

W6x12	A-36 STEEL
DEPTH	6.03" (6")
WIDTH	4.00" (8")
FLANGE	..280"
WEB	.230"
AREA	3.55 IN <sup>2</sup>
I x-x	22.1 IN <sup>4</sup>
S x-x	7.31 IN <sup>3</sup>

## W6x12 STEEL BEAM LOAD CHART

SPAN	UNIFORM LOAD				MIDSPAN LOAD			
	PLF	Deflection	PLF	Deflection	LBS	Deflection	LBS	Deflection
2'	17,138	.010			24,846	.011		
2'-6"	13,708	.019			19,871	.017		
3'	11,036	.031			16,554	.025		
4'	6,202	.056			12,405	.045		
#4 1.25m 4'-1.2"	5,903	.059			12,101	.047		
5'	3,603	.079			9,009	.063		
#6 1.8m 5'-10.9"	2,576	.110			7,625	.088		
6'	2,498	.144			7,496	.091		
7'	1,832	.154			6,414	.124		
#8 2.4m 7'-10.5"	1,447	.195			5,702	.156		
8'	1,400	.201			5,601	.161		
9'	1,054	.243			4,744	.194		
#10 3m 9'-10.1"	803	.264	760	.25	3,954	.212		
10'	765	.269	713	.25	3,825	.215		
11'	571	.293	486	.25	3,145	.235		
12'	437	.318	343	.25	2,625	.255	2,580	.25

Span is from center of support to center of support, 8" U-Head width is considered.

Minimum 4" long support

A-36 Steel, 2 : 1 Factor of Safety

10/11/10



S7x15.3 A-36 STEEL

DEPTH 7.00"  
WIDTH 3.662"  
FLANGE .392"  
WEB .252"

AREA 4.5 IN<sup>2</sup>  
I x-x 36.7 IN<sup>4</sup>  
S x-x 10.5 IN<sup>3</sup>

## S7x15.3 STEEL BEAM LOAD CHART

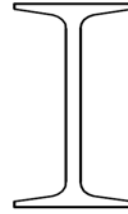
SPAN	UNIFORM LOAD				MIDSPAN LOAD			
	PLF	Deflection	PLF	Deflection	LBS	Deflection	LBS	Deflection
#4 1.25m 4'-1.2"	7,708	.046			15,802	.037		
5'	5,178	.068			12,945	.055		
#6 1.8m 5'-10.9"	3,702	.095			10,958	.077		
6'	3,591	.098			10,774	.079		
7'	2,634	.134			9,220	.107		
#8 2.4m 7'-10.5"	2,081	.169			8,199	.135		
8'	2,013	.174			8,053	.139		
9'	1,587	.220			7,144	.176		
#10 3m 9'-10.1"	1,278	.253	1,260	.25	6,290	.203		
10'	1,217	.257	1,183	.25	6,087	.206		
11'	910	.282	808	.25	5,009	.225		
12'	698	.306	570	.25	4,188	.245		
13'	545	.329	414	.25	3,547	.264	3,360	.25
14'	433	.352	308	.25	3,037	.282	2,690	.25
15'	349	.373	234	.25	2,624	.300	2,190	.25
16'	285	.395	180	.25	2,285	.317	1,805	.25
17'	235	.415	141	.25	2,002	.333	1,505	.25
18'	196	.435	112	.25	1,764	.348	1,268	.25

Span is from center of support to center of support, 8" U-Head width is considered.

Minimum 4" long support

A-36 Steel, 2 : 1 Factor of Safety

10/11/10



S8x23 A-36 STEEL  
 DEPTH 8.00'  
 WIDTH 4.171'  
 FLANGE .4265'  
 WEB .441'  
 AREA 6.77 IN<sup>2</sup>  
 I x-x 64.9 IN<sup>4</sup>  
 S x-x 16.2 IN<sup>3</sup>

