



**A Leading
Distributor of
Structural
Building
Components**

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WOOD FLOOR TRUSSES



June 2009

ADVANTAGES OF LUMBER SPECIALTIES FLOOR TRUSSES

Versatile - Made to order, larger clear spans, room to run duct work and plumbing. Many options are available.

Strength - Made to support the loads and deflection criteria you need. Designed to the latest codes and standards.

Green - Less job site waste, efficient framing, environmentally preferred material, off-site fabrication.

Easy to install - No cutting, no culling, 3.5" wide surface for nailing, less beams and bearing walls required, shrinkage and warping minimized reducing call backs.

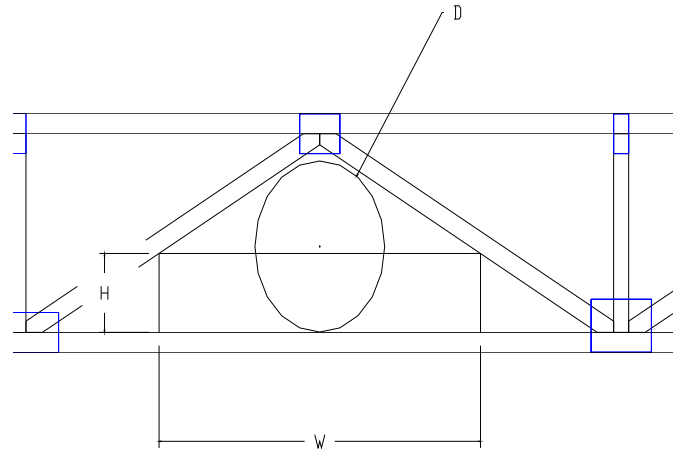
Lumber Specialties floor trusses are NOT like the other guys!

1. We design to the current codes and standards and make sure they are what you need!
2. Lumber Specialties optimizes the design along with performance.
3. We use only MSR and MEL lumber for both chords and webs to help insure a consistent product that performs over time.

OPENING CHART

Depth	If H = 3 W =	If H = 6 W =	If H = 8 W =	D =
12"	32"	12"	N/A	7"
14"	36"	20"	10"	9"
16"	40"	26"	17"	11"
18"	42"	30"	22"	13"
20"	44"	33"	26"	15"
22"	45"	26"	30"	17"
24"	46"	38"	32"	18.5"

(24" wide chase can be placed towards the center of the span)



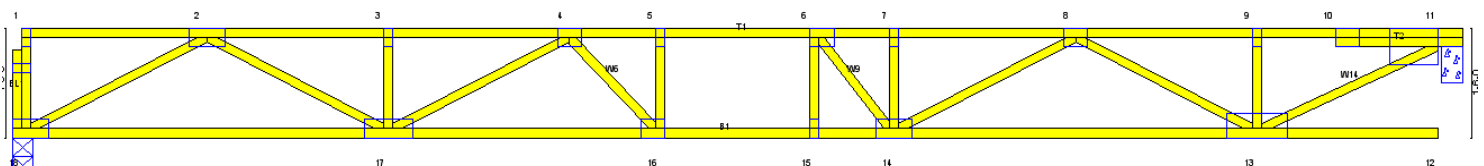
LOADING

Live Loads:

Both the IRC and IBC call for a 40 PSF live load for residential applications; this does include hotel room areas. Office floors, hallways, and other commercial applications under the IBC specify higher loads. Office floors require a 50 PSF Live load with a concentrated load check and assembly areas and hallways can require 100 PSF live load. Some light storage areas may require a 125 PSF live load or higher. Dead load information is listed to the right. For more loading information, check out "The Load Guide" at www.sbcindustry.com/loads.php

Dead Loads:

Floor Finish:	Carpet and pad	= 1.5 PSF
	¾" ceramic or quarry tile	= 10 PSF
	1" lightweight concrete	= 9 PSF
	1 ½" lightweight concrete	= 14 PSF
	¾" gypsum underlayment	= 6.5 PSF
Subfloor:	¾" OSB or Com-Ply	= 2.53 PSF
Underlayment:	½" OSB or Com-Ply	= 1.65 PSF
Insulation:	Batt/Blown (0.1 PSF per 1" of thickness)	
Mechanical:	Minimum 1.5 PSF on bottom chord	
Ceiling:	½" gypsum	= 2.20 PSF
	5/8" gypsum	= 2.80
	Suspended metal tile ceiling	= 1.80 PSF



