FLOOR JOIST SPAN LIMITATIONS

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

Member	Yield strength Fy (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' 4" e	8' 1" e	6' 7" e	9' 4" i	8' 1" a	6' 4" a	9' 4" e	8' 1" e	6' 7" e	9' 4" i	8' 1" a	6' 4" a
600S137-43	33	11' 2"	9' 8"	7' 11" e	11' 2" i	9' 8" i	7' 11" a	11' 0"	9' 8"	7' 11" e	11' 2" i	9' 8" i	7' 11" a
600S137-54	50	13' 0"	11' 10"	10' 4"	14' 7" i	12' 11" i	10' 7" i	11' 10"	10' 9"	9' 5"	13' 3" i	12' 1" i	10' 6" i
600S137-68	50	13' 11"	12' 8"	11' 1"	15' 8"	14' 3" i	12' 4" i	12' 8"	11' 6"	10' 1"	14' 3"	12' 11"	11' 3" i
600S137-97	50	15' 5"	14' 0"	12' 3"	17' 4"	15' 9"	13' 9"	14' 0"	12' 9"	11' 1"	15' 9"	14' 3"	12' 6"
600S162-33	33	10' 1" e	8' 9" e	7' 1" e	10' 1" a	8' 9" a	6' 7" a	10' 1" e	8' 9" e	7' 1" e	10' 1" a	8' 9" a	6' 7" a
600S162-43	33	12' 1"	10' 5" e	8' 6" e	12' 1" i	10' 5" i	8' 6" a	11' 6"	10' 5" e	8' 6" e	12' 1" i	10' 5" i	8' 6" a
600S162-54	50	13' 7"	12' 4"	10' 9"	15' 3" i	13' 10" i	11' 4" i	12' 4"	11' 2"	9' 9"	13' 10"	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"	10' 6"	14' 10"	13' 6"	11' 9" i
600S162-97	50	16' 2"	14' 8"	12' 10"	18' 1"	16' 5"	14' 4"	14' 8"	13' 4"	11' 8"	16' 5"	14' 11"	13' 1"
600S200-33	33	10' 9" e	9' 4" e	7' 7" e	10' 9" a	9' 2" a	6' 10" a	10' 9" e	9' 4" e	7' 7" e	10' 9" a	9' 2" a	6' 10" a
600S200-43	33	12' 11"	11' 2" e	9' 1" e	12' 11" i	11' 2" i	9' 1" a	12' 1"	11' 0" e	9' 1" e	12' 11" i	11' 2" i	9' 1" a
600S200-54	50	14' 3"	13' 0"	11' 4"	16' 0" i	14' 7" i	12' 1" i	13' 0"	11' 9"	10' 3"	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"	11' 0"	15' 7"	14' 2"	12' 5" i
600S200-97	50	17' 0"	15' 5"	13' 6"	19' 1"	17' 4"	15' 2"	15' 5"	14' 0"	12' 3"	17' 4"	15' 9"	13' 9"
600S250-43	33	13' 3"	11' 5" e	9' 4" e	13' 3" i	11' 5" i	9' 4" a	12' 8"	11' 5" e	9' 4" e	13' 3" i	11' 5" i	9' 4" a
600S250-54	50	14' 11"	13' 6"	11' 10"	16' 8" i	15' 2" i	12' 5" i	13' 6"	12' 3"	10' 9"	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"	11' 7"	16' 4"	14' 10"	13' 0" i
600S250-97	50	17' 10"	16' 3"	14' 2"	20' 0"	18' 2"	15' 11"	16' 3"	14' 9"	12' 10"	18' 2"	16' 6"	14' 5"
600S300-54	50	15' 2"	13' 10"	12' 1"	17' 1" i	15' 6" i	12' 7" i	13' 10"	12' 7"	10' 11"	15' 6" i	14' 1" i	12' 4" i
600S300-68	50	16' 7"	15' 1"	13' 2"	18' 7"	16' 11" i	14' 9" i	15' 1"	13' 8"	12' 0"	16' 11"	15' 4"	13' 5" i
600S300-97	50	18' 6"	16' 10"	14' 9"	20' 10"	18' 11"	16' 6"	16' 10"	15' 4"	13' 4"	18' 11"	17' 2"	15' 0"
800S137-33	33	10' 8" e	9' 3" e	7' 7" e	9' 11" a	8' 0" a	5' 11" a	10' 8" e	9' 3" e	7' 7" e	9' 11" a	8' 0" a	5' 11" a
800S137-43	33	12' 11" e	11' 3" e	9' 2" e	12' 11" i	11' 3" a	9' 2" a	12' 11" e	11' 3" e	9' 2" e	12' 11" i	11' 3" a	9' 2" a
800S137-54	50	16' 4"	14' 10"	12' 3"	17' 4" i	15' 0" i	12' 3" i	14' 10"	13' 6"	11' 9"	16' 8" i	15' 0" i	12' 3" i
800S137-68	50	17' 8"	16' 0"	14' 0"	19' 10" i	17' 8" i	14' 5" i	16' 0"	14' 7"	12' 9"	18' 0"	16' 4" i	14' 3" i
800S137-97	50	19' 7"	17' 10"	15' 7"	22' 0"	20' 0"	17' 5" i	17' 10"	16' 2"	14' 2"	20' 0"	18' 2"	15' 10"
800S162-33	33	11' 8" e	10' 1" e	7' 11" e	10' 4" a	8' 4" a	6' 1" a	11' 8" e	10' 1" e	7' 11" e	10' 4" a	8' 4" a	6' 1" a
800S162-43	33	14' 0" e	12' 2" e	9' 11" e	14' 0" i	12' 2" a	9' 10" a	14' 0" e	12' 2" e	9' 11" e	14' 0" i	12' 2" a	9' 10" a
800S162-54	50	17' 0"	15' 5"	13' 3"	18' 9" i	16' 2" i	13' 3" i	15' 5"	14' 0"	12' 3"	17' 4" i	15' 9" i	13' 3" i
800S162-68	50	18' 4"	16' 8"	14' 7"	20' 7" i	18' 9" i	15' 6" i	16' 8"	15' 2"	13' 3"	18' 9"	17' 0" i	14' 10" i
800S162-97	50	20' 5"	18' 6"	16' 2"	22' 11"	20' 10"	18' 2" i	18' 6"	16' 10"	14' 9"	20' 10"	18' 11"	16' 6"

