Lightweight Steel Framing

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Maximum Height Tables for Interior Non-Loadbearing Partitions

Introduction

This bulletin includes tables with the maximum heights for interior partitions framed with steel studs. Tables are provided for composite and non-composite assemblies. Non-composite walls are designed based on the strength of the steel framing members alone, while the composite walls include the strength of the steel studs and the gypsum drywall acting together. In all cases the studs require drywall on both sides.

General Notes to Tables

- These tables were engineered by Prof. R.M. Schuster, University of Waterloo, in accordance with the Canadian Standards Association (CSA) Standard CAN/CSA-S136-01, *North American Specification for the Design of Cold-Formed Steel Structural Members* (including the 2004 Supplement) and the National Building Code of Canada 2005.
- A yield strength of 33 ksi was used.
- The loads shown are specified uniform lateral loads.
- The strength of the composite assemblies is based on a series of wall tests conducted at the Oregon State University, as reported in "Final Report on Composite Wall Tests", July 1997, by Y. Lee and T.H. Miller.
- The design thicknesses, inside corner radii and stiffening lip length are given in the following table.

Section Dimensions

Designation Thickness (mils)	Design Thickness (in.)	Minimum Thickness[1] (in.)	Inside Corner Radius (in.)
18	0.0188	0.0179	0.0843
33	0.0346	0.0329	0.0764

Flange Width Designation	Flange Width (in.)	Design Stiffener Lip Length (in.)
S125	1-1/4	0.188

(1) Minimum Thickness represents 95% of the design thickness, and is the minimum acceptable thickness of the base steel delivered to the jobsite.

Section Designations

The tables include standard designators to identify the products. This is a four-part code that identifies the size (both depth and flange width), section type, and minimum base steel thickness.

Example: 600S125-33

Member depth:	All member depths are taken in 1/100 inches. 6" = 600, 3-5/8" = 362, 2-1/2" = 250
Section type:	**S** = stud or joist
Flange width:	All flange widths are taken in 1/100 inches. 1-1/4" = 125
Minimum thickness:	Material thickness is the minimum base steel thickness in mils (1/1000 of an inch). 33 mils = 0.0329 in.

Canadian Sheet Steel Building Institute
652 Bishop St. N., Unit 2A
Cambridge, Ontario N3H 4V6
Tel.: (519) 650-1285
Fax: (519) 650-8081
Web Site: www.cssbi.ca

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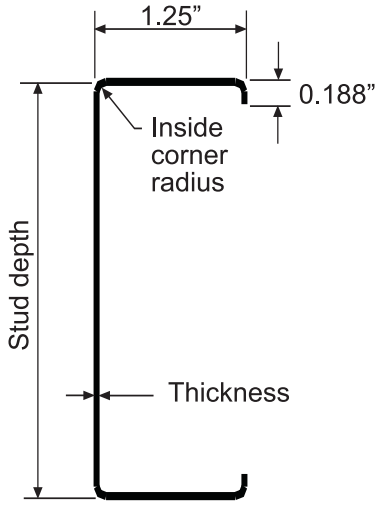

Interior NON-COMPOSITE Limiting Wall Height Table

Stud Designation	Spacing o.c. (in.)	5 psf			7.5 psf			10 psf		
		L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
250S125-18	12	13'-0"	10'-6"	9'-2"	10'-7"	9'-2"	8'-0"	9'-2"	8'-4"	7'-4"
	16	11'-2"	9'-6"	8'-4"	9'-2"	8'-4"	7'-4"	7'-11”	7'-7"	6'-7"
	24	9'-2"	8'-4"	7'-4"	7'-6"	7'-4"	6'-4"	6'-6"	6'-6"	5'-10"
250S125-33	12	16'-7"	13'-2"	11'-6"	14'-6"	11'-6"	10'-1"	13'-2"	10'-6"	9'-1"
	16	15'-1”	12'-0"	10'-6"	13'-2"	10'-6"	9'-1"	11'-6"	9'-6"	8'-4”
	24	13'-2"	10'-6"	9'-1"	10'-11"	9'-1"	8'-0"	9'-5"	8'-4"	7'-4"
362S125-18	12	16'-1"	14'-0"	12'-2"	13'-2"	12'-2"	10'-8"	11'-5"	11'-1"	9'-8"
	16	14'-0"	12'-8"	11'-1"	11'-5"	11'-1"	9'-8"	9'-11"	9'-11"	8'-10"
	24	11'-5"	11'-1"	9'-8"	9'-4"	9'-4"	8'-6"	8'-1"	8'-1"	7'-8"
362S125-33	12	22'-1"	17'-7"	15'-4"	19'-4"	15'-4"	13'-5"	17'-2"	13'-11"	12'-2"
	16	20'-1"	16'-0"	13'-11"	17'-2"	13'-11"	12'-2”	14'-11"	12'-8"	11'-1"
	24	17'-2"	13'-11"	12'-2"	14'-0"	12'-2"	10'-7"	12'-1"	11'-1"	9'-8”
600S125-33	12	33'-1"	26'-4"	23'-0"	28'-6"	23'-0"	20'-1"	24'-8"	20'-11"	18'-2"
	16	30'-1"	23'-11"	20'-11"	24'-8"	20'-11"	18'-2"	21'-5"	19'-0"	16'-7"
	24	24'-8"	20'-11"	18'-2"	20'-2"	18'-2"	15'-11"	17'-6"	16'-7"	14'-6"