FLOOR TRUSS SPAN TABLES

Typical Residential Loading

Depth	40-10-5 Loading				40-20-5 Loading			
	24" o.c.	19.2" o.c.	16" o.c.	12" o.c.	24" o.c.	19.2" o.c.	16" o.c.	12" o.c.
12"	19'-0"	20'-0"	22'-0"	22'-0"	19'-0"	20'-0"	22'-0"	22'-0"
14"	21'-0"	23'-0"	24'-0"	24'-0"	21'-0"	23'-0"	24'-0"	24'-0"
16"	24'-0"	26'-0"	27'-0"	28'-0"	24'-0"	26'-0"	27'-0"	28'-0"
18"	26'-0"	28'-0"	30'-0"	30'-0"	26'-0"	28'-0"	30'-0"	30'-0"
20"	28'-0"	30'-0"	32'-0"	33'-0"	28'-0"	30'-0"	32'-0"	33'-0"
22"	30'-0"	33'-0"	35'-0"	37'-0"	30'-0"	32'-0"	34'-0"	36'-0"
24"	33'-0"	34'-0"	36'-0"	40'-0"	32'-0"	34'-0"	35'-0"	38'-0"

Typical Office Loading

Depth	50*-10-5 Loading				50*-20-5 Loading			
	24" o.c.	19.2" o.c.	16" o.c.	12" o.c.	24" o.c.	19.2" o.c.	16" o.c.	12" o.c.
12"	14'-0"	17'-6"	17'-6"	20'-0"	13'-0"	16'-6"	16'-0"	19'-0"
14"	17'-6"	20'-0"	20'-0"	23'-0"	16'-6"	19'-0"	19'-0"	22'-0"
16"	20'-0"	22'-6"	22'-6"	27'-0"	19'-0"	21'-6"	21'-6"	26'-0"
18"	22'-0"	26'-0"	26'-0"	30'-0"	21'-0"	25'-0"	25'-0"	29'-0"
20"	26'-0"	30'-0"	30'-0"	33'-0"	25'-0"	29'-0"	29'-0"	33'-0"
22"	28'-0"	30'-0"	32'-0"	36'-0"	27'-0"	29'-0"	31'-0"	35'-0"
24"	30'-0"	34'-0"	34'-0"	38'-0"	29'-0"	33'-0"	33'-0"	37'-0"

* Includes a 2,000 lb. concentrated load check (safe loading) - Double TC at 24" & 19.2" o.c.

Typical Assembly and Hallway Loading

Depth	100-10-5 Loading				100-20-5 Loading			
	24" o.c.	19.2" o.c.	16" o.c.	12" o.c.	24" o.c.	19.2" o.c.	16" o.c.	12" o.c.
12"	13'-6"	14'-6"	16'-0"	17'-6"	13'-0"	14'-6"	16'-0"	17'-6"
14"	15'-6"	16'-6"	18'-0"	20'-0"	15'-0"	16'-0"	18'-0"	20'-0"
16"	17'-0"	18'-6"	20'-0"	22'-0"	17'-0"	18'-0"	20'-0"	22'-0"
18"	19'-0"	20'-0"	22'-0"	24'-0"	19'-0"	20'-0"	22'-0"	24'-0"
20"	20'-0"	22'-0"	23'-0"	26'-0"	20'-0"	22'-0"	23'-0"	26'-0"
22"	21'-0"	24'-0"	25'-0"	28'-0"	21'-0"	24'-0"	25'-0"	28'-0"
24"	23'-0"	25'-0"	27'-0"	30'-0"	23'-0"	25'-0"	27'-0"	30'-0"

Spans based on:

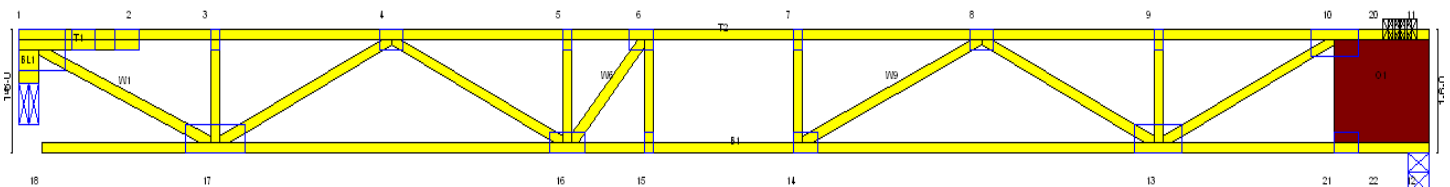
A deflection criteria of LL/480 and TL/240 w/ creep=1.50

A 24" wide chase located at mid-span

3.5" wide bearing or greater

2400 MSR lumber for chords or less

Larger clear spans are possible with better
lumber grades, doubling up chords, or
reducing deflection criteria.



