

Non-Composite - Braced at 48" o.c.

Notes:

- Limiting heights using all steel non-composite design are in accordance with AISI S100-I6/S2-20.
- For studs with $h/t < 200$, no web stiffeners are required.
- Factory punchouts are in accordance with AISI standards.

Stud Member	Spacing	F _y	5 psf			7.5 psf			10psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162S125-18	12	33	8'-4"	7'-7"	6'-8"	6'-10"	6'-8"	5'-10"	5'-11"	5'-11"	5'-3"
	16		7'-3"	6'-11"	6'-1"	5'-11"	5'-11"	5'-3"	5'-1"	5'-1"	4'-10"
	24		5'-11"	5'-11"	5'-3"	4'-10"	4'-10"	4'-7"	4'-2"	4'-2"	4'-2"
162S125-27	12	33	10'-11"	8'-11"	7'-10"	8'-11"	7'-10"	6'-10"	7'-9"	7'-1"	6'-2"
	16		9'-6"	8'-1"	7'-1"	7'-9"	7'-1"	6'-2"	6'-9"	6'-6"	5'-7"
	24		7'-9"	7'-1"	6'-2"	6'-4"	6'-2"	5'-5"	5'-6"	5'-6"	4'-11"
162S125-30	12	33	11'-7" ¹	9'-3"	8'-1"	9'-7"	8'-1"	7'-0"	8'-4"	7'-4"	6'-5"
	16		10'-2"	8'-4"	7'-4"	8'-4"	7'-4"	6'-5"	7'-2"	6'-8"	5'-9"
	24		8'-4"	7'-4"	6'-5"	6'-9"	6'-5"	5'-7"	5'-10"	5'-10"	5'-1"
162S125-33	12	33	12'-0" ¹	9'-6"	8'-4"	10'-3"	8'-4"	7'-3"	8'-11"	7'-7"	6'-7"
	16		10'-11"	8'-8"	7'-7"	8'-11"	7'-7"	6'-7"	7'-9"	6'-10"	6'-0"
	24		8'-11"	7'-7"	6'-7"	7'-4"	6'-7"	5'-9"	6'-4"	6'-0"	5'-3"
250S125-18	12	33	11'-1"	10'-6"	9'-2"	9'-1"	9'-1"	8'-0"	7'-10"	7'-10"	7'-4"
	16		9'-7"	9'-7"	8'-4"	7'-10"	7'-10"	7'-3"	6'-9"	6'-9"	6'-7"
	24		7'-10"	7'-10"	7'-3"	6'-5"	6'-5"	6'-4"	5'-6" ²	5'-6" ²	5'-6" ²
250S125-27	12	33	14'-7"	12'-4"	10'-10"	11'-10"	10'-10"	9'-5"	10'-3"	9'-10"	8'-7"
	16		12'-7"	11'-3"	9'-10"	10'-3"	9'-10"	8'-7"	8'-11"	8'-11"	7'-9"
	24		10'-3"	9'-10"	8'-7"	8'-5"	8'-5"	7'-6"	7'-3"	7'-3"	6'-10"
250S125-30	12	33	15'-6"	12'-9"	11'-2"	12'-8"	11'-2"	9'-9"	10'-3"	10'-2"	8'-10"
	16		13'-5"	11'-7"	10'-1"	11'-0"	10'-1"	8'-10"	9'-6"	9'-2"	8'-0"
	24		11'-0"	10'-1"	8'-10"	9'-0"	8'-10"	7'-9"	7'-9"	7'-9"	7'-0"
350S125-18	12	33	12'-9"	12'-9"	12'-1"	10'-5"	10'-5"	10'-5"	9'-0"	9'-0"	9'-0"
	16		11'-0"	11'-0"	11'-0"	9'-0"	9'-0"	9'-0"	7'-10" ²	7'-10" ²	7'-10" ²
	24		9'-0"	9'-0"	9'-0"	7'-4" ²	7'-4" ²	7'-4" ²	6'-5" ²	6'-5" ²	6'-5" ²
350S125-27	12	33	17'-1"	16'-1"	14'-0"	14'-0"	14'-0"	12'-3"	12'-1"	12'-1"	11'-1"
	16		14'-10"	14'-7"	12'-9"	12'-1"	12'-1"	11'-1"	10'-6"	10'-6"	10'-1"
	24		12'-1"	12'-1"	11'-1"	9'-11"	9'-11"	9'-9"	8'-7"	8'-7"	8'-7"
