



Table 6-2 (continued)
Available Strength for Members
Subject to Axial, Shear,
Flexural and Combined Forces
W-Shapes

 $F_y = 50 \text{ ksi}$
 $F_u = 65 \text{ ksi}$

W18×						Shape		W18×					
97		86		76 ^c		lb/ft		97		86		76	
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design		M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$
Available Compressive Strength, kips								Available Flexural Strength, kip-ft					
ASD	LRFD	ASD	LRFD	ASD	LRFD			ASD	LRFD	ASD	LRFD	ASD	LRFD
853	1280	757	1140	660	992	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_b , ft, for X-X axis bending	0	526	791	464	698	407	611
808	1220	717	1080	628	944		6	526	791	464	698	407	611
793	1190	703	1060	617	928		7	526	791	464	698	407	611
775	1170	687	1030	604	908		8	526	791	464	698	407	611
756	1140	670	1010	589	885		9	526	791	464	698	407	611
734	1100	651	978	572	860		10	520	782	458	688	400	601
712	1070	630	947	554	832		11	511	768	449	674	392	589
688	1030	608	914	534	803		12	502	754	440	661	383	576
662	995	586	880	514	773		13	492	740	431	647	375	563
636	956	562	845	493	741		14	483	725	422	634	366	550
609	915	538	808	472	709		15	473	711	412	620	358	537
581	874	513	771	449	676		16	464	697	403	606	349	525
553	832	488	733	427	642		17	454	683	394	593	341	512
525	789	463	695	405	608		18	445	669	385	579	332	499
497	746	437	657	382	574		19	436	655	376	566	324	486
468	704	412	619	360	541		20	426	640	367	552	315	474
413	621	363	545	316	475		22	407	612	349	525	298	448
360	541	315	474	274	412		24	388	584	331	498	281	423
309	464	270	406	235	353		26	369	555	313	471	264	397
266	400	233	350	202	304		28	351	527	295	444	242	364
232	349	203	305	176	265		30	332	499	270	406	219	329
204	307	178	268	155	233		32	306	460	247	372	200	300
181	272	158	237	137	206		34	283	425	228	343	183	276
161	242	141	212	122	184		36	263	395	211	318	170	255
145	217	126	190	110	165		38	245	369	197	296	158	237
131	196	114	172	99.1	149		40	230	346	184	277	147	221
118	178	104	156	89.9	135		42	217	326	173	261	138	208
108	162						44	205	308	164	246	130	196
							46	194	292	155	233	123	185
							48	185	278	147	221	117	175
							50	176	265	140	211	111	167

Properties

Available Strength in Tensile Yielding, kips					
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$
853	1280	757	1140	668	1000
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips					
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$
696	1040	618	926	543	814
Available Strength in Shear, kips					
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$
199	299	177	265	155	232
Available Strength in Flexure about Y-Y Axis, kip-ft					
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$
138	207	121	182	105	158

Limiting Unbraced Lengths, ft					
L_p	L_r	L_p	L_r	L_p	L_r
9.36	30.4	9.29	28.6	9.22	27.1
Area, in. ²					
28.5		25.3		22.3	
Moment of Inertia, in. ⁴					
I_x	I_y	I_x	I_y	I_x	I_y
1750	201	1530	175	1330	152
r_y , in.					
2.65		2.63		2.61	
r_x/r_y					
2.95		2.95		2.96	

^c Shape is slender for compression with $F_y = 50 \text{ ksi}$.

Note: Heavy line indicates L_c/r equal to or greater than 200.

Table 6-2 (continued)													
Available Strength for Members													
Subject to Axial, Shear,													
Flexural and Combined Forces													
W-Shapes													
													
