

WOOD BEAMS – SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>27' - 0" SPAN</b>											
<b>2 x 14</b>	W	975	1083	1192	1300	1408	1517	1625	1733	1950	2167
	w	36	40	44	48	52	56	60	64	72	80
	$F_v$	36	40	44	49	53	57	61	65	73	81
	E	1650	1833	2017	2200	2384	2567	2750	2934	3301	3667
<b>4 x 10</b>	W	1109	1232	1355	1478	1602	1725	1848	1971	2218	2464
	w	41	45	50	54	59	63	68	73	82	91
	$F_v$	25	28	31	34	37	39	42	45	51	57
	E	2364	2627	2889	3152	3415	3677	3940	4203	4728	5254
<b>3 x 12</b>	W	1171	1302	1432	1562	1692	1822	1953	2083	2343	2604
	w	43	48	53	57	62	67	72	77	86	96
	$F_v$	31	34	38	41	45	48	52	55	62	69
	E	1943	2159	2375	2591	2807	3023	3239	3455	3887	4319
<b>3 x 14</b>	W	1625	1806	1986	2167	2348	2528	2709	2889	3251	3612
	w	60	66	73	80	86	93	100	107	120	133
	$F_v$	36	40	44	49	53	57	61	65	73	81
	E	1650	1833	2017	2200	2384	2567	2750	2934	3301	3667
<b>4 x 12</b>	W	1640	1822	2005	2187	2369	2552	2734	2916	3281	3645
	w	60	67	74	81	87	94	101	108	121	135
	$F_v$	31	34	38	41	45	48	52	55	62	69
	E	1943	2159	2375	2591	2807	3023	3239	3455	3887	4319
<b>6 x 10</b>	W	1838	2042	2246	2451	2655	2859	3064	3268	3676	4085
	w	68	75	83	90	98	105	113	121	136	151
	$F_v$	26	29	32	35	38	41	43	46	52	58
	E	2302	2557	2813	3069	3325	3581	3836	4092	4604	5115
<b>3 x 16</b>	W	2153	2392	2631	2871	3110	3349	3588	3828	4306	4785
	w	79	88	97	106	115	124	132	141	159	177
	$F_v$	42	47	51	56	61	65	70	75	84	94
	E	1434	1593	1752	1912	2071	2230	2390	2549	2868	3186
<b>4 x 14</b>	W	2362	2625	2887	3150	3412	3675	3937	4200	4725	5250
	w	87	97	106	116	126	136	145	155	175	194
	$F_v$	37	41	45	50	54	58	62	66	75	83
	E	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>8 x 10</b>	W	2506	2785	3064	3342	3621	3899	4178	4456	5013	5570
	w	92	103	113	123	134	144	154	165	185	206
	$F_v$	26	29	32	35	38	41	43	46	52	58
	E	2302	2557	2813	3069	3325	3581	3836	4092	4604	5115
<b>6 x 12</b>	W	2693	2993	3292	3591	3891	4190	4489	4789	5387	5986
	w	99	110	121	133	144	155	166	177	199	221
	$F_v$	31	35	39	42	46	49	53	56	63	70
	E	1901	2113	2324	2535	2746	2958	3169	3380	3803	4226
<b>10 x 10</b>	W	3175	3528	3881	4233	4586	4939	5292	5645	6350	7056
	w	117	130	143	156	169	182	196	209	235	261
	$F_v$	26	29	32	35	38	41	43	46	52	58
	E	2302	2557	2813	3069	3325	3581	3836	4092	4604	5115
<b>4 x 16</b>	W	3114	3460	3806	4152	4498	4844	5190	5536	6228	6920
	w	115	128	140	153	166	179	192	205	230	256
	$F_v$	43	47	52	57	62	66	71	76	86	95
	E	1410	1567	1724	1881	2038	2194	2351	2508	2821	3135
<b>8 x 12</b>	W	3673	4081	4489	4898	5306	5714	6122	6530	7347	8163
	w	136	151	166	181	196	211	226	241	272	302
	$F_v$	31	35	39	42	46	49	53	56	63	70
	E	1901	2113	2324	2535	2746	2958	3169	3380	3803	4226

