MAKES THE PANEL VERY STRONG
- A COMPLETE THERMAL BREAK

HURRICANE CERTIFIED PANEL



# APPLICATIONS

- The only panel system that provides **the entire building envelope**
- Pre engineered to create the entire envelope: including, beams, columns, openings
- Up to 6 stories high with no additional support (no height limitations if used with additional structural elements such as concrete / red iron)



- EXTERIOR WALLS
- INTERIOR WALLS
- FLOORS
- ROOF
- FOUNDATION
- SHEAR WALLS

Complete Building System



- ALL ROUGH OPENINGS: PRE-MADE
- NO HEIGHT RESTRICTION
- BIG SPAN (110/35 FT)
- INTERIOR PARTITIONS
- CONCRETE FLOOR PANELS



# World Recognition

- 51 years of international experience, +75,000 projects
- Approved building system IN over 83 countries worldwide
- APPROVED FOR THE EUROPEAN UNION SINCE 2022
- Industrial, residential, hotels, offices, emergency housing, student housing, hospitals, military and naval, storage, tiny homes, coolers.....
- German Government, Australia, Guam, Russia Iran, India, Iceland, UK, France, Mexico, Switzerland, Turkey, Canada, Thailand, Taiwan and many others





# Notable clients



# NO RESTRICTION ON DESIGN OR SHAPE

EMERGENCY HOUSING FOR THE D.O.D

Developed May 2020  
Delivered Dec 2020



# Panel characteristics

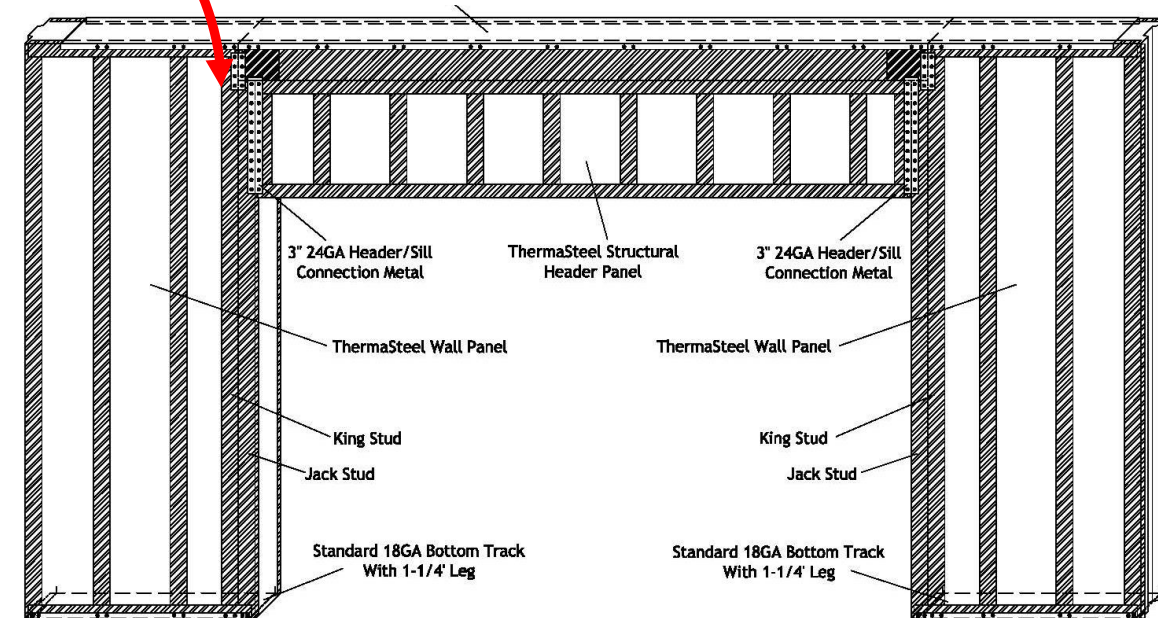
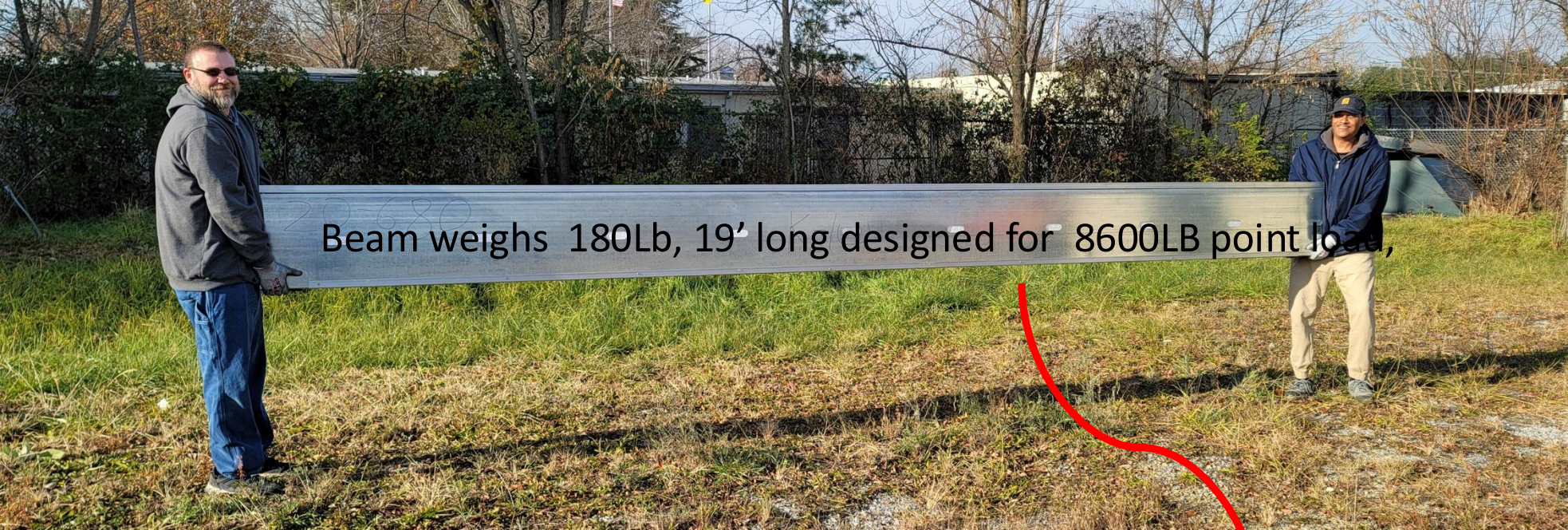
**Table 8d. 7.5-inch-thick panel with 362S162-mils type studs at 12" o.c.; no gypsum or siding.**