W18													
W18×						Shape		W18×					
71		65		60 ^c		lb/ft		71		65		60	
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design		M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$
Available Compressive Strength, kips								Available Flexural Strength, kip-ft					
ASD	LRFD	ASD	LRFD	ASD	LRFD			ASD	LRFD	ASD	LRFD	ASD	LRFD
626	940	572	859	517	776	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_b , ft, for X-X axis bending	0	364	548	332	499	307	461
549	825	501	753	460	691		6	364	548	332	498	306	460
523	787	477	717	439	660		7	354	532	322	483	297	446
496	745	452	679	415	624		8	343	516	312	468	287	431
466	700	424	638	390	585		9	333	500	302	453	277	417
435	653	396	594	363	545		10	322	485	292	438	268	402
403	605	366	550	336	504		11	312	469	282	424	258	388
370	557	336	505	308	463		12	302	453	272	409	249	374
338	508	307	461	281	422		13	291	438	262	394	239	359
306	461	278	417	254	381		14	281	422	252	379	229	345
276	414	249	375	228	342		15	270	406	242	364	220	330
246	370	222	334	203	304		16	260	390	232	349	210	316
218	328	197	296	179	270		17	249	375	222	334	200	301
195	292	176	264	160	241		18	239	359	212	319	191	287
175	262	158	237	144	216		19	228	343	201	302	177	266
158	237	142	214	130	195		20	216	324	187	281	164	247
130	196	118	177	107	161		22	190	285	164	246	144	216
109	165	98.9	149	90.0	135		24	169	254	145	219	127	192
93.3	140	84.2	127	76.7	115		26	153	230	131	197	115	172
80.4	121	72.6	109	66.1	99.4		28	139	209	119	179	104	156
							30	128	192	109	164	95.2	143
							32	118	178	101	152	87.9	132
							34	110	166	93.9	141	81.6	123
							36	103	155	87.8	132	76.1	114
							38	96.9	146	82.4	124	71.4	107
							40	91.4	137	77.6	117	67.2	101
							42	86.6	130	73.4	110	63.5	95.5
							44	82.2	124	69.7	105	60.2	90.5
							46	78.2	118	66.3	99.6	57.3	86.1
							48	74.7	112	63.2	95.0	54.6	82.1
							50	71.4	107	60.4	90.8	52.2	78.4
Properties													
Available Strength in Tensile Yielding, kips						Limiting Unbraced Lengths, ft							
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	L_p	L_r	L_p	L_r	L_p	L_r		
626	941	572	860	527	792	6.00	19.6	5.97	18.8	5.93	18.2		
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips						Area, in. ²							
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	20.9		19.1		17.6			
Available Strength in Shear, kips						Moment of Inertia, in. ⁴							
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	I_x	I_y	I_x	I_y	I_x	I_y		
183	275	166	248	151	227	1170	60.3	1070	54.8	984	50.1		
Available Strength in Flexure about Y-Y Axis, kip-ft						r_y , in.							
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	1.70		1.69		1.68			
						r_x/r_y							
61.6	92.6	56.1	84.4	51.4	77.3	4.41		4.43		4.45			
^c Shape is slender for compression with $F_y = 50$ ksi. Note: Heavy line indicates L_c/r equal to or greater than 200.													

 W18	Table 6-2 (continued)												$F_y = 50 \text{ ksi}$ $F_u = 65 \text{ ksi}$			
	Available Strength for Members															
	Subject to Axial, Shear,															
	Flexural and Combined Forces															
W-Shapes																
W18×						Shape		W18×								
55 ^c		50 ^c		46 ^c		lb/ft		55		50		46				
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design		M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$			
Available Compressive Strength, kips								Available Flexural Strength, kip-ft								
ASD	LRFD	ASD	LRFD	ASD	LRFD			ASD	LRFD	ASD	LRFD	ASD	LRFD			
468	703	414	622	379	569	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_b , ft, for X-X axis bending	0	279	420	252	379	226	340			
416	625	367	551	312	469		6	279	419	251	377	212	319			
398	599	351	528	291	437		7	269	405	242	363	203	304			
379	570	334	502	268	403		8	260	391	233	350	193	290			
357	537	315	474	242	364		9	251	377	224	337	183	275			
333	500	296	445	215	323		10	242	363	216	324	173	261			
307	462	276	414	188	283		11	232	349	207	311	164	246			
282	423	252	379	163	244		12	223	335	198	298	154	232			
256	385	229	344	139	209		13	214	321	190	285	144	217			
231	348	206	310	120	180		14	205	307	181	272	133	200			
207	312	184	277	104	157		15	195	293	172	259	119	179			
184	277	163	245	91.6	138		16	186	280	163	246	108	163			
163	245	145	217	81.1	122		17	177	266	154	232	99.0	149			
146	219	129	194	72.4	109		18	165	248	141	212	91.1	137			
131	196	116	174	65.0	97.6		19	152	228	130	195	84.4	127			
118	177	104	157	58.6	88.1		20	141	212	120	180	78.5	118			
97.4	146	86.3	130				22	123	184	104	156	69.0	104			
81.9	123	72.5	109				24	108	163	91.5	137	61.5	92.4			
69.8	105	61.8	92.9				26	97.1	146	81.7	123	55.4	83.3			
							28	87.9	132	73.8	111	50.5	75.9			
							30	80.4	121	67.3	101	46.4	69.7			
							32	74.0	111	61.8	92.9	42.9	64.5			
							34	68.6	103	57.2	85.9	39.9	60.0			
							36	63.9	96.1	53.2	79.9	37.4	56.2			
							38	59.9	90.0	49.7	74.8	35.1	52.8			
							40	56.3	84.6	46.7	70.2	33.1	49.8			
							42	53.2	79.9	44.0	66.2	31.3	47.1			
							44	50.3	75.7	41.7	62.6	29.7	44.7			
							46	47.8	71.9	39.5	59.4	28.3	42.5			
							48	45.6	68.5	37.6	56.6	27.0	40.6			
							50	43.5	65.4	35.9	54.0	25.8	38.8			
Properties																
Available Strength in Tensile Yielding, kips							Limiting Unbraced Lengths, ft									
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	L_p	L_r	L_p	L_r	L_p	L_r					
485	729	440	662	404	608	5.90	17.6	5.83	16.9	4.56	13.7					
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips						Area, in. ²										
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	16.2		14.7		13.5						
397	595	358	536	328	492	Moment of Inertia, in. ⁴										
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	I_x	I_y	I_x	I_y	I_x	I_y					
141	212	128	192	130	195	890	44.9	800	40.1	712	22.5					
Available Strength in Shear, kips						r_y , in.										
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	1.67		1.65		1.29						
Available Strength in Flexure about Y-Y Axis, kip-ft						r_x/r_y										
46.2	69.4	41.4	62.3	29.2	43.9	4.44		4.47		5.62						
^c Shape is slender for compression with $F_y = 50 \text{ ksi}$. Note: Heavy line indicates L_c/r equal to or greater than 200.																