## WOOD BEAMS - SAFE LOAD TABLES

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

$W$  = Total uniformly distributed load, pounds

$w$  = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load  $W$

$E$  = Modulus of elasticity, 1000 psi, induced by load  $W$  for  $l \leq 360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>27' - 0" SPAN CONT'D</b>											
<b>6 x 14</b>	$W$	3712	4125	4537	4950	5362	5775	6187	6600	7425	8250
	$w$	137	152	168	183	198	213	229	244	275	305
	$F_v$	37	41	45	50	54	58	62	66	75	83
	$E$	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>10 x 12</b>	$W$	4653	5170	5687	6204	6721	7238	7755	8272	9306	10340
	$w$	172	191	210	229	248	268	287	306	344	382
	$F_v$	31	35	39	42	46	49	53	56	63	70
	$E$	1901	2113	2324	2535	2746	2958	3169	3380	3803	4226
<b>6 x 16</b>	$W$	4893	5437	5981	6525	7069	7612	8156	8700	9787	10875
	$w$	181	201	221	241	261	281	302	322	362	402
	$F_v$	43	47	52	57	62	66	71	76	86	95
	$E$	1410	1567	1724	1881	2038	2194	2351	2508	2821	3135
<b>8 x 14</b>	$W$	5062	5625	6187	6750	7312	7875	8437	9000	10125	11250
	$w$	187	208	229	250	270	291	312	333	375	416
	$F_v$	37	41	45	50	54	58	62	66	75	83
	$E$	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>12 x 12</b>	$W$	5632	6258	6884	7510	8136	8762	9388	10013	11265	12517
	$w$	208	231	254	278	301	324	347	370	417	463
	$F_v$	31	35	39	42	46	49	53	56	63	70
	$E$	1901	2113	2324	2535	2746	2958	3169	3380	3803	4226
<b>6 x 18</b>	$W$	6238	6931	7624	8317	9011	9704	10397	11090	12476	13863
	$w$	231	256	282	308	333	359	385	410	462	513
	$F_v$	48	54	59	64	70	75	81	86	97	108
	$E$	1249	1388	1527	1666	1805	1943	2082	2221	2499	2777
<b>10 x 14</b>	$W$	6412	7125	7837	8550	9262	9975	10687	11400	12825	14250
	$w$	237	263	290	316	343	369	395	422	475	527
	$F_v$	37	41	45	50	54	58	62	66	75	83
	$E$	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>8 x 16</b>	$W$	6673	7415	8156	8898	9639	10381	11122	11864	13347	14830
	$w$	247	274	302	329	357	384	411	439	494	549
	$F_v$	43	47	52	57	62	66	71	76	86	95
	$E$	1410	1567	1724	1881	2038	2194	2351	2508	2821	3135
<b>6 x 20</b>	$W$	7745	8606	9467	10327	11188	12049	12909	13770	15491	17212
	$w$	286	318	350	382	414	446	478	510	573	637
	$F_v$	54	60	66	72	78	84	90	96	108	120
	$E$	1121	1246	1370	1495	1619	1744	1869	1993	2243	2492
<b>12 x 14</b>	$W$	7762	8625	9487	10350	11212	12075	12937	13800	15525	17250
	$w$	287	319	351	383	415	447	479	511	575	638
	$F_v$	37	41	45	50	54	58	62	66	75	83
	$E$	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599

## WOOD BEAMS - SAFE LOAD TABLES

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>27' - 0" SPAN CONT'D</b>											
10 x 16	W	8453	9392	10331	11270	12210	13149	14088	15027	16906	18784
	w	313	347	382	417	452	487	521	556	626	695
	$F_v$	43	47	52	57	62	66	71	76	86	95
	E	1410	1567	1724	1881	2038	2194	2351	2508	2821	3135
8 x 18	W	8506	9452	10397	11342	12287	13233	14178	15123	17013	18904
	w	315	350	385	420	455	490	525	560	630	700
	$F_v$	48	54	59	64	70	75	81	86	97	108
	E	1249	1388	1527	1666	1805	1943	2082	2221	2499	2777
14 x 14	W	9112	10125	11137	12150	13162	14175	15187	16200	18225	20250
	w	337	375	412	450	487	525	562	600	675	750
	$F_v$	37	41	45	50	54	58	62	66	75	83
	E	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
6 x 22	W	9416	10462	11508	12554	13601	14647	15693	16739	18832	20924
	w	348	387	426	464	503	542	581	619	697	774
	$F_v$	59	66	72	79	86	92	99	106	119	132
	E	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
12 x 16	W	10232	11369	12506	13643	14780	15917	17054	18191	20465	22739
	w	378	421	463	505	547	589	631	673	757	842
	$F_v$	43	47	52	57	62	66	71	76	86	95
	E	1410	1567	1724	1881	2038	2194	2351	2508	2821	3135
8 x 20	W	10562	11736	12909	14083	15256	16430	17604	18777	21125	23472
	w	391	434	478	521	565	608	652	695	782	869
	$F_v$	54	60	66	72	78	84	90	96	108	120
	E	1121	1246	1370	1495	1619	1744	1869	1993	2243	2492
10 x 18	W	10775	11972	13170	14367	15564	16761	17959	19156	21550	23945
	w	399	443	487	532	576	620	665	709	798	886
	$F_v$	48	54	59	64	70	75	81	86	97	108
	E	1249	1388	1527	1666	1805	1943	2082	2221	2499	2777
6 x 24	W	11249	12499	13749	14999	16249	17499	18749	19999	22499	24998
	w	416	462	509	555	601	648	694	740	833	925
	$F_v$	65	72	79	87	94	101	108	116	130	145
	E	930	1034	1137	1240	1344	1447	1551	1654	1861	2068
14 x 16	W	12012	13347	14681	16016	17351	18686	20020	21355	24025	26694
	w	444	494	543	593	642	692	741	790	889	988
	$F_v$	43	47	52	57	62	66	71	76	86	95
	E	1410	1567	1724	1881	2038	2194	2351	2508	2821	3135
8 x 22	W	12840	14266	15693	17120	18547	19973	21400	22827	25680	28533
	w	475	528	581	634	686	739	792	845	951	1056
	$F_v$	59	66	72	79	86	92	99	106	119	132
	E	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
12 x 18	W	13043	14493	15942	17391	18841	20290	21739	23189	26087	28986
	w	483	536	590	644	697	751	805	858	966	1073
	$F_v$	48	54	59	64	70	75	81	86	97	108
	E	1249	1388	1527	1666	1805	1943	2082	2221	2499	2777
10 x 20	W	13379	14865	16352	17838	19325	20812	22298	23785	26758	29731
	w	495	550	605	660	715	770	825	880	991	1101
	$F_v$	54	60	66	72	78	84	90	96	108	120
	E	1121	1246	1370	1495	1619	1744	1869	1993	2243	2492
16 x 16	W	13792	15324	16857	18389	19921	21454	22986	24519	27584	30649
	w	510	567	624	681	737	794	851	908	1021	1135
	$F_v$	43	47	52	57	62	66	71	76	86	95
	E	1410	1567	1724	1881	2038	2194	2351	2508	2821	3135