Notes:

1. Web punchouts are not considered for shear and web crippling.
2. Deflection checks are computed using unbalanced loads for the two equal span conditions.
3. "e" indicates that the web stiffeners are required at the end support only.
4. "i" indicates that the web stiffeners are required at the interior support only.
5. "a" indicates that the web stiffeners are required at all supports.
6. See additional floor joist notes on page 62.

Complies with AISI S100-16 (2020) w/S2-20 • IBC 2021

Pub. No. CD-STR-TechGuide 7/23

The technical content of this literature is effective 7/20/23 and supersedes all previous information.

clarkdietrich.com

FLOOR JOIST SPAN LIMITATIONS

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

Member	Yield strength Fy (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' 6" e	10' 10" e	7' 11" e	10' 9" a	8' 8" a	6' 3" a	12' 6" e	10' 10" e	7' 11" e	10' 9" a	8' 8" a	6' 3" a
800S200-43	33	15' 1" e	13' 1" e	10' 8" e	15' 1" a	13' 1" a	10' 4" a	15' 1" e	13' 1" e	10' 8" e	15' 1" a	13' 1" a	10' 4" a
800S200-54	50	17' 11"	16' 3"	14' 2"	20' 1" i	17' 4" i	14' 2" i	16' 3"	14' 9"	12' 11"	18' 3" i	16' 7" i	14' 2" i
800S200-68	50	19' 3"	17' 6"	15' 3"	21' 7" i	19' 7" i	16' 7" i	17' 6"	15' 11"	13' 10"	19' 7"	17' 10" i	15' 7" i
800S200-97	50	21' 5"	19' 5"	17' 0"	24' 0"	21' 10"	19' 1" i	19' 5"	17' 8"	15' 5"	21' 10"	19' 10"	17' 4"
800S250-43	33	15' 5" e	13' 5" e	10' 11" e	15' 5" a	13' 5" a	10' 6" a	15' 5" e	13' 5" e	10' 11" e	15' 5" a	13' 5" a	10' 6" a
800S250-54	50	18' 7"	16' 11"	14' 6"	20' 6" i	17' 9" i	14' 6" i	16' 11"	15' 4"	13' 5"	19' 0" i	17' 3" i	14' 6" i
800S250-68	50	20' 1"	18' 3"	15' 11"	22' 6" i	20' 6" i	17' 0" i	18' 3"	16' 7"	14' 6"	20' 6"	18' 7" i	16' 3" i
800S250-97	50	22' 4"	20' 4"	17' 9"	25' 1"	22' 10"	19' 11" i	20' 4"	18' 5"	16' 1"	22' 10"	20' 9"	18' 1"
800S300-54	50	19' 0"	17' 3"	14' 9" e	20' 10" i	18' 0" i	14' 9" i	17' 3"	15' 8"	13' 9"	19' 5" i	17' 7" i	14' 9" i
800S300-68	50	20' 8"	18' 9"	16' 5"	23' 2" i	21' 1" i	17' 3" i	18' 9"	17' 1"	14' 11"	21' 1" i	19' 2" i	16' 9" i
800S300-97	50	23' 2"	21' 0"	18' 4"	26' 0"	23' 7"	20' 7" i	21' 0"	19' 1"	16' 8"	23' 7"	21' 5"	18' 9"
1000S162-43	33	15' 7" e	13' 6" e	11' 0" e	15' 7" a	12' 9" a	9' 6" a	15' 7" e	13' 6" e	11' 0" e	15' 7" a	12' 9" a	9' 6" a
1000S162-54	50	20' 2"	18' 0"	14' 8" e	20' 10" i	18' 0" i	14' 8" i	18' 4"	16' 8"	14' 7" e	20' 7" i	18' 0" i	14' 8" i
1000S162-68	50	21' 11"	19' 11"	17' 4"	24' 6" i	21' 3" i	17' 4" i	19' 11"	18' 1"	15' 9"	22' 4" i	20' 3" i	17' 4" i