Table 6-2 (continued)															
Available Strength for Members															
Subject to Axial, Shear,															
Flexural and Combined Forces															
W-Shapes															
															
W18-W16															
W18×				W16×		Shape		W18×				W16×			
40 ^c		35 ^c		100		lb/ft		40		35		100			
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design		M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$		
Available Compressive Strength, kips								Available Flexural Strength, kip-ft							
ASD	LRFD	ASD	LRFD	ASD	LRFD			ASD	LRFD	ASD	LRFD	ASD	LRFD		
318	479	271	407	880	1320	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_b , ft, for X-X axis bending	0	196	294	166	249	494	743		
261	392	219	329	829	1250		6	182	274	152	229	494	743		
242	364	202	304	811	1220		7	173	261	144	216	494	743		
223	335	185	279	791	1190		8	165	247	136	204	494	743		
203	305	168	252	769	1160		9	156	234	128	192	493	741		
183	275	150	225	745	1120		10	147	221	120	180	485	729		
160	241	131	197	719	1080		11	138	207	112	168	477	717		
138	207	111	167	692	1040		12	129	194	103	155	469	705		
118	177	94.7	142	664	997		13	120	181	91.9	138	461	693		
101	152	81.6	123	634	953		14	107	161	81.1	122	454	682		
88.3	133	71.1	107	604	908		15	95.9	144	72.4	109	446	670		
77.6	117	62.5	93.9	574	862		16	86.6	130	65.2	97.9	438	658		
68.7	103	55.4	83.2	543	816		17	78.9	119	59.2	88.9	430	646		
61.3	92.2	49.4	74.2	512	770		18	72.4	109	54.1	81.3	422	634		
55.0	82.7	44.3	66.6	481	724		19	66.8	100	49.8	74.8	414	622		
49.7	74.6	40.0	60.1	451	678		20	62.0	93.2	46.1	69.2	406	611		
				392	589		22	54.2	81.4	40.0	60.1	390	587		
				336	504		24	48.0	72.2	35.3	53.1	375	563		
				286	430		26	43.2	64.9	31.6	47.5	359	539		
				247	371		28	39.2	58.9	28.6	43.0	343	516		
				215	323		30	35.9	53.9	26.1	39.2	327	492		
				189	284		32	33.1	49.8	24.0	36.1	312	468		
				167	251		34	30.7	46.2	22.2	33.4	292	439		
				149	224		36	28.7	43.1	20.7	31.1	273	410		
				134	201		38	26.9	40.4	19.4	29.1	256	385		
				121	182		40	25.3	38.1	18.2	27.4	242	363		
							42	23.9	36.0	17.2	25.8	228	343		
							44	22.7	34.1	16.3	24.4	217	326		
							46	21.6	32.4	15.4	23.2	206	310		
							48	20.6	30.9	14.7	22.1	197	296		
							50	19.6	29.5	14.0	21.1	188	283		
Properties															
Available Strength in Tensile Yielding, kips						Limiting Unbraced Lengths, ft									
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	L_p	L_r	L_p	L_r	L_p	L_r				
353	531	308	464	880	1320	4.49	13.1	4.31	12.3	8.87	32.8				
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips						Area, in. ²									
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	11.8		10.3		29.4					
Available Strength in Shear, kips						Moment of Inertia, in. ⁴									
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	I_x	I_y	I_x	I_y	I_x	I_y				
113	169	106	159	199	298	612	19.1	510	15.3	1490	186				
Available Strength in Flexure about Y-Y Axis, kip-ft						r_y , in.									
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	1.27		1.22		2.51					
Available Strength in Flexure about X-X Axis, kip-ft						r_x/r_y									
M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	5.68		5.77		2.83					
25.0	37.5	20.1	30.2	137	206										

^c Shape is slender for compression with $F_y = 50$ ksi.

Note: Heavy line indicates L_c/r equal to or greater than 200.