**WOOD BEAMS – SAFE LOAD TABLES**

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>27' - 0" SPAN CONT'D</b>											
<b>14 x 18</b>	W	15312	17013	18715	20416	22118	23819	25520	27222	30624	34027
	w	567	630	693	756	819	882	945	1008	1134	1260
	$F_v$	48	54	59	64	70	75	81	86	97	108
	E	1249	1388	1527	1666	1805	1943	2082	2221	2499	2777
<b>8 x 24</b>	W	15340	17044	18749	20453	22158	23862	25567	27271	30680	34089
	w	568	631	694	757	820	883	946	1010	1136	1262
	$F_v$	65	72	79	87	94	101	108	116	130	145
	E	930	1034	1137	1240	1344	1447	1551	1654	1861	2068
<b>12 x 20</b>	W	16195	17995	19794	21594	23393	25193	26993	28792	32391	35990
	w	599	666	733	799	866	933	999	1066	1199	1332
	$F_v$	54	60	66	72	78	84	90	96	108	120
	E	1121	1246	1370	1495	1619	1744	1869	1993	2243	2492
<b>10 x 22</b>	W	16264	18071	19878	21685	23492	25300	27107	28914	32528	36142
	w	602	669	736	803	870	937	1003	1070	1204	1338
	$F_v$	59	66	72	79	86	92	99	106	119	132
	E	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
<b>16 x 18</b>	W	17581	19534	21487	23441	25394	27348	29301	31255	35162	39068
	w	651	723	795	868	940	1012	1085	1157	1302	1446
	$F_v$	48	54	59	64	70	75	81	86	97	108
	E	1249	1388	1527	1666	1805	1943	2082	2221	2499	2777
<b>14 x 20</b>	W	19012	21125	23237	25350	27462	29574	31687	33800	38024	42250
	w	704	782	860	938	1017	1095	1173	1251	1408	1564
	$F_v$	54	60	66	72	78	84	90	96	108	120
	E	1121	1246	1370	1495	1619	1744	1869	1993	2243	2492
<b>10 x 24</b>	W	19431	21590	23749	25908	28067	30226	32385	34544	38862	43180
	w	719	799	879	959	1039	1119	1199	1279	1439	1599
	$F_v$	65	72	79	87	94	101	108	116	130	145
	E	930	1034	1137	1240	1344	1447	1551	1654	1861	2068
<b>12 x 22</b>	W	19688	21876	24063	26251	28438	30626	32814	35001	39376	43752
	w	729	810	891	972	1053	1134	1215	1296	1458	1620
	$F_v$	59	66	72	79	86	92	99	106	119	132
	E	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
<b>18 x 18</b>	W	19849	22055	24260	26466	28671	30877	33082	35288	39699	44110
	w	735	816	898	980	1061	1143	1225	1306	1470	1633
	$F_v$	48	54	59	64	70	75	81	86	97	108
	E	1249	1388	1527	1666	1805	1943	2082	2221	2499	2777
<b>16 x 20</b>	W	21829	24254	26680	29105	31531	33956	36381	38807	43658	48509
	w	808	898	988	1077	1167	1257	1347	1437	1616	1796
	$F_v$	54	60	66	72	78	84	90	96	108	120
	E	1121	1246	1370	1495	1619	1744	1869	1993	2243	2492

