

Cold Form Steel Design Report

Element: \\server18\home\khuntley\Documents\CSTCL
Files\CFSD_Column_Design.rtf

Company:

Description:

User:

Date: 12/May/2021 03:56:54 PM

Software: Cold Formed Steel Design 1.0

GENERAL INFORMATION

Description	Value	Description	Value
Run Mode	Design Mode	K _y	2.00
Design Code	AISI 17th Edition LRFD	K _z	1.00
Beam-Column Length	10.33 Ft	Total Load Deflection Limit	L / 120
Steel Yield Stress	8640000.00 Lb/Ft^2	Live Load Deflection Limit	L / 240
C _b Calculation	$12.5M_{max} / (2.5M_{max} + 3M_a + 4M_b + 3M_c)$	Lateral Torsional Braced(LTB) Length	10.33 Ft
C _{mx} Calculation	Always use 1.0 (conservative)	Section shape	C-Section with lip
C _{my} Calculation	Always use 1.0 (conservative)	Maximum Section Depth	1.00 Ft
L _x	10.33 Ft	Minimum Section Depth	0.33 Ft
L _y	10.33 Ft	Section Width	4.00 in
L _z	10.33 Ft	Check Section List	-
K _x	2.00	Maximum Stress Ratio	1.000

LOAD INFORMATION

Ref. No.	Description	Load Case	Load Type	Dir	Begin Value	Begin Position	End Value	End Position
1	DL1	Dead	Concen	Z	-2.300 (Lb)	10.330 (Ft)	-	-
2	DL2	Dead	EndMom	Y	-0.730 Lb-Ft	10.330 Ft	-	-
3	DL3	Dead	EndMom	X	-2.040 Lb-Ft	10.330 Ft	-	-
7	LL1	Live	Concen	Z	-5.180 (Lb)	10.330 (Ft)	-	-
8	LL2	Live	EndMom	Y	-1.900 Lb-Ft	10.330 Ft	-	-
9	LL3	Live	EndMom	X	-4.020 Lb-Ft	10.330 Ft	-	-
10	WL1	Wind	Concen	Z	1.720 (Lb)	10.330 (Ft)	-	-
11	WL2	Wind	EndMom	Y	18.340 Lb-Ft	10.330 Ft	-	-
12	WL3	Wind	EndMom	X	-1.650 Lb-Ft	10.330 Ft	-	-
13	WL4	Wind	Linear	X	-0.062 (Lb/Ft)	0.000 (Ft)	-0.062 (Lb/Ft)	10.330 (Ft)
4	SL1	Snow	Concen	Z	-2.510 (Lb)	10.330 (Ft)	-	-
5	SL2	Snow	EndMom	Y	-0.770 Lb-Ft	10.330 Ft	-	-
6	SL3	Snow	EndMom	X	-3.670 Lb-Ft	10.330 Ft	-	-

SELECTED LOAD COMBINATIONS

Load Combination	Code Check	Total	Live	Dependent	Conditional
LC1: DL+LL+WL+SL+EL	x			-	-
LC2: 1.40DL	x			-	-
LC3: 1.20DL+LL+1.6SL	x			-	-
LC4: 1.20DL+1.6LL+0.5SL	x			-	-
LC5: 1.20DL+0.5WL+1.60SL	x			-	-
LC6: 1.20DL+LL+1.0WL+0.50SL	x			-	-
LC7: 0.90DL+1.0WL	x			-	-
LC8: 0.90DL+EL	x			-	-
LC9: 1.20DL+LL+0.20SL+EL	x			-	-
LC10: DL	x			-	-
LC11: DL+LL	x			-	-
LC12: DL+SL	x			-	-
LC13: DL+0.75LL+0.75SL	x			-	-
LC14: DL+0.6WL	x			-	-
LC15: DL+0.75LL+0.45WL+0.75SL	x			-	-
LC16: 0.60DL+0.60WL	x			-	-
LC17: DL+0.70EL	x			-	-
LC17: DL+0.75LL+0.75SL+0.53EL	x			-	-

CRITICAL STRESS SUMMARY

Ref. No.	Section Name	Opt. Mark	Governing Criteria	Stress Ratio	Load Combination	Distance (Ft)
1	8CS4x105	✔	Axial-Bending	0.9380	LC1: DL+LL+WL+SL+EL	123.96