Table 6-2 (continued)
Available Strength for Members
Subject to Axial, Shear,
Flexural and Combined Forces
W-Shapes

$F_y = 50$ ksi
 $F_u = 65$ ksi

W16×						Shape		W16×					
89		77		67 ^c		lb/ft		89		77		67	
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design		M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$
Available Compressive Strength, kips								Available Flexural Strength, kip-ft					
ASD	LRFD	ASD	LRFD	ASD	LRFD			ASD	LRFD	ASD	LRFD	ASD	LRFD
784	1180	677	1020	587	882	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_b , ft, for X-X axis bending	0	437	656	374	563	324	488
738	1110	636	956	551	828		6	437	656	374	563	324	488
722	1080	622	935	539	810		7	437	656	374	563	324	488
704	1060	606	911	525	789		8	437	656	374	563	324	488
684	1030	588	884	510	766		9	435	654	372	559	322	484
662	995	569	856	493	741		10	427	642	365	548	315	474
639	960	549	825	475	715		11	420	631	358	537	308	464
614	923	528	793	457	687		12	412	619	350	526	301	453
589	885	505	760	437	657		13	404	607	343	515	295	443
562	845	482	725	417	627		14	396	596	336	504	288	432
535	805	459	690	397	596		15	388	584	328	493	281	422
508	763	435	654	376	565		16	381	572	321	482	274	412
480	722	411	618	355	533		17	373	560	314	471	267	401
452	680	387	581	334	502		18	365	549	306	460	260	391
425	639	363	545	313	471		19	357	537	299	449	253	380
398	598	339	510	293	440		20	350	525	292	438	246	370
345	518	293	441	253	380		22	334	502	277	416	232	349
294	442	250	376	215	323		24	319	479	262	394	219	328
251	377	213	320	183	275		26	303	455	248	372	205	308
216	325	184	276	158	237		28	287	432	232	349	184	277
188	283	160	240	138	207		30	272	409	212	318	167	252
166	249	141	211	121	182		32	251	377	194	292	153	230
147	220	124	187	107	161		34	233	350	180	270	141	213
131	197	111	167	95.5	144		36	217	327	167	252	131	197
117	176	99.7	150	85.7	129		38	204	306	157	235	122	184
106	159	89.9	135	77.4	116		40	192	288	147	221	115	172
							42	181	272	139	209	108	162
							44	172	258	131	197	102	153
							46	163	245	125	187	96.7	145
							48	156	234	119	178	91.9	138
							50	149	223	113	170	87.5	132
Properties													
Available Strength in Tensile Yielding, kips						Limiting Unbraced Lengths, ft							
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	L_p	L_r	L_p	L_r	L_p	L_r		
784	1180	677	1020	587	882	8.80	30.2	8.72	27.8	8.69	26.1		
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips						Area, in. ²							
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	26.2		22.6		19.6			
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips						Moment of Inertia, in. ⁴							
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	I_x	I_y	I_x	I_y	I_x	I_y		
640	960	553	829	478	717	1300	163	1110	138	954	119		
Available Strength in Shear, kips						r_y , in.							
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	2.49		2.47		2.46			
Available Strength in Flexure about Y-Y Axis, kip-ft						r_x/r_y							
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	2.83		2.83		2.83			
120	180	103	154	88.6	133								

^c Shape is slender for compression with $F_y = 50$ ksi.

Note: Heavy line indicates L_c/r equal to or greater than 200.

^c Shape is slender for compression with $F_y = 50$ ksi.

Note: Heavy line indicates L_c/r equal to or greater than 200.

Table 6-2 (continued)															
Available Strength for Members															
Subject to Axial, Shear,															
Flexural and Combined Forces															
W-Shapes															
															
W16															
W16×						Shape		W16×							
57		50 ^c		45 ^c		lb/ft		57		50		45			
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design		M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$		
Available Compressive Strength, kips								Available Flexural Strength, kip-ft							
ASD	LRFD	ASD	LRFD	ASD	LRFD			ASD	LRFD	ASD	LRFD	ASD	LRFD		
503	756	436	655	385	578	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_b , ft, for X-X axis bending	0	262	394	230	345	205	309		
434	652	379	569	336	506		6	259	390	227	341	202	304		
411	618	359	539	320	482		7	251	378	219	329	195	293		
387	581	337	507	303	455		8	243	366	211	318	188	282		
360	542	314	472	282	423		9	235	354	204	306	181	271		
333	501	290	436	260	390		10	227	342	196	295	173	261		
306	460	266	400	237	357		11	219	330	189	283	166	250		
278	418	242	363	215	324		12	211	318	181	272	159	239		
251	377	218	327	193	291		13	203	306	173	260	152	228		
225	338	195	292	172	259		14	195	294	166	249	145	217		
199	300	172	259	152	229		15	188	282	158	237	137	207		
175	264	152	228	134	201		16	180	270	150	226	130	196		
155	233	134	202	118	178		17	172	258	143	215	121	181		
139	208	120	180	106	159		18	164	246	132	198	111	166		
124	187	107	162	94.8	142		19	153	230	122	183	102	154		
112	169	97.0	146	85.5	129		20	143	215	114	171	94.9	143		
92.8	139	80.1	120	70.7	106		22	126	189	99.6	150	82.9	125		
77.9	117	67.3	101	59.4	89.3		24	112	169	88.6	133	73.5	111		
66.4	99.8	57.4	86.2	50.6	76.1		26	102	153	79.9	120	66.1	99.3		
							28	92.9	140	72.7	109	60.0	90.2		
							30	85.5	128	66.8	100	55.0	82.6		
							32	79.2	119	61.7	92.7	50.7	76.2		
							34	73.8	111	57.4	86.3	47.1	70.8		
							36	69.1	104	53.7	80.6	43.9	66.0		
							38	65.0	97.7	50.4	75.7	41.2	61.9		
							40	61.3	92.2	47.5	71.4	38.8	58.3		
							42	58.1	87.3	44.9	67.5	36.7	55.1		
							44	55.2	83.0	42.6	64.1	34.8	52.3		
							46	52.6	79.0	40.6	61.0	33.1	49.7		
							48	50.2	75.4	38.7	58.2	31.5	47.4		
							50	48.0	72.2	37.0	55.6	30.1	45.2		
Properties															
Available Strength in Tensile Yielding, kips						Limiting Unbraced Lengths, ft									
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	L_p	L_r	L_p	L_r	L_p	L_r				
503	756	440	662	398	599	5.65	18.3	5.62	17.2	5.55	16.5				
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips						Area, in. ²									
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	16.8		14.7		13.3					
410	614	358	536	324	487	Moment of Inertia, in. ⁴									
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	I_x	I_y	I_x	I_y	I_x	I_y				
141	212	124	186	111	167	758	43.1	659	37.2	586	32.8				
Available Strength in Shear, kips						r_y , in.									
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	1.60		1.59		1.57					
Available Strength in Flexure about Y-Y Axis, kip-ft						r_x/r_y									
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	4.20		4.20		4.24					
47.2	70.9	40.7	61.1	36.2	54.4										
^c Shape is slender for compression with $F_y = 50$ ksi. Note: Heavy line indicates L_c/r equal to or greater than 200.															

