

FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 50psf Live Load (TL Deflection=L/240)

Member	Yield strength F _y (ksi)	Live Load Deflection L/360						Live Load Deflection L/480					
		Single span spacing (in) o.c.			Two equal span spacing (in) o.c.			Single span spacing (in) o.c.			Two equal span spacing (in) o.c.		
		12	16	24	12	16	24	12	16	24	12	16	24
600S137-33	33	9'6"e	8'3"e	6'9"e	9'6"e	8'3"e	6'5"e	9'6"e	8'3"e	6'9"e	9'6"e	8'3"e	6'5"e
600S137-43	33	11'6"	9'11"	8'1"e	11'6"i	9'11"i	8'1"e	11'6"i	9'11"i	8'1"e	11'6"i	9'11"i	8'1"e
600S137-54	50	10'4"	11'10"	10'4"	14'7"i	13'3"i	10'10"i	11'10"	10'9"i	9'5"i	13'3"i	12'1"i	10'6"i
600S137-68	50	13'11"	12'8"	11'1"	15'8"	14'3"i	12'5"i	12'8"	11'6"i	10'1"i	14'3"i	12'1"i	11'3"i
600S137-97	50	15'5"	14'0"	12'3"	17'4"	15'9"i	13'9"i	14'0"	12'9"i	11'1"i	15'9"i	14'3"i	12'6"i
600S162-33	33	10'3"e	8'11"e	7'3"e	10'3"e	8'11"e	6'8"e	10'3"e	8'11"e	7'3"e	10'3"e	8'11"e	6'8"e
600S162-43	33	12'8"	11'0"e	9'0"e	12'8"i	11'0"i	9'0"e	11'6"e	10'5"e	9'0"e	12'8"i	11'0"i	9'0"e
600S162-54	50	13'7"	12'4"	10'9"i	15'3"i	13'10"i	12'0"i	12'4"	11'2"i	9'9"i	13'10"i	12'7"i	11'0"i
600S162-68	50	14'7"	13'3"	11'7"	16'4"	14'10"i	13'0"i	13'3"	12'0"i	10'6"i	14'10"i	13'6"i	11'9"i
600S162-97	50	16'2"	14'8"	12'10"	18'1"	16'5"i	14'4"i	16'4"	13'4"i	11'8"i	16'5"i	14'1"i	13'1"i
600S200-33	33	10'11"e	9'6"e	7'9"e	10'11"e	9'3"e	6'11"e	10'11"e	9'6"e	7'9"e	10'11"e	9'3"e	6'11"e
600S200-43	33	13'1"	11'4"e	9'3"e	13'1"i	11'4"i	9'3"e	12'1"i	11'0"e	9'3"e	13'1"i	11'4"i	9'3"e
600S200-54	50	14'3"	13'0"	11'4"	16'0"i	14'7"i	12'4"i	13'0"	11'9"i	10'3"i	14'7"i	13'3"i	11'7"i
600S200-68	50	15'4"	13'11"	12'2"	17'2"	15'7"i	13'8"i	13'11"	12'8"i	11'0"i	15'7"i	14'2"i	12'5"i
600S200-97	50	17'0"	15'5"	13'6"	19'1"	17'4"i	15'2"i	15'5"i	14'0"i	12'3"i	17'4"i	15'9"i	13'9"i
600S250-43	33	13'5"e	11'7"e	9'6"e	13'5"i	11'7"i	9'6"e	12'8"i	11'6"e	9'6"e	13'5"i	11'7"i	9'6"e
600S250-54	50	14'11"	13'6"	11'10"	16'8"i	15'2"i	12'8"i	13'6"	12'3"i	10'9"i	15'2"i	13'9"i	12'1"i
600S250-68	50	16'1"	14'7"	12'9"	18'0"	16'4"i	14'4"i	14'7"	13'3"i	11'7"i	16'4"i	14'10"i	13'0"i
600S250-97	50	17'10"	16'3"	14'2"	20'0"	18'2"i	15'11"i	16'3"i	14'9"i	12'10"i	18'2"i	16'6"i	14'5"i
600S300-54	50	15'2"	13'10"	12'1"	17'1"i	15'6"i	12'10"i	13'10"	12'7"i	10'11"i	15'6"i	14'1"i	12'4"i
600S300-68	50	16'7"	15'1"	13'2"	18'7"i	16'11"i	14'9"i	15'1"i	13'8"i	12'0"i	16'11"i	15'4"i	13'5"i
600S300-97	50	18'6"	16'10"	14'9"	20'10"i	18'1"i	16'6"i	16'10"i	15'4"i	13'4"i	18'1"i	17'2"i	15'0"i
800S137-33	33	10'11"e	9'5"e	7'9"e	10'0"e	8'1"e	5'11"e	10'11"e	9'5"e	7'9"e	10'0"e	8'1"e	5'11"e
800S137-43	33	13'3"e	11'6"e	9'4"e	13'3"i	11'6"i	9'4"e	13'3"e	11'6"e	9'4"e	13'3"i	11'6"i	9'4"e
800S137-54	50	16'4"	14'10"	12'7"	17'9"i	15'5"i	12'7"i	14'10"	13'6"i	11'9"i	16'8"i	15'2"i	12'7"i
800S137-68	50	17'8"	16'0"	14'0"	19'10"i	18'0"i	14'10"i	16'0"i	14'7"i	12'9"i	18'0"i	16'4"i	14'3"i
800S137-97	50	19'7"	17'10"	15'7"	22'0"	20'0"i	17'5"i	17'10"	16'2"i	14'2"i	20'0"i	18'2"i	15'10"i
800S162-33	33	11'10"e	10'3"e	7'11"e	11'10"i	10'6"i	6'2"e	11'10"i	10'3"e	7'11"e	10'6"i	8'5"e	6'2"e
800S162-43	33	14'3"e	12'4"e	10'1"e	14'3"i	12'4"i	10'0"e	14'3"e	12'4"i	10'1"e	14'3"i	12'4"i	10'0"e
800S162-54	50	17'0"	15'5"	13'6"	19'1"i	16'6"i	13'6"i	15'5"i	14'0"i	12'3"i	17'4"i	15'9"i	13'6"i
800S162-68	50	18'4"	16'8"	14'7"	20'7"i	18'9"i	15'10"i	16'8"i	15'2"i	13'3"i	18'9"i	17'0"i	14'10"i
800S162-97	50	20'5"	18'6"	16'2"	22'11"i	20'10"i	18'2"i	18'6"i	16'10"i	14'9"i	20'10"i	18'11"i	16'6"i