350S125-30	12	33	18'-4"	16'-7"	14'-6"	15'-0"	14'-6"	12'-7"	13'-0"	13'-0"	11'-6"
	16		15'-11"	15'-0"	13'-1"	13'-0"	13'-0"	11'-6"	11'-3"	11'-3"	10'-5"
	24		13'-0"	13'-0"	11'-6"	10'-8"	10'-8"	10'-0"	9'-3"	9'-3"	9'-1"
362S125-18	12	33	13'-0"	13'-0"	12'-5"	10'-7"	10'-7"	10'-7"	9'-2"	9'-2"	9'-2"
	16		11'-3"	11'-3"	11'-3"	9'-2"	9'-2"	9'-2"	8'-0" ²	8'-0" ²	8'-0" ²
	24		9'-2"	9'-2"	9'-2"	7'-6" ²	7'-6" ²	7'-6" ²	6'-6" ²	6'-6" ²	6'-6" ²
362S125-27	12	33	17'-5"	16'-6"	14'-5"	14'-3"	14'-3"	12'-7"	12'-4"	12'-4"	11'-5"
	16		15'-1"	15'-0"	13'-1"	12'-4"	12'-4"	11'-5"	10'-8"	10'-8"	10'-5"
	24		12'-4"	12'-4"	11'-5"	10'-1"	10'-1"	10'-0"	8'-9"	8'-9"	8'-9"
362S125-30	12	33	18'-8"	17'-0"	14'-10"	15'-4"	14'-10"	13'-0"	13'-3"	13'-3"	11'-10"
	16		16'-2"	15'-5"	13'-6"	13'-3"	13'-3"	11'-9"	11'-6"	11'-6"	10'-9"
	24		13'-3"	13'-3"	11'-10"	10'-10"	10'-10"	10'-4"	9'-5"	9'-5"	9'-4"
400S125-18	12	33	12'-9" ²	12'-9" ²	12'-9" ²	10'-5" ²	10'-5" ²	10'-5" ²	9'-0" ²	9'-0" ²	9'-0" ²
	16		11'-0" ²	11'-0" ²	11'-0" ²	9'-0" ²	9'-0" ²	9'-0" ²	7'-9" ²	7'-9" ²	7'-9" ²
	24		9'-0" ²	9'-0" ²	9'-0" ²	7'-4" ²	7'-4" ²	7'-4" ²	6'-4" ²	6'-4" ²	6'-4" ²
400S125-27	12	33	18'-4"	17'-10"	15'-7"	15'-0"	15'-0"	13'-7"	13'-0"	13'-0"	12'-4"
	16		15'-11"	15'-11"	14'-2"	13'-0"	13'-3"	12'-4"	11'-3"	11'-3"	11'-3"
	24		13'-0"	13'-0"	12'-4"	10'-8"	10'-8"	10'-8"	9'-3"	9'-3"	9'-3"
400S125-30	12	33	19'-9"	18'-5"	16'-1"	16'-2"	16'-1"	14'-0"	14'-0"	14'-0"	12'-9"
	16		17'-1"	16'-8"	14'-7"	14'-0"	14'-0"	12'-9"	12'-2"	12'-2"	11'-7"
	24		14'-0"	14'-0"	12'-9"	11'-5"	11'-5"	11'-2"	9'-11"	9'-11"	9'-11"
550S125-27	12	33	22'-8"	22'-8"	19'-11"	18'-6"	18'-6"	17'-4"	16'-1"	16'-1"	15'-9"
	16		19'-8"	19'-8"	18'-1"	16'-1"	16'-1"	15'-9"	13'-11"	13'-11"	13'-11"
	24		16'-0"	16'-0"	15'-9"	13'-2"	13'-2"	13'-2"	11'-5" ²	11'-5" ²	11'-5" ²
550S125-30	12	33	24'-4"	23'-7"	20'-7"	19'-11"	19'-11"	18'-0"	17'-3"	17'-3"	16'-4"
	16		21'-1"	21'-1"	18'-8"	17'-3"	17'-3"	16'-4"	15'-0"	15'-0"	14'-10"
	24		17'-3"	17'-3"	16'-4"	14'-1"	14'-1"	14'-1"	12'-3"	12'-3"	12'-3"
600S125-30	12	33	25'-5"	25'-2"	22'-0"	20'-10"	20'-10"	19'-3"	18'-1"	18'-1"	17'-6"
	16		22'-1"	22'-1"	22'-0"	18'-1"	18'-1"	17'-6"	15'-8"	15'-8"	15'-8"
	24		18'-1"	18'-1"	17'-6"	14'-9"	14'-9"	14'-9"	12'-9" ²	12'-9" ²	12'-9" ²