W16

Table 6-2 (continued)

Available Strength for Members

Subject to Axial, Shear,

Flexural and Combined Forces

W-Shapes

$F_y = 50$ ksi

$F_u = 65$ ksi

W16 $\times$						Shape	W16 $\times$						
40 ^c		36 ^c		31 ^c		lb/ft	40		36		31		
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	
Available Compressive Strength, kips							Available Flexural Strength, kip-ft						
ASD	LRFD	ASD	LRFD	ASD	LRFD		ASD	LRFD	ASD	LRFD	ASD	LRFD	
331	497	293	440	245	369	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_b , ft, for X-X axis bending	0	182	274	160	240	135	203
289	435	254	382	194	291		6	179	269	156	234	122	183
276	414	241	363	178	268		7	172	259	150	225	115	173
261	392	228	342	161	243		8	166	249	143	216	108	163
245	368	213	320	144	217		9	159	239	137	206	102	153
228	342	198	297	127	190		10	152	229	131	197	94.9	143
211	317	182	274	108	162		11	146	219	125	188	88.1	132
191	287	165	247	90.6	136		12	139	209	119	178	80.4	121
172	258	147	221	77.2	116		13	132	199	112	169	70.5	106
153	230	130	195	66.6	100		14	126	189	106	160	62.6	94.0
135	203	114	171	58.0	87.1		15	119	179	100	150	56.1	84.4
119	178	99.9	150	51.0	76.6		16	112	168	90.8	136	50.8	76.4
105	158	88.5	133	45.1	67.8		17	101	152	82.2	124	46.4	69.7
93.7	141	78.9	119	40.3	60.5		18	92.8	139	75.0	113	42.6	64.0
84.1	126	70.8	106	36.1	54.3		19	85.4	128	68.8	103	39.4	59.2
75.9	114	63.9	96.1				20	79.0	119	63.6	95.5	36.6	55.0
62.7	94.3	52.8	79.4				22	68.7	103	55.0	82.6	32.0	48.2
52.7	79.2	44.4	66.7				24	60.7	91.2	48.4	72.7	28.5	42.8
44.9	67.5						26	54.3	81.7	43.1	64.8	25.6	38.5
							28	49.2	73.9	38.9	58.4	23.3	35.1
							30	44.9	67.5	35.4	53.2	21.4	32.1
							32	41.3	62.1	32.5	48.8	19.8	29.7
							34	38.3	57.5	30.0	45.1	18.4	27.6
							36	35.7	53.6	27.9	41.9	17.2	25.8
							38	33.4	50.2	26.0	39.1	16.1	24.2
							40	31.4	47.2	24.4	36.7	15.2	22.8
							42	29.6	44.5	23.0	34.6	14.4	21.6
							44	28.0	42.1	21.8	32.7	13.6	20.5
							46	26.6	40.0	20.6	31.0	13.0	19.5
							48	25.4	38.1	19.6	29.5	12.4	18.6
						50	24.2	36.4	18.7	28.1	11.8	17.7	

Properties

Available Strength in Tensile Yielding, kips						Limiting Unbraced Lengths, ft					
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	L_p	L_r	L_p	L_r	L_p	L_r
353	531	317	477	273	411	5.55	15.9	5.37	15.2	4.13	11.8
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips						Area, in. ²					
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	11.8		10.6		9.13	
288	431	258	388	223	334	Moment of Inertia, in. ⁴					
Available Strength in Shear, kips						I_x	I_y	I_x	I_y	I_x	I_y
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	518	28.9	448	24.5	375	12.4
97.6	146	93.8	141	87.5	131	r_y , in.					
Available Strength in Flexure about Y-Y Axis, kip-ft						1.57		1.52		1.17	
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	r_x/r_y					
31.7	47.6	26.9	40.5	17.5	26.4	4.22		4.28		5.48	

Shape is slender for compression with $F_y = 50$ ksi.