Notes:

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- 3 "e" indicates that the web stiffeners are required at the end support only.
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6 Long spans utilizing shallow depth members may result in serviceability (annoying bounce) issues.

FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 50psf Live Load (TL Deflection=L/240)

Member	Yield strength F _y (ksi)	Live Load Deflection L/360						Live Load Deflection L/480						
		Single span spacing (in) o.c.			Two equal span spacing (in) o.c.			Single span spacing (in) o.c.			Two equal span spacing (in) o.c.			
		12	16	24	12	16	24	12	16	24	12	16	24	
800S200-33	33	12' 8" a	11' 0" a	7' 11" a	8' 9" a	6' 4" a	12' 8" a	11' 0" a	7' 11" a	10' 10" a	8' 9" a	10' 10" a	8' 9" a	6' 4" a
800S200-43	33	15' 3" e	13' 3" e	10' 10" e	13' 3" a	10' 5" a	15' 2" e	13' 3" e	10' 10" e	15' 3" a	13' 3" a	15' 3" a	13' 3" a	10' 5" a
800S200-54	50	17' 11" i	16' 3" i	14' 3" i	17' 8" i	14' 5" i	16' 3" i	14' 9" i	12' 11" i	18' 3" i	16' 7" i	16' 7" i	16' 7" i	14' 5" i
800S200-68	50	19' 3" i	17' 6" i	15' 3" i	19' 7" i	17' 2" i	17' 6" i	15' 1" i	13' 10" i	19' 7" i	17' 10" i	17' 10" i	17' 10" i	15' 7" i
800S200-97	50	21' 5" i	19' 5" i	17' 0" i	21' 10" i	19' 1" i	19' 5" i	17' 8" i	15' 5" i	21' 10" i	19' 10" i	19' 10" i	19' 10" i	17' 4" i
800S250-43	33	15' 8" e	13' 7" e	11' 1" e	15' 8" a	13' 7" a	15' 8" e	13' 7" e	11' 1" e	15' 8" a	13' 7" a	15' 8" a	13' 7" a	10' 6" a
800S250-54	50	18' 7" i	16' 11" i	14' 9" e	18' 1" i	14' 9" i	16' 11" i	14' 9" i	13' 5" i	19' 0" i	17' 3" i	17' 3" i	17' 3" i	14' 9" i
800S250-68	50	20' 1" i	18' 3" i	15' 11" i	20' 6" i	17' 3" i	18' 3" i	16' 7" i	14' 6" i	20' 6" i	18' 7" i	18' 7" i	18' 7" i	16' 3" i
800S250-97	50	22' 4" i	20' 4" i	17' 9" i	22' 10" i	19' 11" i	20' 4" i	18' 5" i	16' 1" i	22' 10" i	20' 9" i	20' 9" i	20' 9" i	18' 1" i
800S300-54	50	19' 0" i	17' 3" i	14' 11" e	21' 2" i	18' 4" i	17' 3" i	15' 8" i	13' 9" i	19' 5" i	17' 7" i	17' 7" i	17' 7" i	14' 11" i
800S300-68	50	20' 6" i	18' 9" i	16' 5" i	23' 2" i	21' 1" i	18' 9" i	17' 1" i	14' 11" i	21' 1" i	19' 2" i	19' 2" i	19' 2" i	16' 9" i
800S300-97	50	23' 2" i	21' 0" i	18' 4" i	26' 0" i	23' 7" i	21' 0" i	19' 1" i	16' 8" i	23' 7" i	21' 5" i	21' 5" i	21' 5" i	18' 9" i
1000S162-43	33	15' 10" a	13' 8" a	11' 2" a	15' 9" a	12' 10" a	15' 10" a	13' 8" a	11' 2" a	15' 9" a	12' 10" a	15' 9" a	12' 10" a	9' 7" a
1000S162-54	50	20' 2" i	18' 4" i	15' 0" e	21' 2" i	18' 4" i	18' 4" i	16' 8" i	14' 7" e	20' 7" i	18' 4" i	18' 4" i	18' 4" i	15' 0" i