WOOD BEAMS—SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>27' - 0" SPAN CONT'D</b>											
<b>14 x 22</b>	W	23112	25680	28248	30816	33384	35952	38520	41088	46224	51361
	w	856	951	1046	1141	1236	1331	1426	1521	1712	1902
	$F_v$	59	66	72	79	86	92	99	106	119	132
	E	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
<b>12 x 24</b>	W	23521	26135	28748	31362	33975	36589	39202	41816	47043	52270
	w	871	967	1064	1161	1258	1355	1451	1548	1742	1935
	$F_v$	65	72	79	87	94	101	108	116	130	145
	E	930	1034	1137	1240	1344	1447	1551	1654	1861	2068
<b>18 x 20</b>	W	24645	27384	30122	32861	35599	38337	41076	43814	49291	54768
	w	912	1014	1115	1217	1318	1419	1521	1622	1825	2028
	$F_v$	54	60	66	72	78	84	90	96	108	120
	E	1121	1246	1370	1495	1619	1744	1869	1993	2243	2492
<b>16 x 22</b>	W	26536	29485	32433	35382	38330	41279	44227	47176	53073	58970
	w	982	1092	1201	1310	1419	1528	1638	1747	1965	2184
	$F_v$	59	66	72	79	86	92	99	106	119	132
	E	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
<b>20 x 20</b>	W	27462	30513	33565	36616	39668	42719	45770	48822	54924	61027
	w	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
	$F_v$	54	60	66	72	78	84	90	96	108	120
	E	1121	1246	1370	1495	1619	1744	1869	1993	2243	2492
<b>14 x 24</b>	W	27612	30680	33748	36816	39884	42952	46020	49088	55224	61361
	w	1022	1136	1249	1363	1477	1590	1704	1818	2045	2272
	$F_v$	65	72	79	87	94	101	108	116	130	145
	E	930	1034	1137	1240	1344	1447	1551	1654	1861	2068
<b>18 x 22</b>	W	29960	33289	36618	39947	43276	46605	49934	53263	59921	66579
	w	1109	1232	1356	1479	1602	1726	1849	1972	2219	2465
	$F_v$	59	66	72	79	86	92	99	106	119	132
	E	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
<b>16 x 24</b>	W	31703	35225	38748	42270	45793	49316	52838	56361	63406	70451
	w	1174	1304	1435	1565	1696	1826	1956	2087	2348	2609
	$F_v$	65	72	79	87	94	101	108	116	130	145
	E	930	1034	1137	1240	1344	1447	1551	1654	1861	2068
<b>20 x 22</b>	W	33384	37094	40803	44512	48222	51931	55641	59350	66769	74188
	w	1236	1373	1511	1648	1786	1923	2060	2198	2472	2747
	$F_v$	59	66	72	79	86	92	99	106	119	132
	E	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
<b>18 x 24</b>	W	35793	39771	43748	47725	51702	55679	59656	63633	71587	79542
	w	1325	1473	1620	1767	1914	2062	2209	2356	2651	2946
	$F_v$	65	72	79	87	94	101	108	116	130	145
	E	930	1034	1137	1240	1344	1447	1551	1654	1861	2068
<b>22 x 22</b>	W	36808	40898	44988	49078	53168	57258	61347	65437	73617	81797
	w	1363	1514	1666	1817	1969	2120	2272	2423	2726	3029
	$F_v$	59	66	72	79	86	92	99	106	119	132
	E	1017	1130	1243	1356	1469	1582	1695	1808	2034	2260
<b>20 x 24</b>	W	39884	44316	48747	53179	57611	62042	66474	70906	79769	88632
	w	1477	1641	1805	1969	2133	2297	2462	2626	2954	3282
	$F_v$	65	72	79	87	94	101	108	116	130	145
	E	930	1034	1137	1240	1344	1447	1551	1654	1861	2068
<b>22 x 24</b>	W	43975	48861	53747	58633	63520	68406	73292	78178	87950	97723
	w	1628	1809	1990	2171	2352	2533	2714	2895	3257	3619
	$F_v$	65	72	79	87	94	101	108	116	130	145
	E	930	1034	1137	1240	1344	1447	1551	1654	1861	2068