## S8x23 STEEL BEAM LOAD CHART

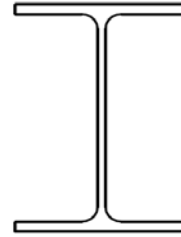
SPAN	UNIFORM LOAD				MIDSPAN LOAD			
	PLF	Deflection	PLF	Deflection	LBS	Deflection	LBS	Deflection
#4 1.25m 4'-1.2"	11,894	.040			24,382	.032		
5'	7,990	.060			19,975	.048		
#6 1.8m 5'-10.9"	5,712	.084			16,908	.067		
6'	5,541	.086			16,624	.069		
7'	4,065	.117			14,228	.094		
#8 2.4m 7'-10.5"	3,211	.148			12,652	.118		
8'	3,107	.153			12,428	.122		
9'	2,450	.193			11,025	.154		
#10 3m 9'-10.1"	2,045	.230			10,066	.184		
10'	1,980	.237			9,901	.190		
11'	1,520	.267	1,425	.25	8,363	.214		
12'	1,165	.290	1,007	.25	6,995	.232		
14'	725	.334	543	.25	5,080	.267	4,750	.25
16'	478	.376	318	.25	3,828	.301	3,180	.25
18'	329	.414	199	.25	2,963	.332	2,235	.25
20'	233	.447	131	.25	2,338	.359	1,628	.25
22'	169	.475	89	.25	1,869	.382	1,225	.25
24'	125	.497	40	.25	1,507	.400	598	.25
26'	93	.510	22	.25	1,220	.411	369	.25
28'	70	.516	11	.25	988	.416	192	.25

Span is from center of support to center of support, 8" U-Head width is considered.

Minimum 4" long support

A-36 Steel, 2 : 1 Factor of Safety

10/11/10



W12x40 A-992 50ksi STEEL  
 DEPTH 11.9' (12')  
 WIDTH 8.01' (8')  
 FLANGE .515'  
 WEB .295'  
 AREA 11.7 IN<sup>2</sup>  
 I x-x 307 IN<sup>4</sup>  
 S x-x 51.5 IN<sup>3</sup>

## W12x40 STEEL BEAM LOAD CHART

SPAN	UNIFORM LOAD				MIDSPAN LOAD			
	PLF	Deflection	PLF	Deflection	LBS	Deflection	LBS	Deflection
#4 1.25m 4'-1.2"	22,009	.016			90,236	.025		
5'	18,040	.028			90,201	.046		
#6 1.8m 5'-10.9"	15,256	.047			82,334	.069		
6'	15,026	.049			80,959	.071		
7'	12,874	.078			69,356	.096		
#8 2.4m 7'-10.5"	11,446	.111			56,108	.111		
8'	11,260	.117			55,121	.114		
9'	10,004	.166			48,958	.144		
#10 3m 9'-10.1"	9,094	.215			44,747	.172		
10'	8,804	.222			44,024	.178		
11'	7,269	.269	6,771	.25	39,984	.215		
12'	5,874	.308	4,780	.25	35,247	.246		
14'	3,684	.358	2,580	.25	25,792	.286	22,578	.25
16'	2,455	.407	1,512	.25	19,641	.325	15,126	.25
18'	1,712	.454	944	.25	15,412	.363	10,623	.25
20'	1,237	.500	619	.25	12,375	.400	7,744	.25
22'	919	.544	423	.25	10,118	.436	5,818	.25
24'	699	.586	298	.25	8,391	.469	4,481	.25
26'	541	.625	216	.25	7,039	.500	3,525	.25
28'	425	.660	161	.25	5,958	.529	2,822	.25

Span is from center of support to center of support, 8" U-Head width is considered.

