

WOOD I BEAM™

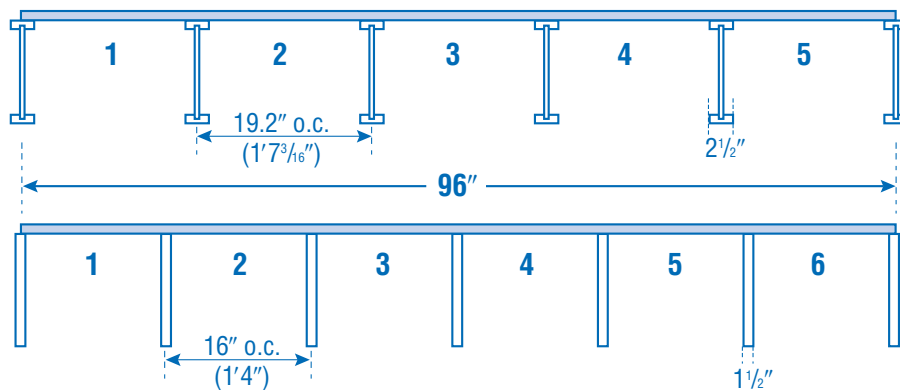


19.2" o.c. Wide Flange I-Joist Floor System

Wood I Beam™ Advantages Over Conventional Lumber:

- Increased stiffness and less vibration
- Wider flange for greater nailing and gluing surfaces
- Lightweight and easier to handle
- Longer spans and more load carrying capacity
- Greater dimensional stability and uniform depth
- Longer lengths readily available
- Electrical conduit, plumbing and most HVAC can be passed through the web
- Meets PRI™-400, the I-joist performance standard from APA-The Engineered Wood Association
- Backed by a Limited Lifetime Warranty*
- 19.2" means you save 17% on joists, glue, nails and labor
- Environmentally friendly building materials

Consider the comparison of ordinary lumber at 16" o.c. vs. Wood I Beams at 19.2" o.c.:



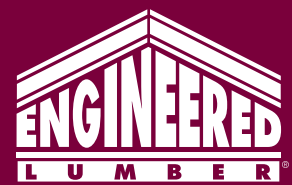
The engineered lumber floor system shown above yields almost 40% more subfloor support and fastening surface than the ordinary lumber system while reducing the amount of wood used in the floor.

Note that there is one fewer Wood I Beam joist below to support each 8' piece of subfloor sheathing and the clear spacing between the joists increases by only $2\frac{3}{16}$ ". Read on to see how the additional surface area is provided for support.

*See complete warranty for terms, conditions and limitations from Georgia-Pacific.

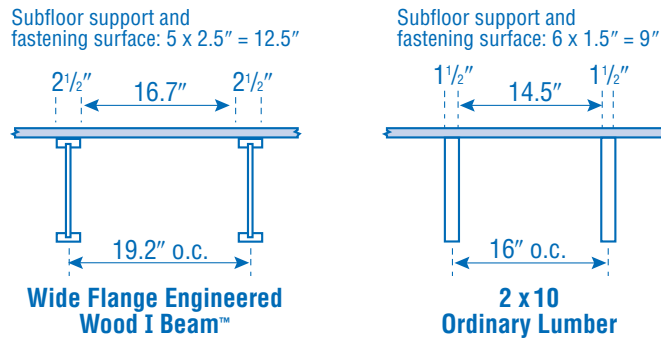


www.gp.com/build/englumber



Value Engineering

Value engineering allows us to use the proper amount of material necessary to support the floor of your new home without compromising the integrity of the framing system. The structural capacity of your home is actually stronger than with ordinary lumber, and uses less of our valuable natural resources. Wood I Beam[™] joists use fewer pieces but provide more actual support below your sub-floor. Plus you get the predictability of I-joist performance that comes from extensive testing and quality assurance since all Wood I Beams meet PRI-400 standards.

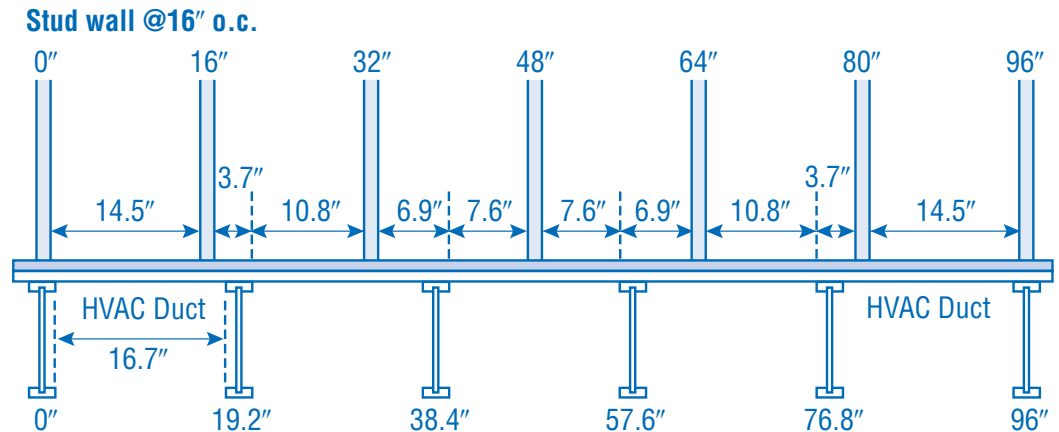


Uniformly manufactured Wood I Beam joists mean your floor will be level and smooth in your home. At Georgia-Pacific we are so confident you will be pleased with the quality of your floor that we cover our Wood I Beams with a Limited Lifetime Warranty,* which is unheard of with ordinary dimension lumber.