**WOOD BEAMS—SAFE LOAD TABLES**

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

$W$  = Total uniformly distributed load, pounds

$w$  = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load  $W$

$E$  = Modulus of elasticity, 1000 psi, induced by load  $W$  for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>27' - 0" SPAN CONT'D</b>											
<b>24 x 24</b>	$W$	48066	53406	58747	64088	69428	74769	80110	85451	96132	106813
	$w$	1780	1978	2175	2373	2571	2769	2967	3164	3560	3956
	$F_v$	65	72	79	87	94	101	108	116	130	145
	$E$	930	1034	1137	1240	1344	1447	1551	1654	1861	2068
<b>28' - 0" SPAN</b>											
<b>3 x 12</b>	$W$	1130	1255	1381	1506	1632	1757	1883	2008	2260	2511
	$w$	40	44	49	53	58	62	67	71	80	89
	$F_v$	30	33	36	40	43	46	50	53	60	66
	$E$	2015	2239	2463	2687	2911	3135	3359	3583	4031	4479
<b>3 x 14</b>	$W$	1567	1741	1915	2090	2264	2438	2612	2786	3135	3483
	$w$	55	62	68	74	80	87	93	99	111	124
	$F_v$	35	39	43	47	51	55	59	63	70	78
	$E$	1711	1901	2092	2282	2472	2662	2852	3043	3423	3803
<b>4 x 12</b>	$W$	1582	1757	1933	2109	2285	2460	2636	2812	3164	3515
	$w$	56	62	69	75	81	87	94	100	113	125
	$F_v$	30	33	36	40	43	46	50	53	60	66
	$E$	2015	2239	2463	2687	2911	3135	3359	3583	4031	4479
<b>3 x 16</b>	$W$	2076	2307	2537	2768	2999	3230	3460	3691	4152	4614
	$w$	74	82	90	98	107	115	123	131	148	164
	$F_v$	40	45	49	54	59	63	68	72	81	90
	$E$	1487	1652	1817	1982	2148	2313	2478	2643	2974	3304
<b>4 x 14</b>	$W$	2278	2531	2784	3037	3290	3543	3796	4050	4556	5062
	$w$	81	90	99	108	117	126	135	144	162	180
	$F_v$	36	40	44	48	52	56	60	64	72	80
	$E$	1679	1866	2053	2239	2426	2613	2799	2986	3359	3733
<b>6 x 12</b>	$W$	2597	2886	3175	3463	3752	4040	4329	4618	5195	5772
	$w$	92	103	113	123	134	144	154	164	185	206
	$F_v$	30	34	37	41	44	47	51	54	61	68
	$E$	1972	2191	2410	2629	2848	3067	3286	3506	3944	4382
<b>4 x 16</b>	$W$	3003	3336	3670	4004	4337	4671	5005	5338	6006	6673
	$w$	107	119	131	143	154	166	178	190	214	238
	$F_v$	41	46	50	55	59	64	69	73	83	92
	$E$	1463	1625	1788	1950	2113	2276	2438	2601	2926	3251
<b>8 x 12</b>	$W$	3542	3936	4329	4723	5116	5510	5904	6297	7084	7872
	$w$	126	140	154	168	182	196	210	224	253	281
	$F_v$	30	34	37	41	44	47	51	54	61	68
	$E$	1972	2191	2410	2629	2848	3067	3286	3506	3944	4382

WOOD BEAMS—SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>28' - 0" SPAN CONT'D</b>											
<b>6 x 14</b>	W	3579	3977	4375	4773	5170	5568	5966	6364	7159	7955
	w	127	142	156	170	184	198	213	227	255	284
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1679	1866	2053	2239	2426	2613	2799	2986	3359	3733
<b>10 x 12</b>	W	4487	4985	5484	5982	6481	6979	7478	7976	8974	9971
	w	160	178	195	213	231	249	267	284	320	356
	$F_v$	30	34	37	41	44	47	51	54	61	68
	E	1972	2191	2410	2629	2848	3067	3286	3506	3944	4382
<b>6 x 16</b>	W	4719	5243	5767	6292	6816	7340	7865	8389	9438	10487
	w	168	187	205	224	243	262	280	299	337	374
	$F_v$	41	46	50	55	59	64	69	73	83	92
	E	1463	1625	1788	1950	2113	2276	2438	2601	2926	3251
<b>8 x 14</b>	W	4881	5424	5966	6508	7051	7593	8136	8678	9763	10848
	w	174	193	213	232	251	271	290	309	348	387
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1679	1866	2053	2239	2426	2613	2799	2986	3359	3733
<b>12 x 12</b>	W	5431	6035	6638	7242	7845	8449	9052	9656	10863	12070
	w	193	215	237	258	280	301	323	344	387	431
	$F_v$	30	34	37	41	44	47	51	54	61	68
	E	1972	2191	2410	2629	2848	3067	3286	3506	3944	4382
<b>6 x 18</b>	W	6015	6684	7352	8020	8689	9357	10026	10694	12031	13368
	w	214	238	262	286	310	334	358	381	429	477
	$F_v$	46	52	57	62	67	72	78	83	93	104
	E	1295	1439	1583	1727	1871	2015	2159	2303	2591	2879
<b>10 x 14</b>	W	6183	6870	7557	8244	8931	9618	10305	10992	12366	13741
	w	220	245	269	294	318	343	368	392	441	490
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1679	1866	2053	2239	2426	2613	2799	2986	3359	3733
<b>8 x 16</b>	W	6435	7150	7865	8580	9295	10010	10725	11440	12870	14300
	w	229	255	280	306	331	357	383	408	459	510
	$F_v$	41	46	50	55	59	64	69	73	83	92
	E	1463	1625	1788	1950	2113	2276	2438	2601	2926	3251
<b>6 x 20</b>	W	7469	8299	9129	9958	10788	11618	12448	13278	14938	16598
	w	266	296	326	355	385	414	444	474	533	592
	$F_v$	52	58	63	69	75	81	87	92	104	116
	E	1163	1292	1421	1550	1679	1809	1938	2067	2326	2584
<b>12 x 14</b>	W	7485	8316	9148	9980	10812	11643	12475	13307	14970	16633
	w	267	297	326	356	386	415	445	475	534	594
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1679	1866	2053	2239	2426	2613	2799	2986	3359	3733
<b>10 x 16</b>	W	8151	9057	9962	10868	11774	12679	13585	14491	16302	18114
	w	291	323	355	388	420	452	485	517	582	646
	$F_v$	41	46	50	55	59	64	69	73	83	92
	E	1463	1625	1788	1950	2113	2276	2438	2601	2926	3251
<b>8 x 18</b>	W	8203	9114	10026	10937	11848	12760	13671	14583	16406	18229
	w	292	325	358	390	423	455	488	520	585	651
	$F_v$	46	52	57	62	67	72	78	83	93	104
	E	1295	1439	1583	1727	1871	2015	2159	2303	2591	2879
<b>14 x 14</b>	W	8787	9763	10739	11716	12692	13668	14645	15621	17574	19526
	w	313	348	383	418	453	488	523	557	627	697
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1679	1866	2053	2239	2426	2613	2799	2986	3359	3733