Minimum 4" long support

A-992 50ksi Steel, 2 : 1 Factor of Safety

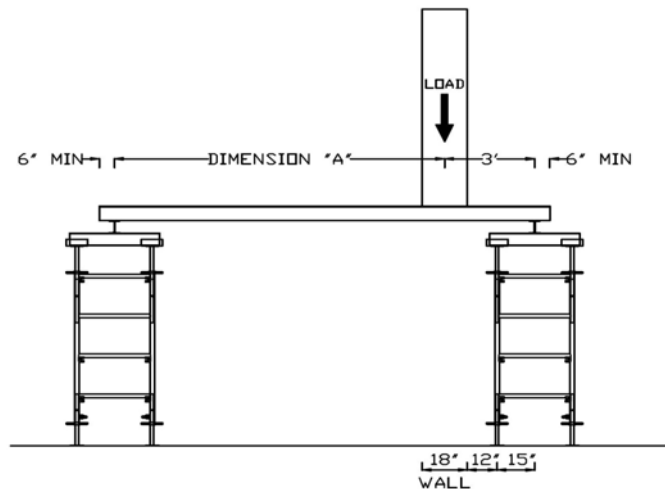
## NEEDLE BEAM LOADING CHART - 3' INSIDE SPAN

SPAN	DIMENSION "A"	W6x12		S7x15.3		S8x23		W12x19		W12x40	
		LBS	Deflection	LBS	Deflection	LBS	Deflection	LBS	Deflection	LBS	Deflection
6'	3'	7,496	.091	10,774	.079	16,624	.069	25,330	.052	80,959	.071
7'	4'	6,565	.121	9,437	.105	14,562	.092	19,515	.061	70,981	.095
8'	5'	6,026	.152	8,659	.132	13,369	.115	15,074	.065	59,280	.108
9'	6'	5,397	.175	8,126	.159	12,541	.151	11,294	.062	55,656	.130
10'	7'	4,566	.181	7,261	.173	11,809	.160	8,597	.058	52,448	.150
11'	8'	4,021	.188	6,398	.180	10,679	.171	7,272	.058	50,960	.172
12'	9'	---	---	5,615	.185	9,373	.175	6,380	.059	47,076	.185
13'	10'	---	---	5,053	.189	8,439	.179	5,741	.061	42,467	.190
14'	11'	---	---	4,593	.194	7,674	.184	5,216	.062	38,709	.195
15'	12'	---	---	4,165	.195	6,961	.185	4,728	.062	35,187	.197
17'	14'	---	---	3,351	.198	5,941	.188	---	---	30,202	.201
19'	16'	---	---	3,070	.204	5,142	.193	---	---	26,297	.208
21'	18'	---	---	---	---	4,542	.190	---	---	23,416	.207
23'	20'	---	---	---	---	4,030	.193	---	---	20,903	.211
25'	22'	---	---	---	---	3,603	.193	---	---	18,856	.213
27'	24'	---	---	---	---	3,267	.191	---	---	17,339	.231
29'	26'	---	---	---	---	2,962	.193	---	---	15,882	.218

Span is from center of support to center of support, Minimum 4" long support

10/11/2010

2 : 1 Factor of Safety



3' INSIDE SPAN - 6M

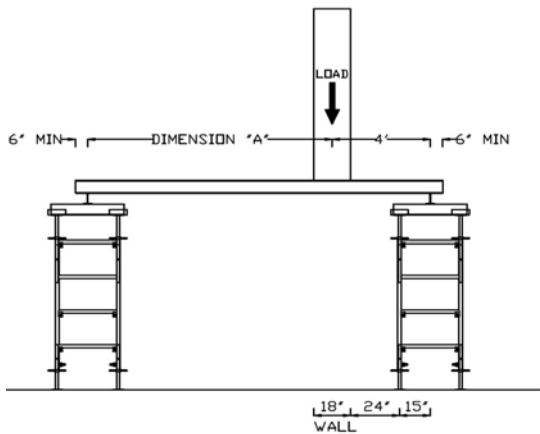
## NEEDLE BEAM LOADING CHART - 4' INSIDE SPAN

SPAN	DIMENSION "A"	W6x12		S7x15.3		S8x23		W12x19		W12x40	
		LBS	Deflection	LBS	Deflection	LBS	Deflection	LBS	Deflection	LBS	Deflection
8'	4'	5,601	.161	8,053	.139	12,428	.122	14,015	.069	55,121	.114
9'	5'	4,852	.194	7,307	.176	11,277	.154	10,157	.069	50,073	.144
10'	6'	3,988	.206	6,343	.198	10,318	.182	7,511	.066	45,897	.171
11'	7'	3,437	.220	5,473	.211	9,136	.200	6,219	.068	43,650	.202
12'	8'	---	---	4,770	.221	7,965	.209	5,418	.071	40,082	.222
13'	9'	---	---	4,194	.227	7,007	.215	4,762	.073	35,344	.229
14'	10'	---	---	3,766	.232	6,295	.220	4,275	.074	31,847	.235
15'	11'	---	---	3,401	.236	5,688	.224	3,859	.076	28,864	.240
17'	13'	---	---	2,848	.245	4,770	.233	---	---	24,373	.250
19'	15'	---	---	2,429	.249	4,072	.236	---	---	20,965	.256
21'	17'	---	---	---	---	3,544	.239	---	---	18,414	.262
23'	19'	---	---	---	---	3,130	.242	---	---	16,458	.269
25'	21'	---	---	---	---	2,769	.240	---	---	14,708	.269
27'	23'	---	---	---	---	2,483	.241	---	---	13,369	.274
29'	25'	---	---	---	---	2,235	.239	---	---	12,217	.276