1000S162-68	50	21' 11" i	19' 11" i	17' 4" i	24' 7" i	21' 8" i	19' 11" i	18' 1" i	15' 9" i	22' 4" i	20' 3" i	20' 3" i	20' 3" i	17' 8" i
1000S162-97	50	24' 7" i	22' 4" i	19' 6" i	27' 7" i	25' 1" i	22' 4" i	20' 3" i	17' 9" i	25' 1" i	22' 9" i	22' 9" i	22' 9" i	19' 11" i
1000S200-43	33	17' 1" a	14' 9" a	12' 1" a	16' 6" a	13' 5" a	17' 1" a	14' 9" a	12' 1" a	16' 6" a	13' 5" a	16' 6" a	13' 5" a	9' 11" a
1000S200-54	50	21' 1" i	19' 2" i	16' 1" e	22' 9" i	19' 9" i	19' 2" i	17' 5" i	15' 3" e	21' 6" i	19' 7" i	19' 7" i	19' 7" i	15' 10" i
1000S200-68	50	22' 10" i	20' 9" i	18' 2" i	25' 8" i	23' 2" i	20' 9" i	18' 10" i	16' 6" i	23' 4" i	21' 2" i	21' 2" i	21' 2" i	18' 6" i
1000S200-97	50	25' 8" i	23' 4" i	20' 4" i	28' 10" i	26' 2" i	23' 4" i	21' 2" i	18' 6" i	26' 2" i	23' 9" i	23' 9" i	23' 9" i	20' 9" i
1000S250-54	50	22' 3" i	20' 3" i	16' 6" e	23' 5" i	20' 3" i	20' 3" i	18' 5" i	16' 1" e	22' 9" i	20' 3" i	20' 3" i	20' 3" i	16' 1" i
1000S250-68	50	24' 0" i	21' 9" i	19' 0" i	26' 11" i	23' 10" i	21' 9" i	19' 9" i	17' 3" i	24' 5" i	22' 3" i	22' 3" i	22' 3" i	19' 5" i
1000S250-97	50	26' 9" i	24' 3" i	21' 3" i	30' 0" i	27' 3" i	24' 3" i	22' 1" i	19' 3" i	27' 3" i	24' 9" i	24' 9" i	24' 9" i	21' 8" i
1000S300-54	50	22' 9" i	20' 7" i	16' 9" e	23' 9" i	20' 7" i	20' 8" i	18' 9" i	16' 5" e	23' 2" i	20' 7" i	20' 7" i	20' 7" i	16' 3" i
1000S300-68	50	24' 8" i	22' 5" i	19' 7" i	27' 8" i	24' 3" i	22' 5" i	20' 4" i	17' 9" i	25' 2" i	22' 10" i	22' 10" i	22' 10" i	19' 9" i
1000S300-97	50	27' 7" i	25' 1" i	21' 11" i	30' 11" i	28' 1" i	25' 1" i	22' 9" i	19' 11" i	28' 1" i	25' 7" i	25' 7" i	25' 7" i	22' 4" i
1200S162-54	50	22' 10" a	19' 9" a	16' 1" a	22' 10" a	19' 6" a	21' 1" a	19' 2" a	16' 1" a	22' 10" a	19' 6" a	22' 10" a	19' 6" a	14' 8" a
1200S162-68	50	25' 3" i	22' 11" i	19' 2" i	27' 1" i	23' 6" i	22' 11" i	20' 10" i	18' 2" i	25' 9" i	23' 5" i	23' 5" i	23' 5" i	19' 2" i
1200S162-97	50	28' 7" i	26' 0" i	22' 8" i	32' 1" i	29' 2" i	26' 0" i	23' 7" i	20' 7" i	29' 2" i	26' 6" i	26' 6" i	26' 6" i	23' 2" i
1200S200-54	50	24' 3" a	21' 4" a	17' 5" a	24' 8" a	20' 6" a	22' 0" a	20' 0" a	17' 5" a	24' 8" a	20' 6" a	24' 8" a	20' 6" a	15' 4" a
1200S200-68	50	26' 4" i	23' 11" i	20' 8" e	29' 2" i	25' 3" i	23' 11" i	21' 9" i	19' 0" i	26' 10" i	24' 5" i	24' 5" i	24' 5" i	20' 8" i
1200S200-97	50	29' 9" i	27' 1" i	23' 8" i	33' 5" i	30' 4" i	27' 1" i	24' 7" i	21' 6" i	30' 4" i	27' 7" i	27' 7" i	27' 7" i	24' 1" i

