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Framing the American Dream®

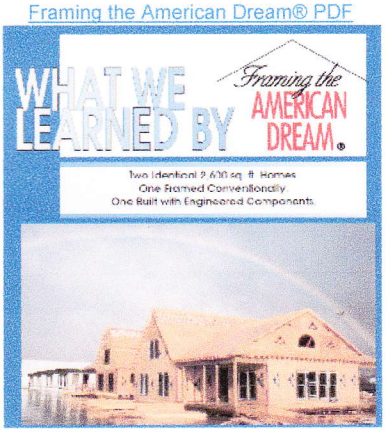
Framing the American Dream®, a project sponsored by WTCA, individual component manufacturers, supplier companies, and the Building Systems Council of NAHB, featured two 2,600 square-foot homes built simultaneously. One was built using wood component systems framing (wall panels and roof trusses), and the other fully engineered conventional stick framing.

"Use of roof trusses and wall panels resulted in a 16% savings"

躯体外壁や内壁のパネル化及び屋根のトラス加工化により、16%のコストセーブが可能に!

弊社のパッケージホームを利用することにより、U.S.の安定した建材コストをキープしつつ躯体のパネル化等により、現場での施工の効率性を高め、それにより現場での人件費や工期を大幅に改善することが出来ます!!

Framing the American Dream® PDF



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Affiliations Published Articles Steel Framing ?

WHAT WE LEARNED BY

Framing the AMERICAN DREAM®

Two Identical 2,600 sq. ft. Homes.
One Framed Conventionally.
One Built with Engineered Components.

全米ホームビルダー協会の下部組織が算出した
現場手組みによる躯体工事とパネル加工済み
による躯体施工の効率性や有利性を比較検討
した資料です　（延床面積が約 72 坪の建物ベースで）

躯体のパネル化により 16%のコストセーブが可能に

BUILDERS Praise Components

"Building with components, I went from having 25 men to 8 men on the jobsite, and I doubled my dollar volume. Every hour I take out of the field decreases my liability, overhead, and workers' compensation. There's no trash to pick up. A clean jobsite makes a safe jobsite. I was a firm believer in stick framing for years, but I'll never go back."

–Rick Thompson, Rick Thompson & Sons, Princeton, IL

OUR PURPOSE

躯体工事に関する現場手組みによる場合と
工場でのパネル化やトラス化による場合の
現場での施工必要時間の比較

CRAFTSMANSHIP THROUGH ENGINEERING

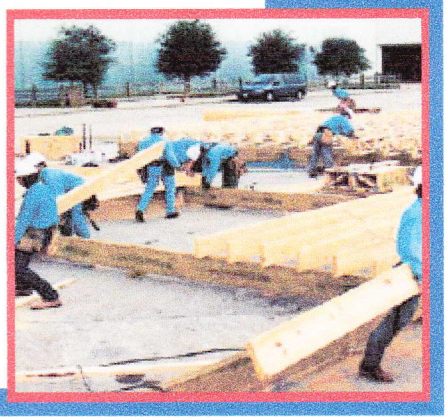
- Every building is an engineered structure. The moment a nail is driven into two boards, load transfers from one board to the other, so designing and engineering all structures is important. A house using components is fully engineered.
- Each component is designed specifically for your building.
- Each component location is defined, making components easy to use in the field.
- All the loads go where they belong. You won't have uneven floors, or windows and doors that don't close properly—*no surprises!*
- Engineering with computer software makes craftsmanship easy with components, and gives you design flexibility.

CRAFTSMANSHIP THROUGH MANUFACTURING

- A manufacturing facility creates quality components, often starting with computer-controlled saws, which make accurate compound cuts simple. All component joints fit together tightly in precision jigs. Manufacturing can also be computer-controlled, for faster setup times and efficient production.
- Weather is not a factor. Production can continue day and night, providing consistent quality.
- Material shortage delays are less likely, since the entire system is supplied in one package.
- Callbacks are reduced. Components made with dry lumber are less likely to shrink, warp and twist.
- Components are rarely stolen from the jobsite.

床トラス化による床組み部分における現場での施工必要時間

- Floor trusses can be manufactured in long spans, reducing or eliminating the need for intermediate bearing walls, beams, columns or footings.
- The open webs allow for easy passage of ducts, plumbing and electrical wires within the system. No cutting of webs is required and you don't need to fur down to hide mechanicals.
- Special bearing, cantilever and balcony details are easily built in.
- Stiffness can be designed into the floor truss, creating a more solid floor.
- Labor costs for mechanical contractors are lower.
- The 3½-inch width allows for quick gluing and accurate nailing or screwing.
- Cold air returns can be eliminated by using the open web system as a plenum for air distribution.



WHAT WE LEARNED ABOUT FLOOR FRAMING

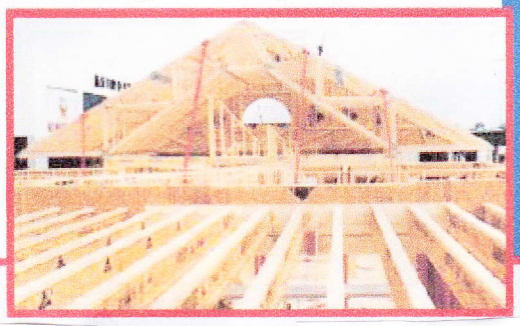
	手組みによる	トラス加工済み
現場施工必要時間	38 HOURS	12 HOURS
必要なランバー量	4,256 BD. FT.	3,147 BD. FT.