¹ Max KL/r exceeds 200

² Web stiffeners required

Notes:

1. Limiting height values extracted from ASTM C754-20.
2. Allowable composite heights are derived from tests conducted in accordance with ICC-ES AC86-2012.
3. Table heights also applicable for two layers of gypsum board.
4. The gypsum board (one or two layers) must be installed vertically full height to each stud flange using minimum No. 6 Type-S drywall screws spaced a maximum of 12 in. (305 mm) on-center for studs at 24 in. (610 mm) spacing, and 16 in. (406 mm) on-center for studs at 16 in. (406 mm) and 12 in. (305 mm) spacing. Gypsum board (one or two layers) must be attached to each top and bottom track flange using minimum No. 6 drywall screws at maximum 16 in. (406 mm) on center.
5. Application of gypsum board as required in accordance with Specification C840.
6. No fasteners are required for attaching the stud to the track except as required by subsection 5.3.2.1.
7. Stud end bearing must be a minimum of 1 in. (254 mm).
8. Minimum material yield strength equals 33 ksi (230 MPa).

Stud Member	Spacing	Fy	5 psf			7.5 psf			10psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162S125-18	12	33	13'-0"f	11'-1"	9'-10"	10'-8"	9'-8"	8'-7"	9'-3"f	8'-9"	7'-9"
	16		11'-3"	10'-1"	8'-11"	9'-3"f	8'-9"	7'-9"	8'-0"f	7'-11"	n/a
	24		9'-3"f	8'-9"	7'-9"	n/a	n/a	n/a	n/a	n/a	n/a
162S125-30	12	33	14'-11"	11'-10"	10'-4"	13'-1"	10'-4"	8'-11"	11'-10"	9'-4"	7'-11"
	16		13'-7"	10'-9"	9'-4"	11'-10"	9'-4"	7'-11"	10'-9"	8'-3"	n/a
	24		11'-10"	9'-4"	7'-11"	10'-4"	7'-11"	n/a	9'-4"	n/a	n/a
250S125-18	12	33	16'-4"f	14'-2"	12'-9"	13'-4"	12'-4"	11'-2"	11'-7"f	11'-3"	10'-2"
	16		14'-2"f	12'-10"	11'-7"	11'-7"f	11'-3"	10'-2"	10'-0"f	10'-0"f	9'-0"
	24		11'-7"f	11'-3"	10'-2"	9'-5"f	9'-5"f	8'-6"	8'-2"f	8'-2"f	n/a
250S125-30	12	33	18'-5"	15'-10"	14'-1"	16'-1"	13'-10"	12'-4"	14'-7"	12'-7"	11'-2"
	16		16'-9"	14'-5"	12'-10"	14'-7"	12'-7"	11'-2"	13'-3"	11'-5"	10'-2"
	24		14'-7"	12'-7"	11'-2"	12'-9"	11'-0"	9'-9"	11'-7"	10'-0"	8'-8"
250S125-33	12	33	19'-8"	15'-8"	13'-8"	17'-3"	13'-8"	11'-11"	15'-8"	12'-5"	10'-10"
	16		17'-11"	14'-3"	12'-5"	15'-8"	12'-5"	10'-10"	14'-3"	11'-3"	9'-10"
	24		15'-8"	12'-5"	10'-10"	13'-8"	10'-10"	9'-5"	12'-4"f	9'-10"	8'-4"
350S125-18	12	33	18'-3"f	16'-4"	14'-4"	14'-11"f	14'-4"	12'-6"	12'-11"f	12'-11"f	11'-4"
	16		15'-10"	14'-10"	13'-0"	12'-11"f	12'-11"f	11'-4"	11'-2"f	11'-2"f	10'-3"
	24		12'-11"f	12'-11"f	11'-4"	10'-7"f	10'-7"f	9'-11"	9'-2"f	9'-2"f	9'-0"
350S125-30	12	33	22'-6"	17'-11"	15'-8"	19'-8"	15'-8"	13'-8"	17'-11"	14'-2"	12'-4"
	16		20'-6"	16'-3"	14'-2"	17'-11"	14'-2"	12'-4"	16'-3"	12'-11"	11'-1"
	24		17'-11"	14'-2"	12'-4"	15'-8"	12'-4"	10'-7"	13'-9"f	11'-1"	n/a
350S125-33	12	33	23'-0"	18'-3"	15'-11"	20'-1"	15'-11"	13'-11"	18'-3"	14'-6"	12'-8"