Note: Heavy line indicates L_c/r equal to or greater than 200.

Table 6-2 (continued)															
Available Strength for Members															
Subject to Axial, Shear,															
Flexural and Combined Forces															
W-Shapes															
															
W16-W14															
W16×		W14×				Shape		W16×		W14×					
26 ^c		873 ^h		808 ^h		lb/ft		26 ^v		873 ^h		808 ^h			
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design		M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$		
Available Compressive Strength, kips								Available Flexural Strength, kip-ft							
ASD	LRFD	ASD	LRFD	ASD	LRFD			ASD	LRFD	ASD	LRFD	ASD	LRFD		
198	298	7690	11600	7130	10700	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_b , ft, for X-X axis bending	0	110	166	5060	7610	4570	6860		
154	231	7570	11400	7010	10500		6	98.0	147	5060	7610	4570	6860		
140	211	7530	11300	6970	10500		7	92.0	138	5060	7610	4570	6860		
126	190	7480	11200	6920	10400		8	86.0	129	5060	7610	4570	6860		
112	168	7430	11200	6870	10300		9	80.1	120	5060	7610	4570	6860		
98.1	147	7360	11100	6810	10200		10	74.1	111	5060	7610	4570	6860		
83.1	125	7300	11000	6750	10100		11	68.1	102	5060	7610	4570	6860		
69.8	105	7220	10900	6680	10000		12	59.1	88.8	5060	7610	4570	6860		
59.5	89.4	7140	10700	6600	9920		13	51.5	77.5	5060	7610	4570	6860		
51.3	77.1	7060	10600	6520	9800		14	45.5	68.4	5060	7610	4570	6860		
44.7	67.2	6970	10500	6440	9680		15	40.6	61.1	5060	7610	4570	6860		
39.3	59.0	6880	10300	6350	9540		16	36.6	55.0	5060	7610	4570	6860		
34.8	52.3	6780	10200	6250	9400		17	33.2	50.0	5060	7610	4570	6860		
31.0	46.6	6680	10000	6160	9250		18	30.4	45.7	5060	7600	4560	6850		
		6570	9870	6050	9100		19	28.0	42.1	5050	7590	4550	6840		
		6460	9700	5950	8940		20	25.9	39.0	5040	7580	4540	6830		
		6220	9350	5730	8610		22	22.6	33.9	5030	7560	4530	6810		
		5980	8980	5490	8260		24	19.9	30.0	5010	7540	4520	6790		
		5720	8600	5250	7890		26	17.8	26.8	5000	7510	4500	6760		
		5460	8200	5000	7520		28	16.2	24.3	4980	7490	4490	6740		
		5190	7790	4750	7130		30	14.8	22.2	4970	7470	4470	6720		
		4910	7380	4490	6750		32	13.6	20.4	4950	7440	4460	6700		
		4630	6970	4230	6360		34	12.6	18.9	4940	7420	4440	6680		
		4360	6550	3970	5970		36	11.7	17.6	4920	7400	4430	6650		
		4080	6140	3710	5580		38	11.0	16.5	4910	7370	4410	6630		
		3810	5730	3460	5200		40	10.3	15.5	4890	7350	4400	6610		
		3550	5340	3210	4830		42	9.74	14.6	4880	7330	4380	6590		
		3290	4950	2970	4470		44	9.22	13.9	4860	7300	4370	6570		
		3040	4570	2740	4120		46	8.76	13.2	4840	7280	4350	6540		
		2800	4200	2520	3780		48	8.34	12.5	4830	7260	4340	6520		
		2580	3870	2320	3480		50	7.96	12.0	4810	7240	4320	6500		
Properties															
Available Strength in Tensile Yielding, kips						Limiting Unbraced Lengths, ft									
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	L_p	L_r	L_p	L_r	L_p	L_r				
230	346	7690	11600	7130	10700	3.96	11.2	17.3	329	17.1	309				
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips						Area, in. ²									
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	7.68	257	238							
187	281	6270	9410	5820	8730	Moment of Inertia, in. ⁴									
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	I_x	I_y	I_x	I_y	I_x	I_y				
70.5	106	1860	2790	1710	2560	301	9.59	18100	6170	15900	5550				
Available Strength in Shear, kips						r_y , in.									
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	1.12	4.90	4.83							
70.5	106	1860	2790	1710	2560	r_x/r_y									
Available Strength in Flexure about Y-Y Axis, kip-ft						5.59	1.71	1.69							
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$										
13.7	20.6	2540	3830	2320	3490										
^c Shape is slender for compression with $F_y = 50$ ksi.															
^h Flange thickness is greater than 2 in. Special requirements may apply per AISC Specification Section A3.1c.															
^v Shape does not meet the h/t_w limit for shear in AISC Specification Section G2.1(a) with $F_y = 50$ ksi; therefore, $\phi_v = 0.90$ and $\Omega_v = 1.67$.															
Note: Heavy line indicates L_c/r equal to or greater than 200.															