		Axial Distributed Compression (plf)		Transverse loading (psf); EPS: 1.5 pcf density					
		LRFD, LSD	ASD	LRFD, LSD	ASD	Service loads (psf)			
Gauge	Ht (ft)	( $\phi$ pn)	(pa)	( $\phi$ wn)	(wa)	L/180	L/240	L/360	L/480
20	8	11,149	8,345	450	281	166	125	83	62
20	9	11,149	8,345	356	222	137	103	69	51
20	10	11,149	8,345	288	180	135	101	67	51
20	12	11,149	8,345	200	125	108	81	54	41
18	8	15,888	11,892	576	360	173	130	87	65
18	9	15,888	11,892	455	284	143	108	72	54
18	10	15,888	11,892	368	230	138	104	69	52
18	12	15,888	11,892	256	160	114	85	57	43
16	8	21,369	15,995	715	447	188	141	94	70
16	9	21,135	15,819	565	353	182	137	91	68
16	10	20,875	15,625	457	286	145	109	73	55
16	12	20,287	15,185	318	199	120	90	60	45
14	8	44,208	27,630	1089	680	195	146	98	73
14	9	43,722	27,326	860	538	208	156	104	78
14	10	43,186	26,991	697	436	197	148	99	74
14	12	41,968	26,230	484	302	155	116	77	58

All strength values account for local buckling, yielding and lateral buckling  
 ASTM E72 Axial distributed compressive loads are applied at  $e=t/6$   
 LRFD, LSD Capacity reduction factor,  $\phi = 0.8$  axial & flexure; ASD safety factor = 2.0

Up to 42,000 Lb per LF + safety factor



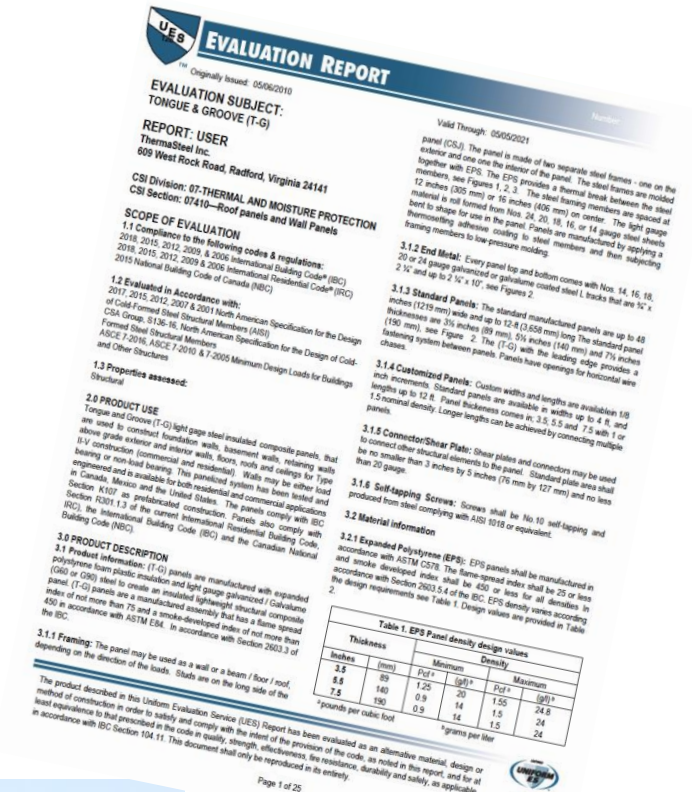


# Code compliance and certifications

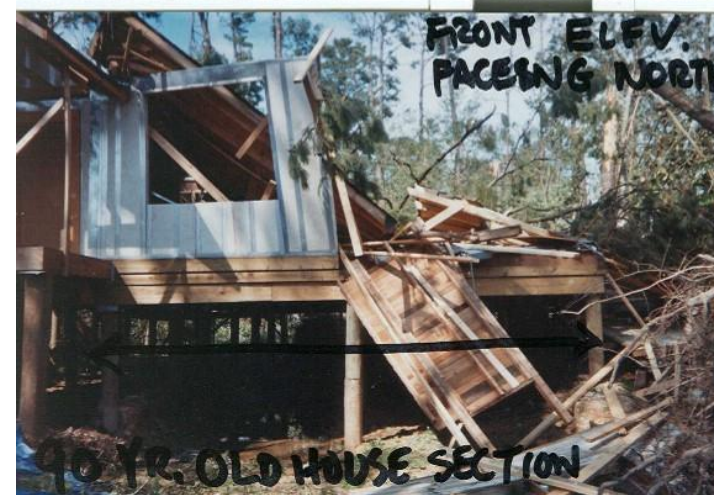
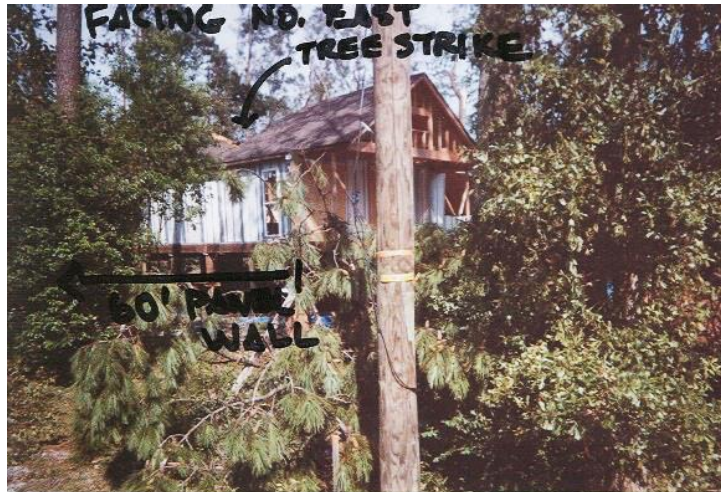


- USA IAPMO report 0128 construction type ii-v
- Russia seismic approval for 9.5 Richter scale
- UK BBA approval 1991
- Canada
- Florida state approval – Hurricane certificate
- 2hr Load bearing Fire assemblies
- Acoustic rating stc +58
- Ashrae 90.1
- lecc 2022 / nrel
- Astm and aisi

- IBC AND IRC 2020
- HUD APPROVAL
- CALIFORNIA TITLE 24, ENERGY CODES
- LA LAR
- EUROPEAN UNION
- FLORIDA BUILDING CODE 2020
- 2HR LOAD BEARING
- SMOKE AND FIRE SPREAD
- SAM REGISTRATION
- HUD