## WOOD BEAMS - SAFE LOAD TABLES

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>28' - 0" SPAN CONT'D</b>											
<b>6 x 22</b>	W	9079	10088	11097	12106	13115	14124	15133	16142	18159	20177
	w	324	360	396	432	468	504	540	576	648	720
	$F_v$	57	63	70	76	83	89	95	102	115	127
	E	1054	1172	1289	1406	1523	1640	1758	1875	2109	2344
<b>12 x 16</b>	W	9867	10963	12060	13156	14252	15349	16445	17542	19734	21927
	w	352	391	430	469	509	548	587	626	704	783
	$F_v$	41	46	50	55	59	64	69	73	83	92
	E	1463	1625	1788	1950	2113	2276	2438	2601	2926	3251
<b>8 x 20</b>	W	10185	11316	12448	13580	14712	15843	16975	18107	20370	22633
	w	363	404	444	485	525	565	606	646	727	808
	$F_v$	52	58	63	69	75	81	87	92	104	116
	E	1163	1292	1421	1550	1679	1809	1938	2067	2326	2584
<b>10 x 18</b>	W	10390	11545	12699	13854	15008	16163	17317	18472	20781	23090
	w	371	412	453	494	536	577	618	659	742	824
	$F_v$	46	52	57	62	67	72	78	83	93	104
	E	1295	1439	1583	1727	1871	2016	2159	2303	2591	2879
<b>6 x 24</b>	W	10847	12053	13258	14463	15668	16874	18079	19284	21695	24106
	w	387	430	473	516	559	602	645	688	774	860
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144
<b>14 x 16</b>	W	11583	12870	14157	15444	16731	18018	19305	20592	23166	25741
	w	413	459	505	551	597	643	689	735	827	919
	$F_v$	41	46	50	55	59	64	69	73	83	92
	E	1463	1625	1788	1950	2113	2276	2438	2601	2926	3251
<b>8 x 22</b>	W	12381	13757	15133	16508	17884	19260	20636	22011	24763	27514
	w	442	491	540	589	638	687	737	786	884	982
	$F_v$	57	63	70	76	83	89	95	102	115	127
	E	1054	1172	1289	1406	1523	1640	1758	1875	2109	2344
<b>12 x 18</b>	W	12578	13975	15373	16770	18168	19565	20963	22361	25156	27951
	w	449	499	549	598	648	698	748	798	898	998
	$F_v$	46	52	57	62	67	72	78	83	93	104
	E	1295	1439	1583	1727	1871	2015	2159	2303	2591	2879
<b>10 x 20</b>	W	12901	14334	15768	17201	18635	20068	21502	22935	25802	28669
	w	460	511	563	614	665	716	767	819	921	1023
	$F_v$	52	58	63	69	75	81	87	92	104	116
	E	1163	1292	1421	1550	1679	1809	1938	2067	2326	2584
<b>16 x 16</b>	W	13299	14777	16255	17732	19210	20688	22165	23643	26599	29554
	w	474	527	580	633	686	738	791	844	949	1055
	$F_v$	41	46	50	55	59	64	69	73	83	92
	E	1463	1625	1788	1950	2113	2276	2438	2601	2926	3251