1000S162-97	50	24' 7"	22' 4"	19' 6"	27' 7"	25' 1" i	21' 11" i	22' 4"	20' 3"	17' 9"	25' 1"	22' 9"	19' 11" i
1000S200-43	33	16' 10" e	14' 7" e	11' 11" e	16' 4" a	13' 4" a	9' 10" a	16' 10" e	14' 7" e	11' 11" e	16' 4" a	13' 4" a	9' 10" a
1000S200-54	50	21' 1"	19' 2"	15' 10" e	22' 5" i	19' 5" i	15' 8" i	19' 2"	17' 5"	15' 3" e	21' 6" i	19' 5" i	15' 8" i
1000S200-68	50	22' 10"	20' 9"	18' 2"	25' 8" i	22' 10" i	18' 8" i	20' 9"	18' 10"	16' 6"	23' 4" i	21' 2" i	18' 6" i
1000S200-97	50	25' 8"	23' 4"	20' 4"	28' 10"	26' 2" i	22' 10" i	23' 4"	21' 2"	18' 6"	26' 2"	23' 9"	20' 9" i
1000S250-54	50	22' 3"	19' 11"	16' 4" e	23' 1" i	19' 11" i	16' 0" i	20' 3"	18' 5"	16' 1" e	22' 9" i	19' 11" i	16' 0" i
1000S250-68	50	24' 0"	21' 9"	19' 0"	26' 11" i	23' 6" i	19' 2" i	21' 9"	19' 9"	17' 3"	24' 5" i	22' 3" i	19' 2" i
1000S250-97	50	26' 9"	24' 3"	21' 3"	30' 0"	27' 3" i	23' 10" i	24' 3"	22' 1"	19' 3"	27' 3"	24' 9"	21' 8" i
1000S300-54	50	22' 9"	20' 3"	16' 7" e	23' 5" i	20' 3" i	16' 2" i	20' 8"	18' 9"	16' 5" e	23' 2" i	20' 3" i	16' 2" i
1000S300-68	50	24' 8"	22' 5"	19' 6"	27' 7" i	23' 10" i	19' 6" i	22' 5"	20' 4"	17' 9"	25' 2" i	22' 10" i	19' 6" i
1000S300-97	50	27' 7"	25' 1"	21' 11"	30' 11"	28' 1" i	24' 7" i	25' 1"	22' 9"	19' 11"	28' 1"	25' 7"	22' 4" i
1200S162-54	50	22' 5" e	19' 5" e	15' 10" e	22' 5" a	19' 4" a	14' 7" a	21' 1" e	19' 2" e	15' 10" e	22' 5" a	19' 4" a	14' 7" a
1200S162-68	50	25' 3"	22' 11"	18' 10"	26' 7" i	23' 0" i	18' 10" i	22' 11"	20' 10"	18' 2"	25' 9" i	23' 0" i	18' 10" i
1200S162-97	50	28' 7"	26' 0"	22' 8"	32' 1" i	29' 2" i	24' 4" i	26' 0"	23' 7"	20' 7"	29' 2"	26' 6"	23' 2" i
1200S200-54	50	24' 3" e	21' 1" e	17' 2" e	24' 4" a	20' 4" a	15' 2" a	22' 0" e	20' 0" e	17' 2" e	24' 4" a	20' 4" a	15' 2" a
1200S200-68	50	26' 4"	23' 11"	20' 4"	28' 9" i	24' 11" i	20' 4" i	23' 11"	21' 9"	19' 0"	26' 10" i	24' 5" i	20' 4" i
1200S200-97	50	29' 9"	27' 1"	23' 8"	33' 5"	30' 4" i	26' 1" i	27' 1"	24' 7"	21' 6"	30' 4"	27' 7"	24' 1" i

Notes:

1. Web punchouts are not considered for shear and web crippling.
2. Deflection checks are computed using unbalanced loads for the two equal span conditions.
3. "e" indicates that the web stiffeners are required at the end support only.
4. "i" indicates that the web stiffeners are required at the interior support only.
5. "a" indicates that the web stiffeners are required at all supports.
6. See additional floor joist notes on page 62.