# The only houses THAT survived Hurricane Ivan



## Advantages in Application

- Structure, insulation, vapor barrier, sheathing – **All in one**
- No needs for continuous insulation on exterior walls
- No material loss on site
- No debris = no dumpster on site
- 35% less scaffolding
- Save over 50% on labor
- Reduce construction time by 40%
- R-value UP TO R61
- Savings of 70-85% IN energy bills. Downsize HVAC BY 2/3
- Major load reduction of the structure – downsize foundation
- No mold and mildew
- No termites
- Noncombustible assembly



**STRUCTURE  
INSULATION  
VAPOR BARRIER  
SHEATHING**

**Over 70,000  
Completed  
Projects in 28  
Countries**

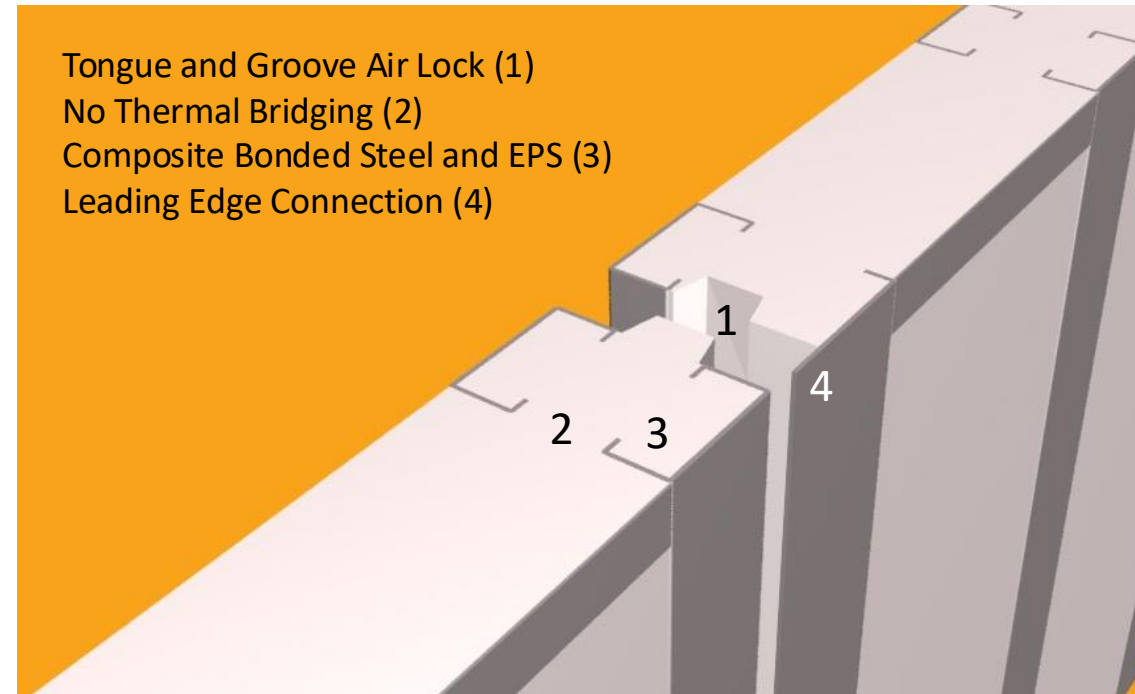
# Noncombustible Self-Extinguishing Solution



# THE COMPOSITE DIFFERENCE

## Process Benefits

- Simple
- Fast



# THE COMPOSITE DIFFERENCE

## Process Benefits

- Simple
- Fast



# THE COMPOSITE DIFFERENCE

## Process Benefits

- Simple
- Fast



Interior Walls

## Installation is FAST and Safe

Quick and fast install – there is no special training required, nor power tools except for a screw gun. Install process is very quick. An average house is usually completed within 3 days (Exterior interior and roof panels) can be done by one framer and 2 helpers.

Once tracks are in place, an average installer will install about 4 panels every hour, with a very fast learning curve (4 hours typical). With an average size of 40 sqf per panel, that is 160 sqf of wall per hour. More so, since the panel arrives on site with an electrical chase, and a complete thermal break, and does not require OSB or other sheathing, with one hour of labor you have 160 sqf of structure, 160 sqf of sheathing, 160 sqf of vapor barrier, and 160 sqf of insulation all achieved by one person. ThermaSteel enables 1 tradesmen to do the work of 4 in one simple step. The result is tremendous time savings, and that translates to cost savings!

- Labor from 4 to one
- Framing time reduced by half
- Cost of labor less than a third of traditional materials
- Reduced Materials and shipping coordination
- Eliminates the need for dumpsters
- Panels weigh about 45Lb – eliminating crane rental



# THE COMPOSITE DIFFERENCE

**Systems**  
- Roof



# THE COMPOSITE DIFFERENCE

Systems  
- Roof



# THE COMPOSITE DIFFERENCE

## Assembly



# THE COMPOSITE DIFFERENCE

## Energy Savings

### Projected Annual Energy Consumption for Heating & Cooling When Built to EnergyWise Specifications with a Heat Pump (Air)

HVAC Equipment	EER	Avg. Total HVAC \$/mo	Estimated Heat kwh/yr	Estimated Cool kwh/yr	Estimated Fan kwh/yr
Air Heat Pump	16.00	\$97	6,557	3,127	included

HVAC Equipment By: Carrier Air Conditioning

### Projected Annual Energy Consumption for Heating & Cooling When Built to Conventional Specifications with Air-to-Air Equipment

Heating Equipment	AC SEER	Avg. Total HVAC \$/mo	Estimated Heat kwh/yr	Estimated Cool kwh/yr	Estimated Fan kwh/yr
AFUE 80 Gas Furnace	16.00	\$167	1,580ccf	4,789	693
Air Heat Pump	16.00	\$254	20,579	4,789	included
Resistance Furnace	16.00	\$428	37,966	4,789	497

Energy costs calculated at:

\$0.120	per kwh electricity - winter
\$0.120	per kwh electricity - summer
\$0.850	per 100 cubic feet natural gas

*These projections are subject to the efficiency and performance of the actual HVAC equipment installed.*

