

Steel Design Report

Element: **Untitled3 (C:\DCC\steel4)**
 Description:
 Date: **08/20/2010 01:18 PM**

Company:
 User:
 Software: **Digital Canal Steel Design 4.0**

GENERAL INFORMATION

Description	Value	Description	Value
Design Criteria	Design	Section Shape	W
Design Code	AISC ASD 13th Edition	Maximum Section Depth	36.00 In
Total Span Length	82.00 Ft	Minimum Section Depth	12.00 In
First Node Support	Fixed	Back-Back Distance (double angles only)	
Last Node Support	Free	Section Width (angles and tubes only)	
Total Load Deflection	L/240.00	Number of Solutions	10
Live Load Deflection	L/360.00	Live Load Patterning	Yes
Maximum Stress Ratio	1.000	Check Section List	
Bending Coefficient	1.0	Bottom Flange Bracing	20.00, 30.00, 24.00, 5.00 Ft
Steel Yield Stress	50 K/In ²	Top Flange Bracing	10.00, 25.00, 27.00 Ft

SPAN LENGTH DATA (Unit: Ft)

Span 1	20.00	Span 2	30.00	Span 3	24.00	Span 4	8.00
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LOAD INFORMATION

LOADS

Ref. No.	Load Case	Load Type	Dir	Begin Value	Begin Position	End Value	End Position
1	Dead	Linear	Y	-1.000 (K/Ft)	0.00 (Ft)	-1.000 (K/Ft)	82.000 (Ft)
2	Dead	Concen	Y	-8.000 (K)	82.00 (Ft)	-	-
3	Live	Linear	Y	-0.750 (K/Ft)	0.00 (Ft)	-0.750 (K/Ft)	82.000 (Ft)
4	Live	Concen	Y	-10.000 (K)	62.00 (Ft)	-	-

LOAD COMBINATIONS

Ref. No.	Strength	Ref. No.	Service (Deflections)
1	DL Only	1	
2	DL + LL on Odd Spans	2	
3	DL + LL on Even Spans	3	
4	DL + LL on Spans-1-2-4	4	
5	DL + LL on Spans-1-2-3	5	
6	DL + LL on Spans-1-3-4	6	

CRITICAL STRESS SUMMARY

Ref. No.	Section Name	Status	Governing Criteria	Bending Ratio	LC	Shear Ratio	LC	Deflection Ratio-LL	LC	Deflection Ratio-TL	LC
1	W12X72	OK	DEFL-TL	0.681	5	0.261	5	0.911	2	0.996	3
2	W14X61	OK	BENDING	0.940	5	0.265	5	0.849	2	0.929	3
3	W16X67	OK	BENDING	0.804	5	0.214	5	0.570	2	0.623	3
4	W18X76	OK	BENDING	0.614	5	0.178	5	0.409	2	0.447	3
5	W21X73	OK	BENDING	0.965	5	0.143	5	0.340	2	0.372	3
6	W24X76	OK	BENDING	0.857	5	0.131	5	0.259	2	0.283	3
7	W27X84	OK	BENDING	0.663	5	0.112	5	0.191	2	0.209	3
8	W30X90	OK	BENDING	0.582	5	0.111	5	0.151	2	0.165	3
9	W33X118	OK	BENDING	0.326	5	0.085	5	0.092	2	0.101	3
10	W36X135	OK	BENDING	0.253	5	0.072	5	0.070	2	0.076	3

Recommended: W14X61