If a more solid, better built floor system in your new home is important to you, consider the **extraordinary** benefits of a floor system built with Georgia-Pacific Wood I Beams.

System Spacing

Floor systems have traditionally used 16" o.c. spacing. With the 19.2" o.c. spacing you can achieve with Wood I Beams, you have greater flexibility in your floor system designs and you can maximize your capabilities.



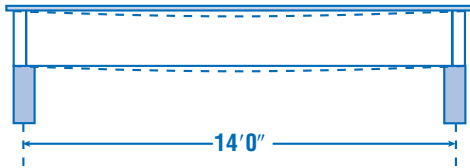
10" common size HVAC duct can be inserted at least every third bay.

*See complete warranty for terms, conditions and limitations from Georgia-Pacific.

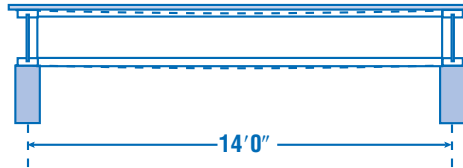
Stiffness Comparison (Joist Deflection)

Residential loads of 40 psf live load and 10 psf dead load.

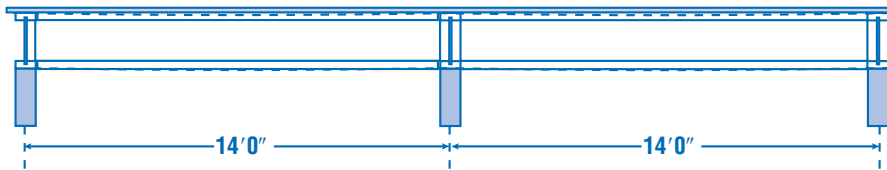
Note: Deflections based on composite action with glued-nailed sheathing, $2\frac{3}{32}$ " Sturd-I-Floor[®].



2 x 10 #2 SPF lumber
Simple design span 14'-0" Live load deflection = .24"
Joists spaced at 16" o.c. Total load deflection = .30"



40 Series 9 1/2"
Simple design span 14'-0" Live load deflection = .25"
Joists spaced at 19.2" o.c. Total load deflection = .32"
***Virtually as stiff as SPF under full live load**



40 Series multiple span joist
Continuous two 14'-0" spans Live load deflection = .19"
Joists spaced at 19.2" o.c. Total load deflection = .22"
***34% stiffer than SPF under full live load**

Sub-Floor Panel Deflection Comparison

The following table provides calculations of the anticipated panel deflection* (bending between the joists)

2 X Lumber				40 and 60 Series				Difference At Same Spacing	% Stiffer
Spacing (in.)	Distance Between Joists	Δ_{TL} (in.)	Δ Ratio	Spacing (in.)	Distance Between Joists	Δ_{TL} (in.)	Δ Ratio		
12"	10.5"	0.00116	L/10336	12	9.5"	0.00087	L/13804	0.0003	34%
16"*	14.5"	0.00412	L/3888	16	13.5"	0.00334	L/4791	0.0008	23%
19.2"	17.7"	0.00902	L/2127	19.2*	16.7"	0.00761	L/2523	0.0014	19%
24"	22.5"	0.02329	L/1030	24	21.5"	0.02036	L/1178	0.0029	14%

* The bold numbers indicate the numbers used in the comparison below.

+ Using $2\frac{3}{32}$ " Sturd-I-Floor[®].

The actual difference in panel performance is negligible. In this example, the panel spaced at 19.2" o.c. over 40 Series joists deflects slightly less than twice as much as the same panel spaced at 16" o.c. over lumber joists. However, the actual difference is very, very small. In fact, if you increased this measurement 18 times, it would be slightly more than $\frac{1}{16}$ " the smallest tick mark on most rulers.

Engineered I-Joists vs. Dimensional Lumber Floor Systems

Feature	Benefit	Beneficiary		
		Dealer	Builder	Homeowner
Dimensionally Stable	Reduces "nail pop," floor stays quiet		✓	✓
Wider Nailing Surface	More fastening area, easier to nail		✓	
Wider On-Center Spacing 19.2" o.c. vs. 16" o.c. (#2 SPF)	Fewer pieces to install	✓	✓	
Dependable Performance	Satisfied customer	✓	✓	✓
Fewer Callbacks	Satisfied customer	✓	✓	✓
Environmentally Friendly	Uses less wood fiber, no old growth	✓	✓	✓
Predictable Design	Assured performance	✓	✓	✓
Smooth, Level, Firm-Feeling Floor	Satisfied customer	✓	✓	✓
Fewer Joists to Install	Easier, faster construction time	✓	✓	
Competitive Cost per Square Foot	Economical system		✓	✓
Mechanical Accessibility	Reduce fur downs for mechanicals	✓	✓	
Quieter Floors	Satisfied customers		✓	✓
Limited Lifetime Warranty	Quality assurance	✓	✓	✓
Continuous Joist Span	Less deflection (firmer feeling floor)	✓	✓	✓
Price Stability	Fewer price changes	✓	✓	✓
APA Industry Standard PRI™400	Quality assurance	✓	✓	✓
Less Waste	Lower cost	✓	✓	
No Mid-Span Blocking	Less labor to install	✓	✓	
Technical and Sales Support	Manufacturer back-up	✓	✓	