Table 6-2 (continued)
Available Strength for Members
Subject to Axial, Shear,
Flexural and Combined Forces
W-Shapes

 $F_y = 50 \text{ ksi}$
 $F_u = 65 \text{ ksi}$

W14×						Shape		W14×						
730 ^h		665 ^h		605 ^h		lb/ft		730 ^h		665 ^h		605 ^h		
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design		M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	
Available Compressive Strength, kips								Available Flexural Strength, kip-ft						
ASD	LRFD	ASD	LRFD	ASD	LRFD	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_p , ft, for X-X axis bending		ASD	LRFD	ASD	LRFD	ASD	LRFD	
6440	9670	5870	8820	5330	8010			0	4140	6230	3690	5550	3290	4950
6330	9510	5760	8660	5230	7860			6	4140	6230	3690	5550	3290	4950
6290	9450	5730	8610	5200	7810			7	4140	6230	3690	5550	3290	4950
6240	9380	5690	8550	5160	7750			8	4140	6230	3690	5550	3290	4950
6190	9310	5640	8470	5110	7690			9	4140	6230	3690	5550	3290	4950
6140	9220	5590	8400	5070	7610			10	4140	6230	3690	5550	3290	4950
6070	9130	5530	8310	5010	7530			11	4140	6230	3690	5550	3290	4950
6010	9030	5470	8220	4950	7440			12	4140	6230	3690	5550	3290	4950
5940	8920	5400	8110	4890	7350			13	4140	6230	3690	5550	3290	4950
5860	8810	5330	8010	4820	7250			14	4140	6230	3690	5550	3290	4950
5780	8690	5250	7890	4750	7140			15	4140	6230	3690	5550	3290	4950
5690	8560	5170	7770	4680	7030			16	4140	6230	3690	5550	3290	4950
5610	8430	5090	7650	4600	6920			17	4140	6220	3690	5540	3290	4940
5510	8290	5000	7520	4520	6790			18	4130	6210	3680	5530	3280	4930
5420	8140	4910	7380	4440	6670			19	4120	6200	3670	5520	3270	4920
5320	7990	4820	7240	4350	6540			20	4120	6190	3670	5510	3270	4910
5110	7670	4620	6950	4170	6260			22	4100	6160	3650	5490	3250	4890
4890	7340	4420	6640	3980	5980			24	4090	6140	3640	5470	3240	4870
4660	7000	4200	6320	3780	5680			26	4070	6120	3620	5450	3230	4850
4420	6650	3990	5990	3580	5380			28	4060	6100	3610	5430	3210	4830
4180	6290	3760	5660	3370	5070			30	4040	6080	3600	5400	3200	4810
3940	5930	3540	5320	3170	4760			32	4030	6050	3580	5380	3180	4790
3700	5560	3320	4990	2960	4450			34	4010	6030	3570	5360	3170	4770
3460	5200	3100	4650	2760	4140			36	4000	6010	3550	5340	3160	4740
3220	4850	2880	4330	2560	3840			38	3980	5990	3540	5320	3140	4720
2990	4500	2670	4010	2360	3550			40	3970	5970	3520	5300	3130	4700
2770	4160	2460	3690	2170	3270			42	3950	5940	3510	5280	3120	4680
2550	3830	2260	3390	1990	2990	44	3940	5920	3500	5250	3100	4660		
2330	3510	2060	3100	1820	2730	46	3920	5900	3480	5230	3090	4640		
2140	3220	1900	2850	1670	2510	48	3910	5880	3470	5210	3070	4620		
1970	2970	1750	2630	1540	2310	50	3900	5850	3450	5190	3060	4600		

Properties

Available Strength in Tensile Yielding, kips					
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$
6440	9680	5870	8820	5330	8010
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips					
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$
5230	7850	4780	7170	4360	6530
Available Strength in Shear, kips					
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$
1380	2060	1220	1830	1090	1630
Available Strength in Flexure about Y-Y Axis, kip-ft					
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$
2040	3060	1820	2740	1630	2450

Limiting Unbraced Lengths, ft					
L_p	L_r	L_p	L_r	L_p	L_r
16.6	275	16.3	253	16.1	232
Area, in. ²					
215		196		178	
Moment of Inertia, in. ⁴					
I_x	I_y	I_x	I_y	I_x	I_y
14300	4720	12400	4170	10800	3680
r_y , in.					
4.69		4.62		4.55	
r_x/r_y					
1.74		1.73		1.71	

^h Flange thickness is greater than 2 in. Special requirements may apply per AISC Specification Section A3.1c.