WOOD BEAMS - SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>28' - 0" SPAN CONT'D</b>											
<b>14 x 18</b>	W	14765	16406	18046	19687	21328	22968	24609	26250	29531	32812
	w	527	585	644	703	761	820	878	937	1054	1171
	$F_v$	46	52	57	62	67	72	78	83	93	104
	E	1295	1439	1583	1727	1871	2015	2159	2303	2591	2879
<b>8 x 24</b>	W	14792	16436	18079	19723	21366	23010	24654	26297	29584	32872
	w	528	587	645	704	763	821	880	939	1056	1174
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144
<b>12 x 20</b>	W	15617	17352	19087	20823	22558	24293	26029	27764	31234	34705
	w	557	619	681	743	805	867	929	991	1115	1239
	$F_v$	52	58	63	69	75	81	87	92	104	116
	E	1163	1292	1421	1550	1679	1809	1938	2067	2326	2584
<b>10 x 22</b>	W	15683	17426	19168	20911	22653	24396	26139	27881	31366	34852
	w	560	622	684	746	809	871	933	995	1120	1244
	$F_v$	57	63	70	76	83	89	95	102	115	127
	E	1054	1172	1289	1406	1523	1640	1758	1875	2109	2344
<b>16 x 18</b>	W	16953	18836	20720	22604	24487	26371	28255	30138	33906	37673
	w	605	672	740	807	874	941	1009	1076	1210	1345
	$F_v$	46	52	57	62	67	72	78	83	93	104
	E	1295	1439	1583	1727	1871	2015	2159	2303	2591	2879
<b>14 x 20</b>	W	18333	20370	22407	24444	26481	28518	30555	32592	36666	40741
	w	654	727	800	873	945	1018	1091	1164	1309	1455
	$F_v$	52	58	63	69	75	81	87	92	104	116
	E	1163	1292	1421	1550	1679	1809	1938	2067	2326	2584
<b>10 x 24</b>	W	18737	20818	22900	24982	27064	29146	31228	33310	37474	41637
	w	669	743	817	892	966	1040	1115	1189	1338	1487
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144
<b>12 x 22</b>	W	18985	21094	23204	25313	27423	29532	31642	33751	37970	42189
	w	678	753	828	904	979	1054	1130	1205	1356	1506
	$F_v$	57	63	70	76	83	89	95	102	115	127
	E	1054	1172	1289	1406	1523	1640	1758	1875	2109	2344
<b>18 x 18</b>	W	19140	21267	23394	25520	27647	29774	31901	34027	38281	42534
	w	683	759	835	911	987	1063	1139	1215	1367	1519
	$F_v$	46	52	57	62	67	72	78	83	93	104
	E	1295	1439	1583	1727	1871	2015	2159	2303	2591	2879
<b>16 x 20</b>	W	21049	23388	25727	28066	30404	32743	35082	37421	42099	46776
	w	751	835	918	1002	1085	1169	1252	1336	1503	1670
	$F_v$	52	58	63	69	75	81	87	92	104	116
	E	1163	1292	1421	1550	1679	1809	1938	2067	2326	2584
<b>14 x 22</b>	W	22287	24763	27239	29716	32192	34668	37145	39621	44574	49526
	w	795	884	972	1061	1149	1238	1326	1415	1591	1768
	$F_v$	57	63	70	76	83	89	95	102	115	127
	E	1054	1172	1289	1406	1523	1640	1758	1875	2109	2344
<b>12 x 24</b>	W	22681	25201	27722	30242	32762	35282	37802	40323	45363	50403
	w	810	900	990	1080	1170	1260	1350	1440	1620	1800
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144
<b>18 x 20</b>	W	23765	26406	29046	31687	34328	36968	39609	42250	47531	52812
	w	848	943	1037	1131	1226	1320	1414	1508	1697	1886
	$F_v$	52	58	63	69	75	81	87	92	104	116
	E	1163	1292	1421	1550	1679	1809	1938	2067	2326	2584

## WOOD BEAMS—SAFE LOAD TABLES

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for / 360 limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>28' - 0" SPAN CONT'D</b>											
<b>16 x 22</b>	W	25588	28432	31275	34118	36961	39804	42648	45491	51177	56864
	w	913	1015	1116	1218	1320	1421	1523	1624	1827	2030
	$F_v$	57	63	70	76	83	89	95	102	115	127
	E	1054	1172	1289	1406	1523	1640	1758	1875	2109	2344
<b>20 x 20</b>	W	26481	29424	32366	35308	38251	41193	44136	47078	52963	58848
	w	945	1050	1155	1261	1366	1471	1576	1681	1891	2101
	$F_v$	52	58	63	69	75	81	87	92	104	116
	E	1163	1292	1421	1550	1679	1809	1938	2067	2326	2584
<b>14 x 24</b>	W	26626	29584	32543	35501	38460	41418	44377	47335	53252	59169
	w	950	1056	1162	1267	1373	1479	1584	1690	1901	2113
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144
<b>18 x 22</b>	W	28890	32100	35310	38520	41730	44940	48151	51361	57781	64201
	w	1031	1146	1261	1375	1490	1605	1719	1834	2063	2292
	$F_v$	57	63	70	76	83	89	95	102	115	127
	E	1054	1172	1289	1406	1523	1640	1758	1875	2109	2344
<b>16 x 24</b>	W	30570	33967	37364	40761	44158	47554	50951	54348	61141	67935
	w	1091	1213	1334	1455	1577	1698	1819	1941	2183	2426
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144
<b>20 x 22</b>	W	32192	35769	39346	42923	46500	50077	53654	57230	64384	71538
	w	1149	1277	1405	1532	1660	1788	1916	2043	2299	2554
	$F_v$	57	63	70	76	83	89	95	102	115	127
	E	1054	1172	1289	1406	1523	1640	1758	1875	2109	2344
<b>18 x 24</b>	W	34515	38350	42185	46020	49855	53690	57526	61361	69031	76701
	w	1232	1369	1506	1643	1780	1917	2054	2191	2465	2739
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144
<b>22 x 22</b>	W	35494	39437	43381	47325	51269	55213	59156	63100	70988	78875
	w	1267	1408	1549	1690	1831	1971	2112	2253	2535	2816
	$F_v$	57	63	70	76	83	89	95	102	115	127
	E	1054	1172	1289	1406	1523	1640	1758	1875	2109	2344
<b>20 x 24</b>	W	38460	42733	47006	51280	55553	59827	64100	68373	76920	85467
	w	1373	1526	1678	1831	1984	2136	2289	2441	2747	3052
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144
<b>22 x 24</b>	W	42404	47116	51828	56539	61251	65963	70674	75386	84809	94233
	w	1514	1682	1851	2019	2187	2355	2524	2692	3028	3365
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144