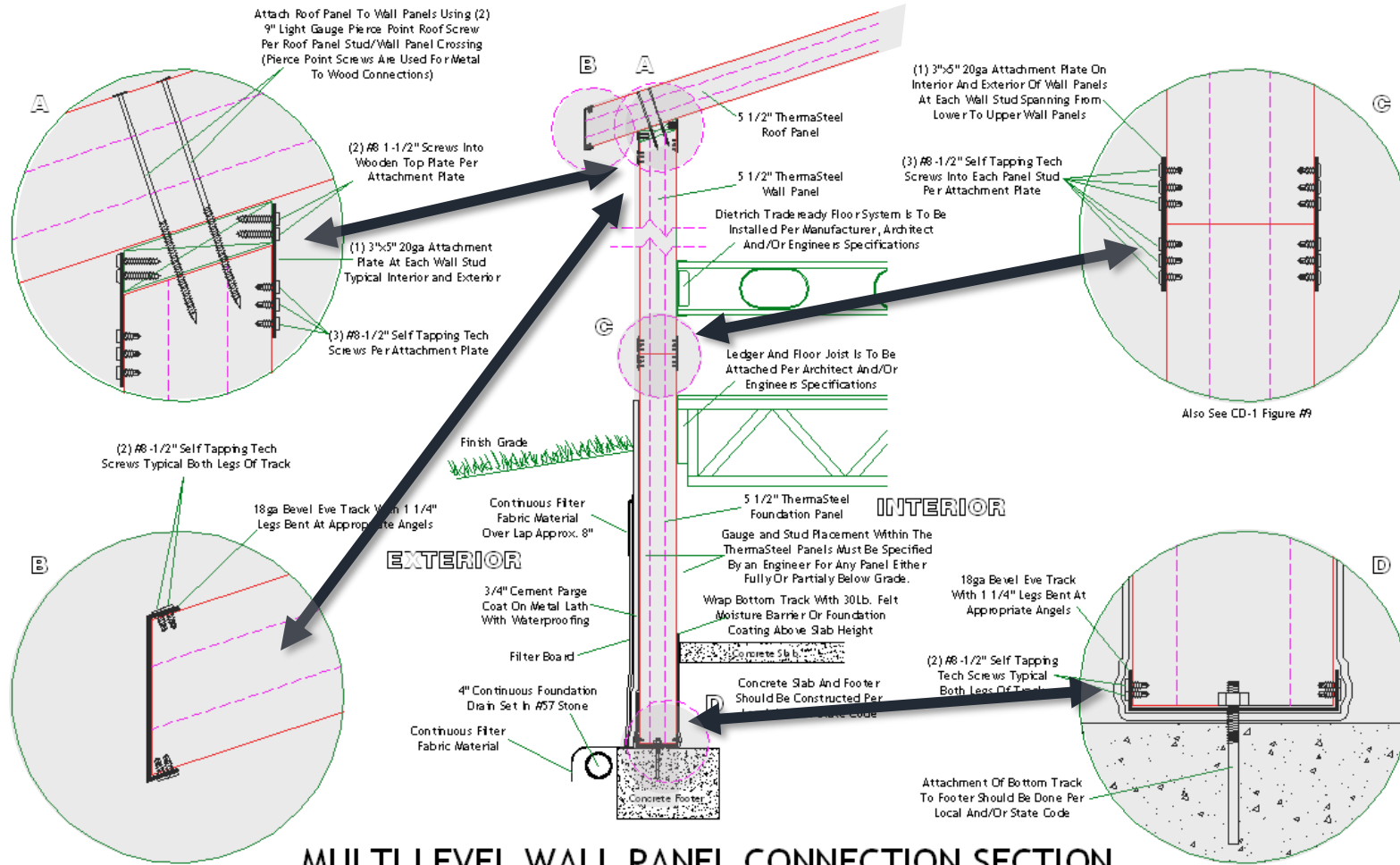
Total Conditioned Floor Area: 3,000 sq. ft.

# THE COMPOSITE DIFFERENCE

## Comparisons

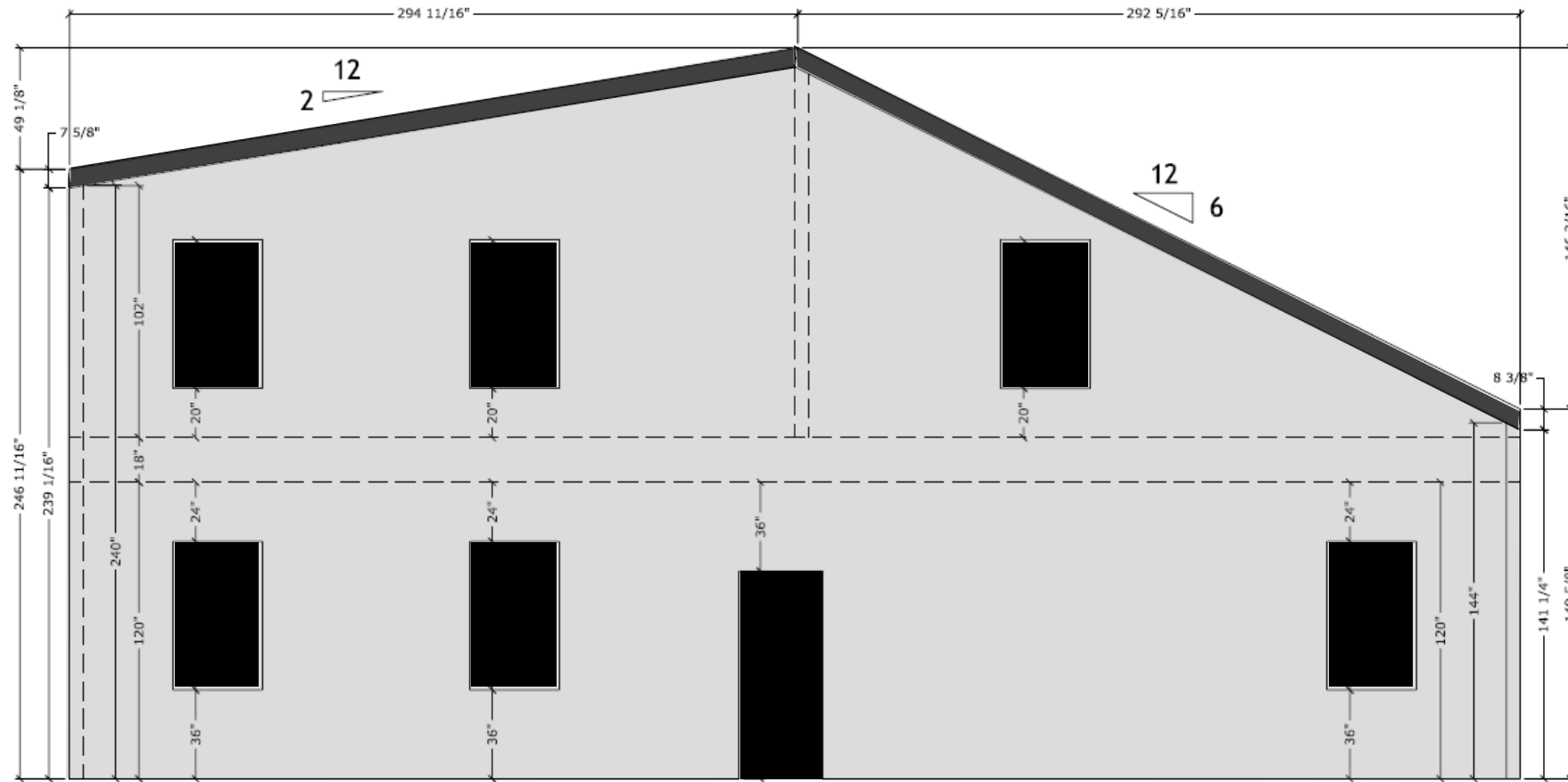
### FINISHED WALL COST COMPARISONS Typical Single Family Residence