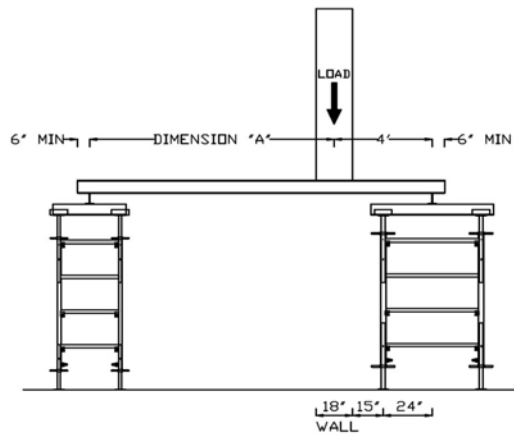
Span is from center of support to center of support, Minimum 4" long support

10/11/2010

2 : 1 Factor of Safety



4' INSIDE SPAN - 6M



4' INSIDE SPAN - 10M

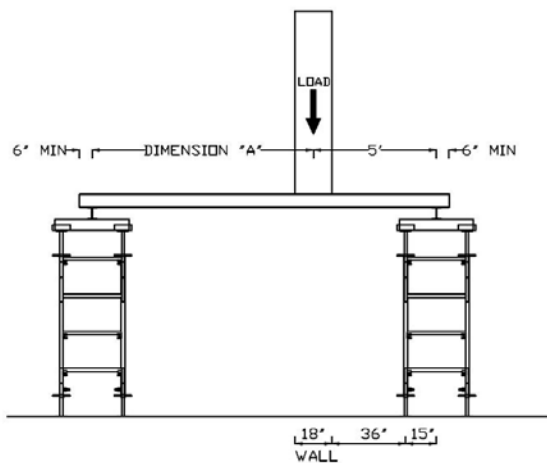
## NEEDLE BEAM LOADING CHART - 5' INSIDE SPAN

SPAN	DIMENSION "A"	W6x12		S7x15.3		S8x23		W12x19		W12x40	
		LBS	Deflection	LBS	Deflection	LBS	Deflection	LBS	Deflection	LBS	Deflection
10	5'	3,825	.215	6,087	.206	9,901	.190	7,206	.069	44,024	.178
11'	6'	3,204	.236	5,103	.226	8,519	.214	5,798	.072	40,726	.216
12'	7'	---	---	4,335	.239	7,240	.227	4,923	.077	36,469	.218
13'	8'	---	---	3,785	.252	6,325	.239	4,297	.081	31,957	.254
14'	9'	---	---	3,331	.262	5,570	.248	3,780	.084	28,234	.265
15'	10'	---	---	2,995	.271	5,012	.257	3,397	.087	25,503	.276
17'	12'	---	---	2,457	.282	4,116	.268	---	---	21,124	.290
19'	14'	---	---	2,072	.287	3,479	.273	---	---	18,031	.298
21'	16'	---	---	---	---	2,974	.280	---	---	15,586	.309
23'	18'	---	---	---	---	2,595	.283	---	---	13,777	.317
25'	20'	---	---	---	---	2,280	.280	---	---	12,275	.318
27'	22'	---	---	---	---	2,030	.279	---	---	11,129	.322
29'	24'	---	---	---	---	1,811	.273	---	---	10,139	.322

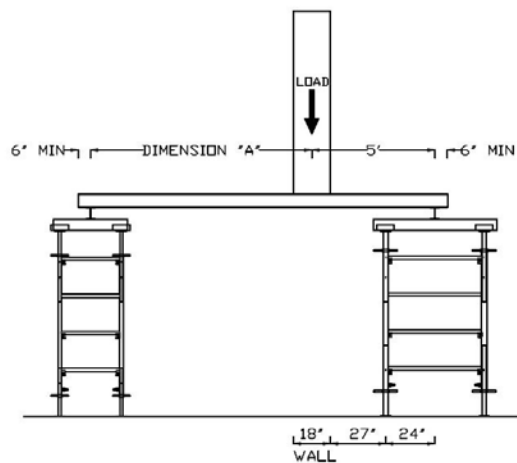
Span is from center of support to center of support, Minimum 4" long support

10/11/2010

2 : 1 Factor of Safety



5' INSIDE SPAN - 6M



5' INSIDE SPAN - 10M