Notes:
1) Heights based on steel properties only, calculated in accordance with CSA-S136-2001 (with 2004 Supplement).
2) Limiting heights are based on continuous support of each flange over the full height of the stud.
3) The 600S125-18 has an h/t in excess of the limits required by CSA-S136 for an all-steel design.

Interior COMPOSITE Limiting Wall Height Table

Stud Designation	Spacing o.c. (in.)	5 psf			7.5 psf			10 psf		
		L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
250S125-18	12	14'-6"	12'-0"	10'-5"	11'-11"	10'-5"	9'-1"	10'-4"	9'-6"	8'-4"
	16	13'-0"	11'-4"	9'-10"	10'-8"	9'-10"	8'-6"	9'-2"	8'-11"	-
	24	11'-4"	10'-5"	9'-1"	9'-2"	9'-1"	-	8'-0"	8'-0"	-
250S125-33	12	17'-10"	14'-0"	12'-1"	15'-6"	12'-1"	10'-6"	14'-0"	10'-11"	9'-6"
	16	16'-6”	13'-0"	11'-2"	14'-4"	11'-2"	9'-7"	12'-11"	10'-1"	8'-8”
	24	15'-0"	11'-8"	10'-0"	12'-11"	10'-0"	8'-7"	11'-8"	9'-0"	-
362S125-18	12	17'-1"	15'-4"	13'-4"	13'-10"	13'-2"	11'-6"	11'-11"	11'-11"	10'-5"
	16	15'-2"	14'-4"	12'-5"	12'-2"	12'-2"	10'-10"	10'-6"	10'-6"	9'-8"
	24	12'-11"	12'-11"	11'-5"	10'-4"	10'-4"	9'-11"	8'-10"	8'-10"	8'-10"
362S125-33	12	22'-6"	17'-11"	15'-7"	19'-8"	15'-7"	13'-7"	17'-11"	14'-1"	12'-4"
	16	20'-10"	16'-6"	14'-4"	18'-1"	14'-4"	12'-6”	16'-5"	13'-0"	11'-4"
	24	18'-7"	14'-8"	12'-10"	16'-2"	12'-10"	11'-2"	14'-8"	11'-7"	10'-1”
600S125-18	12	21'-8"	21'-8"	19'-6"	17'-6"	17'-6"	16'-10"	15'-0"	15'-0"	15'-0"
	16	19'-1"	19'-1"	18'-2"	15'-4"	15'-4"	15'-4"	13'-1"	13'-1"	13'-1"
	24	16'-2"	16'-2"	16'-2"	12'-11"	12'-11"	12'-11"	10'-11"	10'-11"	10'-11"
600S125-33	12	33'-10"	26'-10"	23'-6"	29'-6"	23'-5"	20'-5"	26'-10"	21'-4"	18'-6"
	16	30'-11"	24'-6"	21'-6"	27'-0"	21'-5"	18'-8"	24'-6"	19'-5"	16'-11"
	24	27'-5"	21'-7"	19'-0"	23'-11"	18'-11"	16'-6"	19'-0"	17'-2"	14'-11"

Notes:
1) Composite wall sheathed on both sides full height with 1/2” gypsum wallboard.
2) Sheathing attached with #6 screws min. at 12” o.c. max.
3) Maximum heights also applicable to wall sheathed with gypsum board greater than 1/2” thick and multiple layers of gypsum board.