	ThermaSteel 5 1/2" 24 ga	Wood Stick Frame 2 x 6 (Batts)	Light Gauge Steel 2 x 6 (Batts)	Insulated Concrete Form (ICF)	Structural Insulated Panel (SIP)	8" CMU "Hollow Block"
Cost of Exterior walls installed (PSF)	\$5.33	\$5.16	\$6.36	\$16.00	\$7.04	\$11.25
Effective R-Value	33	13.7	13.3	38	30	11
Includes required installation:						
<ul style="list-style-type: none"> <li>▶ Sheathing &amp; Vapor barrier</li> <li>▶ Headers</li> <li>▶ Wall Furring</li> <li>▶ Labor for Installation</li> <li>▶ Standard Openings</li> </ul> (No roofing elements included)						
<b>Price Performance Ratios</b>	<b>6.19</b>	<b>2.65</b>	<b>2.09</b>	<b>2.38</b>	<b>4.26</b>	<b>1.36</b>
The higher the ratio the better the system. <ul style="list-style-type: none"> <li>▶ Price Performance Ratio relates the cost of the installed systems to the effective R-Value and speed of construction.</li> <li>▶ ThermaSteel is the fastest system available and does not require a crane.               <ul style="list-style-type: none"> <li>▶ Weight also plays a important factor in the structure.</li> <li>▶ ThermaSteel has a very high strength to weight ratio.</li> </ul> </li> </ul> Note: Custom homes may be higher. The prices may vary due to labor cost in your area.						