FLOOR JOIST SPAN LIMITATIONS

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

Member	Yield strength Fy (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
1200S250-54	50	25' 2" e	21' 9" e	17' 9" e	25' 2" a	20' 9" a	15' 6" a	22' 11" e	20' 10" e	17' 9" e	25' 2" a	20' 9" a	15' 6" a
1200S250-68	50	27' 5"	24' 11"	21' 0" e	29' 8" i	25' 9" i	21' 0" i	24' 11"	22' 8"	19' 9"	28' 0" i	25' 5" i	21' 0" i
1200S250-97	50	30' 11"	28' 1"	24' 7"	34' 9" i	31' 7" i	27' 0" i	28' 1"	25' 6"	22' 4"	31' 7"	28' 8"	25' 0" i
1200S300-54	50	25' 8" e	22' 2" e	18' 2" e	25' 8" a	21' 0" a	15' 8" a	24' 0" e	21' 9" e	18' 2" e	25' 8" a	21' 0" a	15' 8" a
1200S300-68	50	28' 6"	25' 11"	21' 5" e	30' 3" i	26' 3" i	21' 5" i	25' 11"	23' 6"	20' 7"	29' 1" i	26' 3" i	21' 5" i
1200S300-97	50	31' 11"	29' 0"	25' 4"	35' 10" i	32' 6" i	27' 7" i	29' 0"	26' 4"	23' 0"	32' 6"	29' 7" i	25' 10" i
1400S162-54	50	23' 8" e	20' 6" e	16' 9" e	23' 0" a	18' 9" a	13' 11" a	23' 8" e	20' 6" e	16' 9" e	23' 0" a	18' 9" a	13' 11" a
1400S162-68	50	28' 3"	24' 6"	20' 0"	28' 3" i	24' 6" i	20' 0" i	25' 10"	23' 6"	20' 0"	28' 3" i	24' 6" i	20' 0" i
1400S162-97	50	32' 5"	29' 5"	25' 9"	36' 4" i	31' 11" i	26' 1" i	29' 5"	26' 9"	23' 4"	33' 1"	30' 0" i	26' 1" i
1400S200-54	50	25' 10" e	22' 5" e	18' 3" e	24' 3" a	19' 8" a	14' 6" a	24' 9" e	22' 5" e	18' 3" e	24' 3" a	19' 8" a	14' 6" a
1400S200-68	50	29' 8"	26' 7"	21' 8" e	30' 8" i	26' 7" i	21' 8" i	26' 11"	24' 6"	21' 5" e	30' 3" i	26' 7" i	21' 8" i
1400S200-97	50	33' 8"	30' 7"	26' 9"	37' 9" i	34' 4" i	28' 1" i	30' 7"	27' 9"	24' 3"	34' 4"	31' 2" i	27' 3" i
1400S250-54	50	26' 11" e	23' 3" e	19' 0" e	24' 9" a	20' 1" a	14' 9" a	25' 9" e	23' 3" e	19' 0" e	24' 9" a	20' 1" a	14' 9" a
1400S250-68	50	30' 10"	27' 7"	22' 6" e	31' 10" i	27' 7" i	22' 4" i	28' 0"	25' 6"	22' 3" e	31' 6" i	27' 7" i	22' 4" i
1400S250-97	50	34' 11"	31' 9"	27' 8"	39' 2" i	35' 7" i	29' 2" i	31' 9"	28' 10"	25' 2"	35' 7"	32' 4" i	28' 3" i
1400S300-54	50	27' 6" e	23' 10" e	19' 6" e	25' 1" a	20' 4" a	14' 10" a	26' 2" e	23' 9" e	19' 6" e	25' 1" a	20' 4" a	14' 10" a
1400S300-68	50	31' 8"	28' 3"	23' 1" e	32' 7" i	28' 3" i	22' 8" i	28' 9"	26' 2"	22' 10" e	32' 4" i	28' 3" i	22' 8" i
1400S300-97	50	36' 0"	32' 8"	28' 7"	40' 5" i	36' 7" i	29' 11" i	32' 8"	29' 8"	25' 11"	36' 8"	33' 4" i	29' 1" i

Notes:

1. Web punchouts are not considered for shear and web crippling.
2. Deflection checks are computed using unbalanced loads for the two equal span conditions.
3. "e" indicates that the web stiffeners are required at the end support only.
4. "i" indicates that the web stiffeners are required at the interior support only.
5. "a" indicates that the web stiffeners are required at all supports.
6. See additional floor joist notes on page 62.

Complies with AISI S100-16 (2020) w/S2-20 • IBC 2021

Pub. No. CD-STR-TechGuide 7/23

The technical content of this literature is effective 7/20/23 and supersedes all previous information.