セーブできた時間：**26 HOURS ・ 1,109 BD. FT.**

"In working with contemporary homes, building with components holds your dimensions plumb, square and true, ensuring a dimensionally accurate home, reducing call-backs."
–John Teschky, Teschky, Inc., Glenview, IL

屋根トラス化による屋根組み部分における現場での施工必要時間

- Complex roof and ceiling profiles are easy to design with today's software.
- Hip and valley roof systems are much easier to build using trusses than with conventional framing.
- Trusses can be used with a variety of on-center spacings, to optimize strength and lumber resources.
- Long clear spans are easy to create, reducing or eliminating the need for interior bearing walls, beams and columns.
- Structures are dried in more quickly, saving time and avoiding weather-related delays.
- Your imagination is the only limit when you design with trusses.



WHAT WE LEARNED ABOUT ROOF FRAMING

		手組みによる	トラス加工済み	セーブできた時間
Second Floor	MAN HOURS TO FRAME	142½ HOURS	59½ HOURS	83 HOURS
	QUANTITY OF LUMBER	7,210 BD. FT.	4,875 BD. FT.	2,335 BD. FT.
Great Room	MAN HOURS TO FRAME	104 HOURS	35½ HOURS	68½ HOURS
	QUANTITY OF LUMBER	3,641 BD. FT.	2,116 BD. FT.	1,525 BD. FT.
Valley Framing	MAN HOURS TO FRAME	9½ HOURS	4½ HOURS	5 HOURS
	QUANTITY OF LUMBER	692 BD. FT.	362 BD. FT.	330 BD. FT.

壁パネル化による壁組み部分における現場での施工必要時間

- Wall lumber use can be optimized with studs designed at the optimum spacing for the applied roof and floor truss loads. Generally, less lumber is required.
- Placement plans can be generated, picking up all bearing locations and showing correct locations, for easy setting. Wall panels are marked accordingly.
- High quality material is used.
- Walls are square.
- Proper nailing patterns are used.
- Studs and headers are designed to support applied loads.
- Sheathing can be applied in the factory, saving time in the field.

WHAT WE LEARNED ABOUT WALL FRAMING

	手組みによる	パネル加工済み
MAN HOURS TO FRAME	93 HOURS	26½ HOURS
QUANTITY OF LUMBER	4,598 BD. FT.	4,598 BD. FT.

セーブできた時間：66½ HOURS • 0 BD. FT.

What We LEARNED about WOOD WASTE at Jobsite:

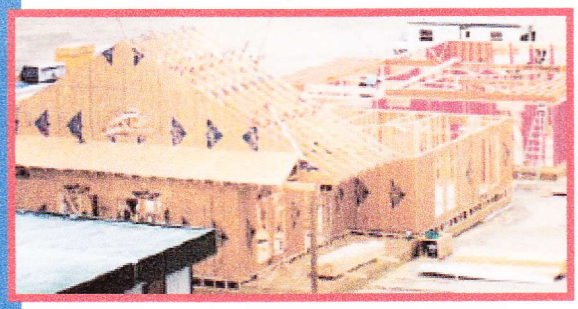
STICK FRAME
17 yards

COMPONENT
4 yards

SAVINGS
13 yards

ENVIRONMENTAL RESPONSIBILITY

躯体のパネル化やトラス化により現場での無駄なゴミをできるだけ
少なくすることにより、より環境に優しい建築方法と言えます



WHAT WE LEARNED BY FRAMING THE AMERICAN DREAM®

	STICK	TRUSSES & WALL PANELS	SAVINGS
TOTAL JOBSITE MAN HOURS TO ERECT	401*	148*	253
TOTAL JOBSITE MAN HOUR COST AT $20/HOUR FOR AVERAGE FRAMING CREW LABOR (COMPONENTS USED CRANE AT $500)	$8,020	$3,460	$4,560
TOTAL BD. FT. LUMBER ($ HEATHING PANELS SAME FOR BOTH)	20,400	15,100	5,300
TOTAL COST OF LUMBER AT $450/1,000 BD. FT. AND COMPONENTS AT TRUSS MANUFACTURER'S SELLING PRICE	$12,928	$14,457	($1,529)
TOTAL LUMBER AND PANEL SCRAP GENERATED	17 YARDS	4 YARDS	13 YARDS
TOTAL SCRAP COST AT $15/YD. DUMPSTER COST AND MAN HOUR COST TO PICK UP	$425	$100	$325
TOTAL COST FOR THIS 2,600 SQ. FT. HOUSE	$21,373	$18,017	$3,356

- Use of trusses and wall panels resulted in a 16% savings in total labor and material costs.
- Apply local lumber, labor and dumpster costs to make your area's cost comparisons.

*Number includes time for daily clean-up and scrap pick-up.

"You have to look at your bottom line, and the bottom line is that you save money with components. You pay more for a truss, but you can put it in so much faster.

"Time and man power are very difficult to come by. Using components, you can take the same man power and do so much more work."

–Roy Wilder, Wilder Construction, Middlesboro, KY

For a *Framing the American Dream®* video, contact:

Structural Building Components Association
6300 Enterprise Lane
Madison, WI 53719
608/274-4849 • 608/274-3329 (fax)
wtca@sbcindustry.com • www.sbcindustry.com