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		Single span spacing (in) o.c.			Two equal span spacing (in) o.c.			Single span spacing (in) o.c.			Two equal span spacing (in) o.c.		
		12	16	24	12	16	24	12	16	24	12	16	24
1200S250-54	50	25'3" a	22'1" a	18'0" a	25'6" a	20'11" a	15'7" a	22'11" a	22'11" a	18'0" a	25'6" a	20'11" a	15'7" a
1200S250-68	50	27'5"	24'11"	21'4" e	30'1" i	26'1" i	21'4" i	24'11"	24'11"	19'9"	28'0" i	25'5" i	21'4" i
1200S250-97	50	30'11"	28'1"	24'7"	34'9"	31'7" i	27'5" i	28'1"	28'1"	22'4"	31'7"	28'8"	25'0" i
1200S300-54	50	26'0" a	22'6" a	18'4" a	25'10" a	21'2" a	15'9" a	24'0" a	24'0" a	18'4" a	25'10" a	21'2" a	15'9" a
1200S300-68	50	28'6"	25'11"	21'9" e	30'8" i	26'7" i	21'9" i	25'11"	25'11"	20'7"	29'1" i	26'5" i	21'9" i
1200S300-97	50	31'11"	29'0"	25'4"	35'10" i	32'6" i	28'0" i	29'0"	29'0"	23'0"	32'6"	29'7" i	25'10" i
1400S162-54	50	24'1" a	20'10" a	17'0" a	23'2" a	18'11" a	14'0" a	23'9" a	23'9" a	17'0" a	23'2" a	18'11" a	14'0" a
1400S162-68	50	28'6"	24'11"	20'4" e	28'10" i	24'11" i	20'4" i	25'10"	25'10"	20'4" e	28'10" i	24'11" i	20'4" i
1400S162-97	50	32'5"	29'5"	25'9"	36'4" i	32'8" i	26'8" i	29'5"	29'5"	23'4"	33'1"	30'0" i	26'3" i
1400S200-54	50	26'2" a	22'8" a	18'6" a	24'5" a	19'10" a	14'7" a	24'9" a	24'9" a	18'6" a	24'5" a	19'10" a	14'7" a
1400S200-68	50	29'8"	26'11"	22'0" e	31'1" i	26'11" i	22'0" i	26'11"	26'11"	21'5" e	30'3" i	26'11" i	22'0" i
1400S200-97	50	33'8"	30'7"	26'9"	37'9" i	34'4" i	28'7" i	30'7"	30'7"	24'3"	34'4"	31'2" i	27'3" i
1400S250-54	50	27'2" a	23'7" a	19'3" a	24'11" a	20'2" a	14'10" a	25'9" a	25'9" a	19'3" a	24'11" a	20'2" a	14'10" a
1400S250-68	50	30'10"	28'0"	22'10" e	32'3" i	28'0" i	22'6" i	28'0"	28'0"	22'3" e	31'6" i	28'0" i	22'6" i
1400S250-97	50	34'11"	31'9"	27'8"	39'2" i	35'7" i	29'8" i	31'9"	31'9"	25'2"	35'7"	32'4" i	28'3" i
1400S300-54	50	27'10" a	24'2" a	19'7" a	25'3" a	20'5" a	14'11" a	26'2" a	26'2" a	19'7" a	25'3" a	20'5" a	14'11" a
1400S300-68	50	31'8"	28'7"	23'4" e	33'1" i	28'7" i	22'10" i	28'9"	28'9"	22'10" e	32'4" i	28'7" i	22'10" i
1400S300-97	50	36'0"	32'8"	28'7"	40'5" i	36'8" i	30'4" i	32'8"	32'8"	25'11"	36'8"	33'4" i	29'1" i

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