FLOOR PERFORMANCE

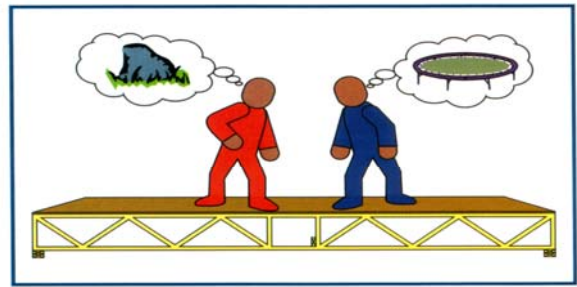
Depth	L/d 16	L/d 20	L/d 22
12"	16'-0"	20'-0"	22'-0"
14"	18'-8"	23'-4"	25'-8"
16"	21'-4"	26'-8"	29'-4"
18"	24'-0"	30'-0"	33'-0"
20"	26'-8"	33'-4"	36'-8"
22"	29'-4"	36'-8"	40'-4"
24"	32'-0"	40'-0"	44'-0"

A L/d ratio of 16 typically gives the best performance.

A L/d ratio of 20 is typically considered acceptable.

A L/d ratio of 22 or greater is normally not recommended.

$L/d = (\text{span in inches divided by depth in inches})$



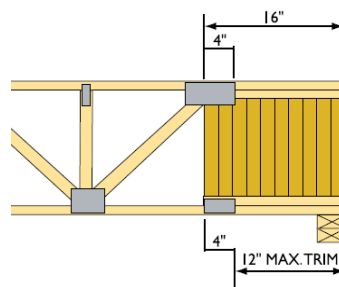
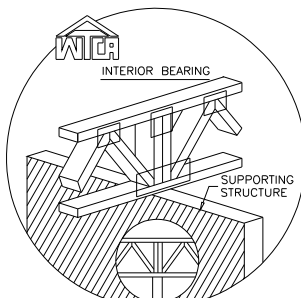
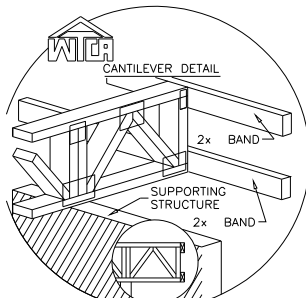
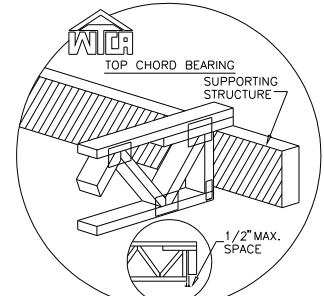
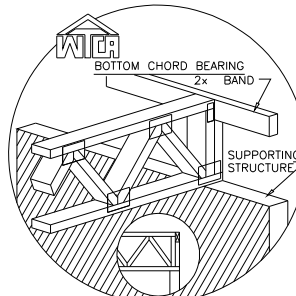
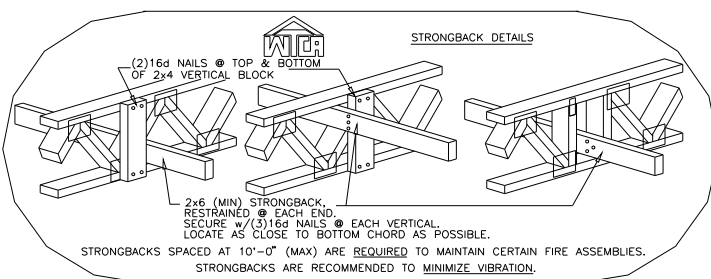
The problem with defining good floor performance is that it is highly subjective. A floor that seems rock solid to one homeowner may seem as bouncy as a trampoline to another. Image courtesy of SBCA, www.sbcindustry.com

Floor vibration, bounce, springiness, and deflection can be highly subjective. One person might feel a floor is acceptable and yet another will not. Designing a floor to a higher deflection ratio does not guarantee acceptable performance for all. One needs to watch for large deflections, tiled areas, L/d ratio's, large kitchen islands, fire places with stone, and other areas that may have additional loads or be susceptible to deflection or vibration.

1. Design per code—plus.
2. Minimize L/d (see chart to left).
3. Glue and screw deck.
4. Attached strong-back bracing as recommended.

FLOOR DETAILS

Below are some typical details for floor trusses. The options are almost unlimited. These details and others are available for download at www.sbcindustry.com in DXF or PDF format.



Trim Fit insert for the flexibility of an I-Joist and the benefits of a floor truss. Blocks in stock for 14" & 16" deep floors.



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