Table 6-2 (continued)														
Available Strength for Members														
Subject to Axial, Shear,														
Flexural and Combined Forces														
W-Shapes														
														
W14														
W14x						Shape		W14x						
550 ^h		500 ^h		455 ^h		lb/ft		550 ^h		500 ^h		455 ^h		
P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	P_n/Ω_c	$\phi_c P_n$	Design		M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	M_{nx}/Ω_b	$\phi_b M_{nx}$	
Available Compressive Strength, kips								Available Flexural Strength, kip-ft						
ASD	LRFD	ASD	LRFD	ASD	LRFD	Effective length, L_c , ft, with respect to least radius of gyration, r_y , or unbraced length, L_b , ft, for X-X axis bending		ASD	LRFD	ASD	LRFD	ASD	LRFD	
4850	7290	4400	6610	4010	6030			0	2940	4430	2620	3940	2340	3510
4760	7150	4320	6490	3930	5910			6	2940	4430	2620	3940	2340	3510
4730	7110	4290	6440	3910	5870			7	2940	4430	2620	3940	2340	3510
4690	7050	4250	6390	3870	5820			8	2940	4430	2620	3940	2340	3510
4650	6990	4210	6330	3840	5770			9	2940	4430	2620	3940	2340	3510
4600	6920	4170	6270	3800	5710			10	2940	4430	2620	3940	2340	3510
4550	6840	4120	6200	3750	5640			11	2940	4430	2620	3940	2340	3510
4500	6760	4070	6120	3710	5570			12	2940	4430	2620	3940	2340	3510
4440	6670	4020	6040	3660	5500			13	2940	4430	2620	3940	2340	3510
4380	6580	3960	5950	3600	5420			14	2940	4430	2620	3940	2340	3510
4310	6480	3900	5860	3550	5330			15	2940	4430	2620	3940	2340	3510
4240	6380	3840	5770	3490	5240			16	2940	4420	2620	3930	2330	3510
4170	6270	3770	5660	3420	5150			17	2940	4410	2610	3920	2330	3500
4100	6160	3700	5560	3360	5050			18	2930	4400	2600	3910	2320	3490
4020	6040	3630	5450	3290	4950			19	2920	4390	2600	3910	2310	3480
3940	5920	3550	5340	3220	4840			20	2920	4380	2590	3900	2310	3470
3770	5660	3390	5100	3080	4620			22	2900	4360	2580	3880	2290	3450
3590	5400	3230	4860	2920	4400			24	2890	4340	2570	3860	2280	3430
3410	5120	3060	4600	2770	4160			26	2880	4320	2550	3840	2270	3410
3220	4840	2890	4340	2610	3920			28	2860	4300	2540	3820	2260	3390
3030	4560	2720	4080	2450	3680			30	2850	4280	2530	3800	2250	3370
2840	4270	2540	3820	2290	3440			32	2840	4260	2510	3780	2230	3360
2650	3990	2370	3560	2130	3200			34	2820	4240	2500	3760	2220	3340
2460	3700	2200	3300	1970	2960			36	2810	4220	2490	3740	2210	3320
2280	3430	2030	3050	1820	2730			38	2800	4200	2480	3720	2200	3300
2100	3160	1870	2800	1670	2510			40	2780	4180	2460	3700	2180	3280
1930	2900	1710	2570	1520	2290			42	2770	4160	2450	3680	2170	3260
1760	2650	1560	2340	1390	2080			44	2760	4140	2440	3660	2160	3240
1610	2420	1420	2140	1270	1910			46	2740	4120	2420	3640	2150	3230
1480	2220	1310	1960	1160	1750			48	2730	4100	2410	3630	2130	3210
1360	2050	1200	1810	1070	1610			50	2720	4080	2400	3610	2120	3190
Properties														
Available Strength in Tensile Yielding, kips						Limiting Unbraced Lengths, ft								
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	L_p	L_r	L_p	L_r	L_p	L_r			
4850	7290	4400	6620	4010	6030	15.9	213	15.6	196	15.5	179			
Available Strength in Tensile Rupture ($A_e = 0.75A_g$), kips						Area, in. ²								
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	162	147	134						
3970	5950	3580	5360	3280	4920	Moment of Inertia, in. ⁴								
P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	P_n/Ω_t	$\phi_t P_n$	I_x	I_y	I_x	I_y	I_x	I_y			
962	1440	858	1290	768	1150	9430	3250	8210	2880	7190	2560			
Available Strength in Shear, kips						r_y , in.								
V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	V_n/Ω_v	$\phi_v V_n$	4.49	4.43	4.38						
962	1440	858	1290	768	1150	r_x/r_y								
Available Strength in Flexure about Y-Y Axis, kip-ft						1.70	1.69	1.67						
M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$	M_{ny}/Ω_b	$\phi_b M_{ny}$									
1450	2190	1300	1960	1170	1760									
^h Flange thickness is greater than 2 in. Special requirements may apply per AISC Specification Section A3.1c.														

^h Flange thickness is greater than 2 in. Special requirements may apply per AISC Specification Section A3.1c.