	16		20'-11"	16'-7"	14'-6"	18'-3"	14'-6"	12'-8"	16'-7"	13'-2"	11'-4"
	24		18'-3"	14'-6"	12'-8"	15'-11"	12'-8"	10'-10"	14'-4"f	11'-4"	9'-8"
362S125-18	12	33	18'-8"f	16'-8"	14'-7"	15'-3"	14'-7"	12'-9"	13'-2"f	13'-2"f	11'-6"
	16		16'-2"f	15'-2"	13'-3"	13'-2"f	13'-2"f	11'-6"	11'-5"f	11'-5"f	10'-4"
	24		13'-2"f	13'-2"f	11'-6"	10'-9"f	10'-9"f	9'-11"	9'-4"f	9'-4"f	8'-11"
362S125-30	12	33	22'-10"	18'-3"	16'-4"	19'-11"	16'-0"	14'-3'	18'-1"	14'-6"	12'-11"
	16		20'-8"	16'-7"	14'-10"	18'-1"	14'-6"	12'-11"	16'-5"	13'-2"	11'-6"
	24		18'-1"	14'-6"	12'-11"	15'-9"f	12'-8"	10'-11"	13'-8"f	11'-4"	n/a
362S125-33	12	33	24'-2"	19'-2"	16'-9"	21'-1"	16'-9"	14'-8"	19'-2"	15'-3"	13'-4"
	16		21'-1"	17'-5"	15'-3"	19'-2"	15'-3"	13'-4"	17'-5"	13'-10"	11'-11"
	24		19'-2"	15'-3"	13'-4"	16'-8"f	13'-4"	11'-4"	14'-5"f	11'-11"	10'-1"
400S125-18	12	33	19'-3"f	17'-6"	15'-4"	15'-9"f	15'-4"	13'-4"	13'-8"f	13'-8"f	12'-2"
	16		16'-8"f	15'-11"	13'-11"	13'-8"f	13'-8"f	12'-2"	11'-10"f	11'-10"f	11'-0"
	24		13'-8"f	13'-8"f	12'-2"	11'-2"f	11'-2"f	10'-7"	9'-8"f	9'-8"f	10'-7"
400S125-30	12	33	24'-6"	19'-5"	17'-0"	21'-5"	17'-0"	14'-10"	19'-5"	15'-5"	13'-6"
	16		22'-3"	17'-8"	15'-5"	19'-5"	15'-5"	13'-6"	17'-5"f	14'-0"	12'-2"
	24		19'-5"	15'-5"	13'-6"	16'-5"f	13'-6"	11'-7"	14'-2"f	12'-2"	10'-4"
400S125-33	12	33	25'-3"	20'-1"	17'-6"	22'-1"	16'-9"	14'-8"	19'-2"	15'-3"	13'-4"
	16		21'-1"	17'-5"	15'-3"	19'-2"	15'-3"	13'-4"	17'-5"	13'-10"	11'-11"
	24		19'-2"	15'-3"	13'-4"	16'-8"f	13'-4"	11'-4"	14'-5"f	11'-11"	10'-1"
550S125-18	12	33	21'-11"f	21'-11"f	19'-6"	17'-10"f	17'-10"f	17'-0"	15'-6"f	15'-6"f	15'-6"f
	16		19'-0"f	19'-0"f	17'-9"	15'-6"f	15'-6"f	15'-6"f	13'-5"f	13'-5"f	13'-5"f
	24		15'-6"f	15'-6"f	15'-6"f	12'-8"f	12'-8"f	12'-8"f	n/a	n/a	n/a
550S125-30	12	33	30'-5"	24'-10"	22'-0"	27'-0"	22'-0"	19'-5"	24'-10"	20'-2"	17'-10"
	16		28'-0"	22'-9"	20'-2"	24'-10"f	20'-2"	17'-10"	21'-7"f	18'-6"	16'-2"
	24		24'-10"	20'-2"	17'-10"	20'-4"f	17'-10"	15'-7"	17'-7"f	16'-2"	n/a
600S125-18	12	33	23'-2"f	22'-9"	19'-11"	18'-11"f	18'-11"f	17'-5"	16'-4"f	16'-4"f	15'-10"
	16		20'-1"f	20'-1"f	18'-1"	16'-4"f	16'-4"f	15'-10"	14'-2"f	14'-2"f	14'-2"f
	24		16'-4"f	16'-4"f	15'-10"	13'-4"f	13'-4"f	13'-4"f	n/a	n/a	n/a
600S125-30	12	33	34'-2"	27'-1"	23'-8"	28'-11"f	23'-8"	20'-8"	25'-0"f	21'-6"	18'-9"
	16		30'-8"f	24'-7"	21'-6"	25'-0"f	21'-6"	18'-8"	21'-8"f	19'-6"	17'-1"
	24		25'-0"f	21'-6"	18'-9"	20'-0"f	18'-9"	16'-5"	17'-8"f	17'-1"	n/a
600S125-33	12	33	35'-4"	28'-1"	24'-6"	30'-10"	24'-6"	21'-5"	27'-10"f	22'-3"	19'-5"
	16		32'-1"f	25'-6"	22'-3"	27'-10"f	22'-3"	19'-5"	24'-1"f	20'-3"	17'-8"
	24		27'-10"f	22'-3"	19'-5"	22'-9"f	19'-5"	16'-11"	19'-8"f	17'-8"	n/a

"f" adjacent to the height value indicates that flexural stress controls the allowable wall height.