**MULTI LEVEL WALL PANEL CONNECTION SECTION**

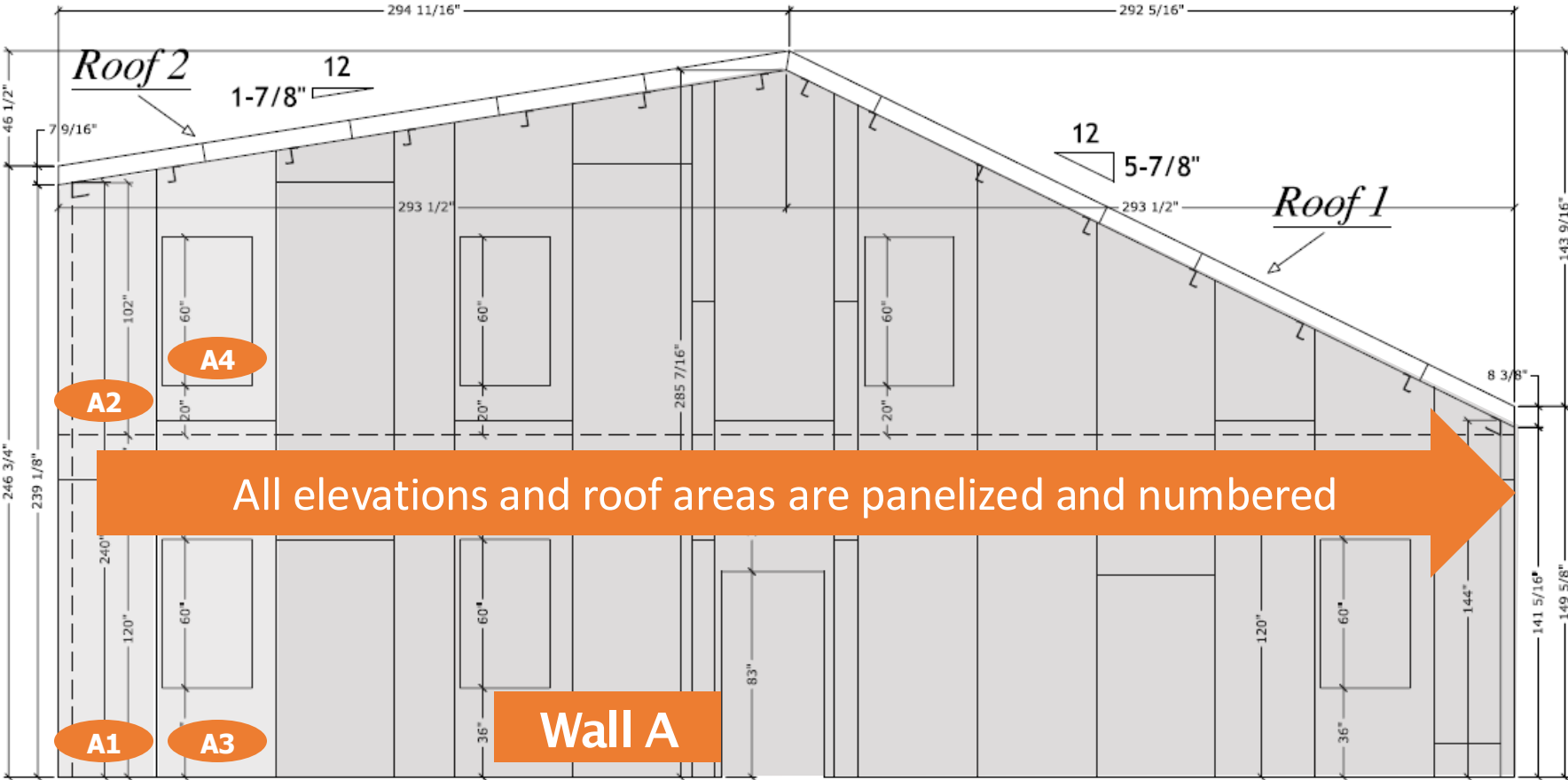




**Wall A**

# Elevation and Opening Locations

# Panels are sized and numbered



All elevations and roof areas are panelized and numbered

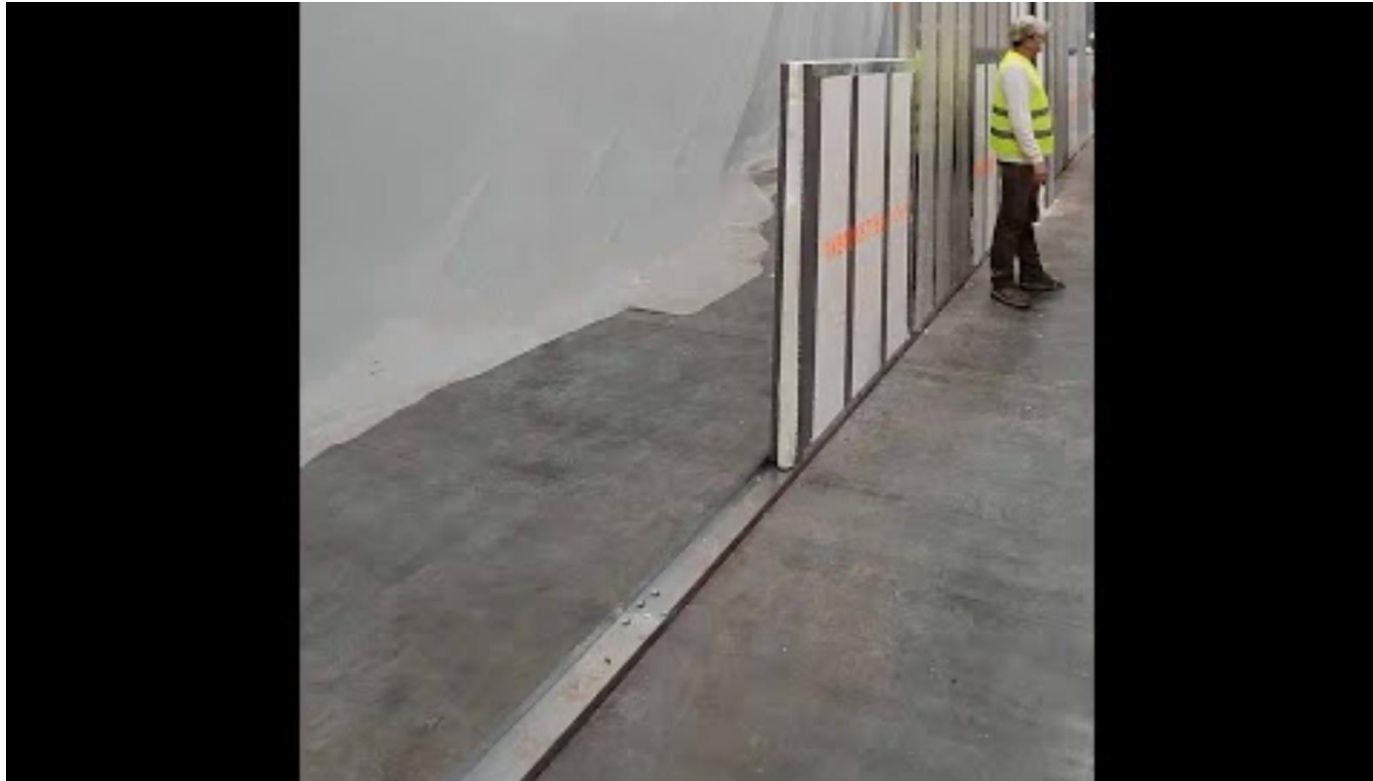


Wall A





# Installation – Installing the Track



# Installation – Walls & Floor System





# Speed and ease of construction



Day 1



Day 2



Day 4



Day 5



Day 6

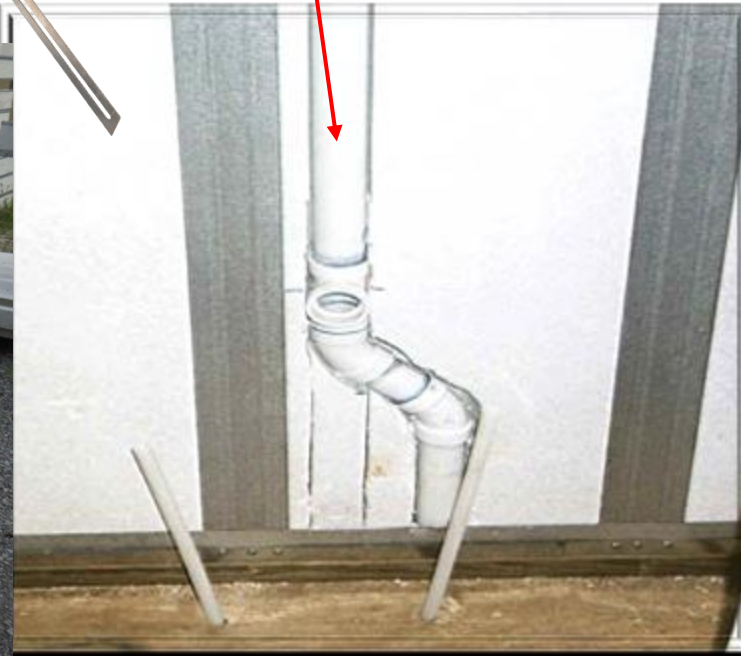
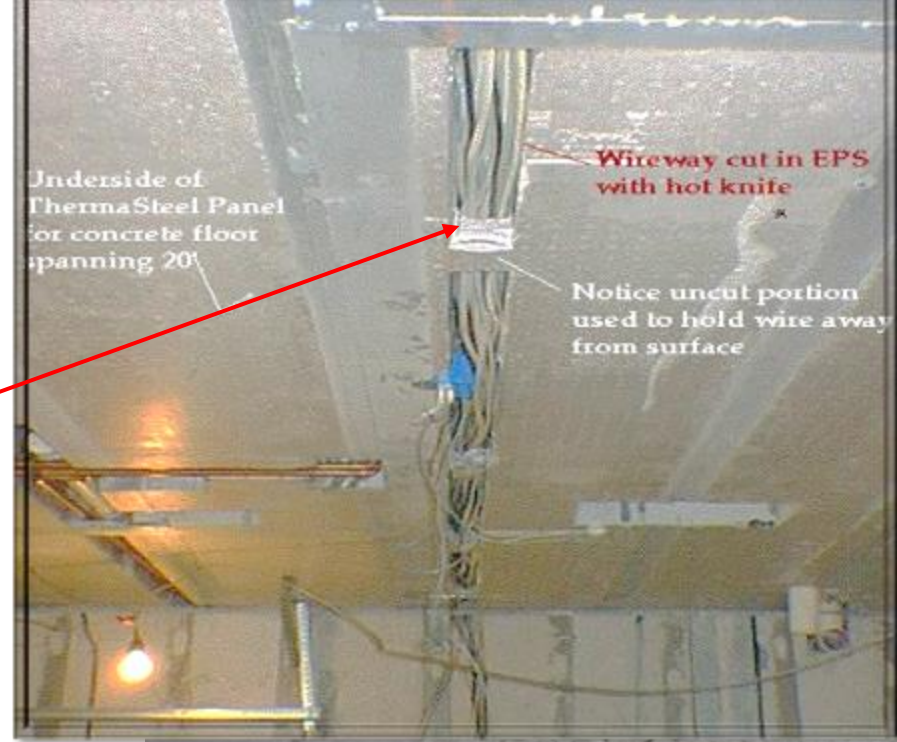


Day 7

# UTILITIES ARE MADE SIMPLE



- STANDARD ELECTRICAL BOXES
- NO NEED FOR DRILLING STUDS
- PANELS ARE PRE-CHASED
- STANDARD PLUMBING



# User friendly process

10 days  
60 days  
10 days

## Estimate

- ✓ Define with client scope of work (SOW)
- ✓ Evaluating plans and creating rough estimate per SOW.
- ✓ Sign estimate (P.O.) Receive 10% payment nonrefundable for drafting.
- ✓ Conference call with all involved.
- ✓ Receiving all needed drawings (Arc +Str).

## In the process

- ✓ Panelize walls. Receive design approval / corrections for dimension and rough openings.
- ✓ Drafting fully coordinated S.D. including all engineering info. Receive final approval from Client, Engineer, Architect.
- ✓ Calculate final cost and create invoice with final amount.
- ✓ Receive 50% payment and move to production.

## Before shipping

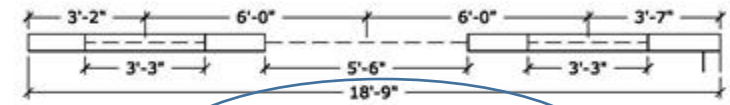
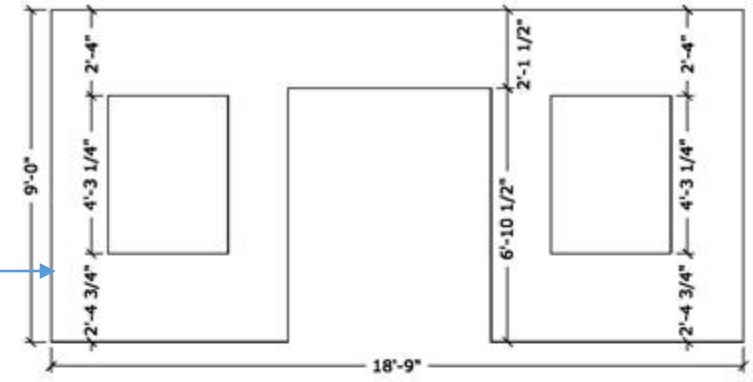
- ✓ Send client invoice for remaining balance and receive payment 5 days prior to shipping.
- ✓ Provide client shipping with quotes and connect the shipping carrier with client.
- ✓ Provide Client with a shipping date.
- ✓ Load and ship panels.



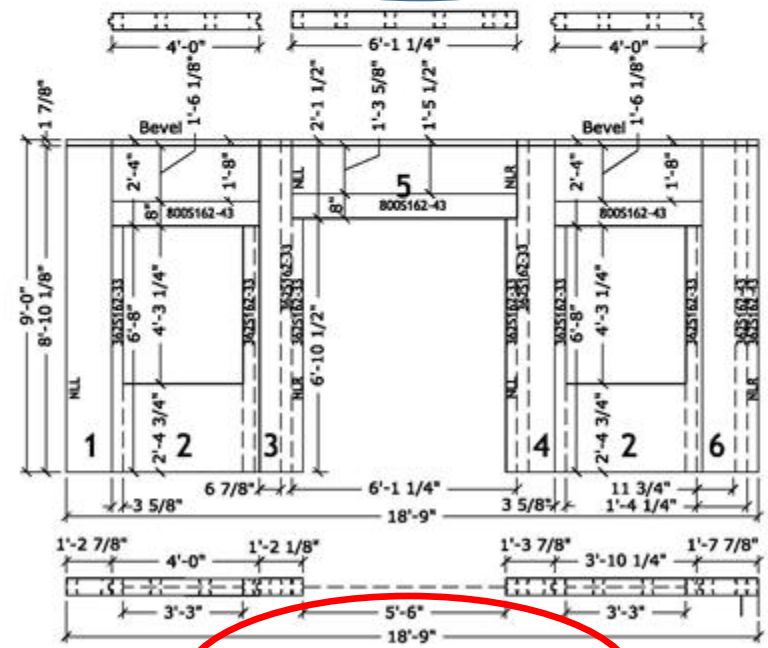
# User Friendly Process

Project drawings

No design limitations



*Design Approval*  
5 1/2" PANELS  
362S162-33 @ 16" O.C.



*Final Design Approval*  
5 1/2" PANELS  
362S162-33 @ 16" O.C.



# BAYLOR UNIVERSITY DORMS



Baylor University Waco, Texas



# US Army – Housing for Troops in the Middle East

## Flexible

- Standardized panels can be configured into multiple footprints without costly engineering or special manufacturing.
- Tolerant to variations in square and level. No protrusions, tongue-n-groove, or interlock joints which are easily damaged.
- No slab, concrete foundation or footers required. Assemble on any surface.
- All panels, connections, fasteners suitable for all environments and require no maintenance – won't bind in desert, cold, or hot conditions.
- Minimized Spare Parts – Panels and trusses are standardized and completely interchangeable.

## MEES HIGHLIGHTS

A safe, reliable, long lasting, modular, relocatable shelter, the MEES exceeds the performance and energy objectives thereby improving our soldiers' quality of life.

- Energy Savings: 74% energy usage reduction; Annual fuel savings of 1,890 gallons; equal to 40% reduction in tanker trips per shelter/year.
- Flexible: Relocatable, rigid wall, thermal efficient structure suitable for barracks, DFAC's, TOC's, Latrines, etc.
- Long lasting: 15 year component warranty.
- Rugged: Components are designed to withstand rough handling, multiple assembly/re-assembly cycles.
- COTS: Made from proven, commercial products with more than 35 years of in-service operational history.
- Assembles in eight hours with a four person crew. No special tools or cranes required. No foundation or site preparation.

## AVAILABLE ON GSA SCHEDULE

The MEES is now available on GSA Schedule 56  
 GSA Contract No.: **GS-07F-0582Y**  
 SIN: **361 10D**

## FOR MORE INFORMATION

For more information on the MEES or any other Johnson Controls products please contact:

**Johnson Controls Federal Systems**  
 Joseph Marsilii PE  
 50 W Watkins Mill Rd, Suite B  
 Gaithersburg, MD 20878  
 Joseph.L.Marsilii@jci.com  
 (571) 319-9301



## MEES 800 MODULAR ENERGY EFFICIENT STRUCTURE



# Finish applications

- THE FACE OF THE PANEL IS SMOOTH WITH 3 5/8" STRUCTURAL STUDS EVERY 16" O.C READY TO RECEIVE EXTERIOR SKIN WITHOUT NEED TO FURRING OUT OR SHEATHING
- FULL BRICK WITH DRAIN PLAIN
- BRICK VENEER
- EIFS, S.T.O, DRYVIT
- HARDY BOARDS, WOOD PLANKS, SOLID WOOD
- SIDING, M.G.O, CEMENTITIOUS BOARD
- HYDRO INSULATION, T.P.O.
- ALUMINUM, ALUCOBOND, METAL SHEETS
- AND SO MANY OTHERS...



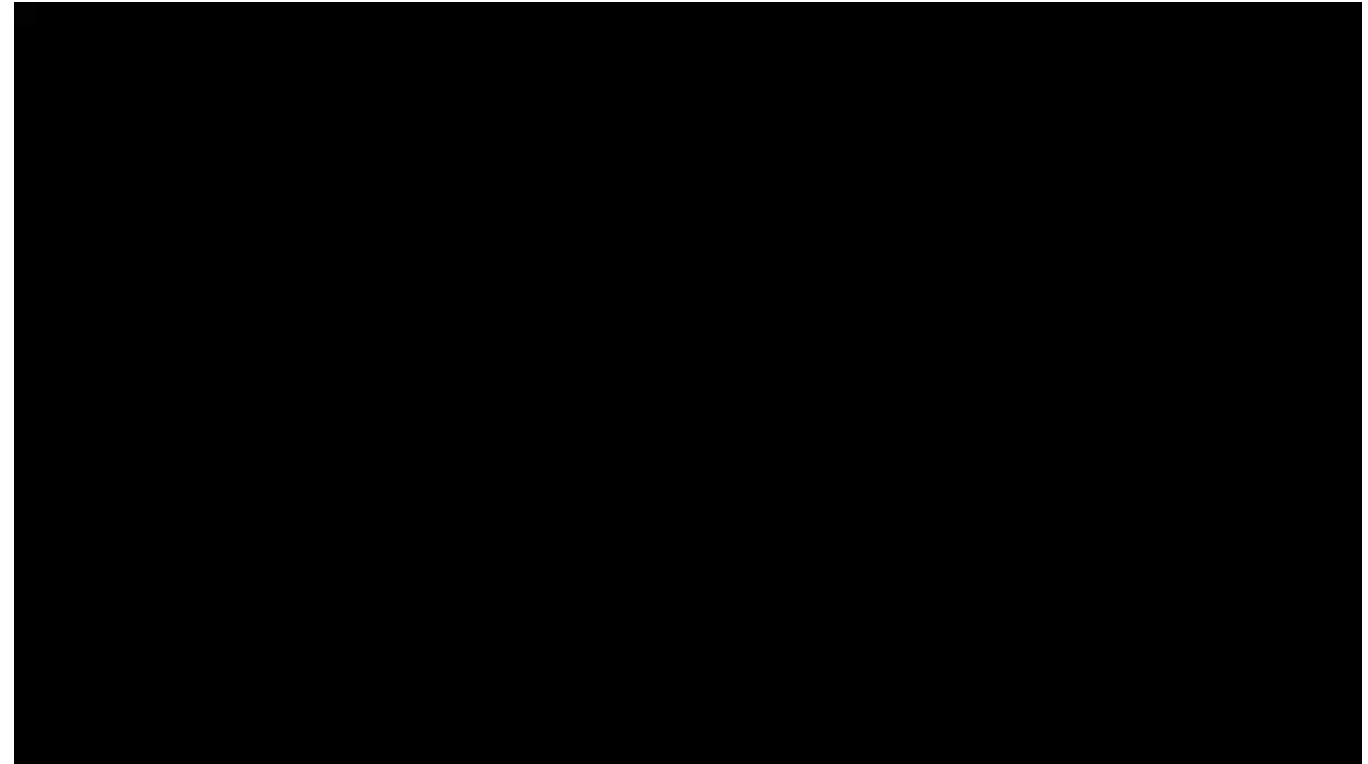
# Seismic Performance

## ThermaSteel Seismic Panel

ThermaSteel began manufacturing panels in Radford, VA in 1970. What makes us a world leader in the panel industry? Not only did we pioneer the industry-leading technology, but we also have extensive experience of over 75,000 projects around the world.

Rotating the studs with the strong direction parallel to the wall enhances shear capacity making every panel a shear wall. Every four studs are framed with horizontal bracings, then, with a proprietary technology, the EPS is molded over the frame, fully bracing the studs & preventing buckling. Additionally, we double the number of studs to eight in every panel (4 studs in every frame). The result is a double-strong shear wall weighing an average of 45 Lb.

Our panels are so resistant to earthquakes that they were certified in the early 1990's for a staggering 9 on the Richter scale by Russian government. In 2025, we re-tested our panels for seismic performance, and again passed with flying colors, this time achieving an even higher accomplishment (10 on the Richter Scale) outperforming European code requirements. Today our panels can be used in seismic zones A-F of the US.



Place your mouse cursor over the video screen & press play



# It All Comes Together.....



## Shipping

- AVERAGE PANEL WEIGHS 45 LB
- UP TO 6,000 SQF ON EVERY TRUCK LOAD
- BUNDLES ARE MARKED AND STAGED
- TRACK, SCREW, HEADERS, SILLS, AND EVEN BITS ARE INCLUDED



Our home page:

<https://thermasteelinc.com/>

Ballistic application:

<https://www.youtube.com/watch?v=xPBDo3cHuis>

How it's made:

[https://www.youtube.com/watch?v=BaWZzG8\\_iPk](https://www.youtube.com/watch?v=BaWZzG8_iPk)

Concrete floor panel system: [https://www.youtube.com/watch?v=UJJrnCLit\\_w](https://www.youtube.com/watch?v=UJJrnCLit_w)



**Thank you for helping us create  
more effective building products, and a cleaner environment**





**THERMASTEEL**<sup>TM</sup>  
ADVANCED PANEL SYSTEMS

**MADE IN  
USA**



**70,000 PROJECTS  
28 COUNTRIES**

INSULATED PANELS FOR  
COMMERCIAL, RESIDENTIAL,  
INDUSTRIAL BUILDINGS



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