WOOD BEAMS—SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>28' - 0" SPAN CONT'D</b>											
<b>24 x 24</b>	W	46349	51499	56649	61799	66949	72099	77249	82399	92699	102999
	w	1655	1839	2023	2207	2391	2574	2758	2942	3310	3678
	$F_v$	62	69	76	83	90	97	104	111	125	139
	E	965	1072	1179	1286	1394	1501	1608	1715	1930	2144
<b>29' - 0" SPAN</b>											
<b>3 x 12</b>	W	1091	1212	1333	1454	1575	1697	1818	1939	2182	2424
	w	37	41	45	50	54	58	62	66	75	83
	$F_v$	29	32	35	38	42	45	48	51	58	64
	E	2087	2319	2551	2783	3015	3247	3479	3711	4175	4639
<b>3 x 14</b>	W	1513	1681	1849	2017	2186	2354	2522	2690	3026	3363
	w	52	57	63	69	75	81	86	92	104	115
	$F_v$	34	38	41	45	49	53	57	60	68	76
	E	1772	1969	2166	2363	2560	2757	2954	3151	3545	3939
<b>4 x 12</b>	W	1527	1697	1866	2036	2206	2376	2545	2715	3054	3394
	w	52	58	64	70	76	81	87	93	105	117
	$F_v$	29	32	35	38	42	45	48	51	58	64
	E	2087	2319	2551	2783	3015	3247	3479	3711	4175	4639
<b>3 x 16</b>	W	2004	2227	2450	2673	2895	3118	3341	3564	4009	4455
	w	69	76	84	92	99	107	115	122	138	153
	$F_v$	39	43	48	52	56	61	65	70	78	87
	E	1540	1711	1882	2053	2224	2396	2567	2738	3080	3422
<b>4 x 14</b>	W	2199	2443	2688	2932	3177	3421	3665	3910	4399	4887
	w	75	84	92	101	109	117	126	134	151	168
	$F_v$	34	38	42	46	50	54	58	62	69	77
	E	1739	1933	2126	2319	2513	2706	2899	3093	3479	3866
<b>6 x 12</b>	W	2508	2786	3065	3344	3622	3901	4180	4459	5016	5573
	w	86	96	105	115	124	134	144	153	172	192
	$F_v$	29	33	36	39	42	46	49	52	59	66
	E	2042	2269	2496	2723	2950	3177	3404	3631	4085	4539
<b>4 x 16</b>	W	2899	3221	3543	3866	4188	4510	4832	5154	5799	6443
	w	99	111	122	133	144	155	166	177	199	222
	$F_v$	40	44	48	53	57	62	66	71	80	89
	E	1515	1683	1852	2020	2189	2357	2525	2694	3030	3367
<b>8 x 12</b>	W	3420	3800	4180	4560	4940	5320	5700	6080	6840	7600
	w	117	131	144	157	170	183	196	209	235	262
	$F_v$	29	33	36	39	42	46	49	52	59	66
	E	2042	2269	2496	2723	2950	3177	3404	3631	4085	4539
<b>6 x 14</b>	W	3456	3840	4224	4608	4992	5376	5760	6144	6912	7681
	w	119	132	145	158	172	185	198	211	238	264
	$F_v$	34	38	42	46	50	54	58	62	69	77
	E	1739	1933	2126	2319	2513	2706	2899	3093	3479	3866
<b>10 x 12</b>	W	4332	4813	5295	5776	6257	6739	7220	7701	8664	9627
	w	149	165	182	199	215	232	248	265	298	331
	$F_v$	29	33	36	39	42	46	49	52	59	66
	E	2042	2269	2496	2723	2950	3177	3404	3631	4085	4539
<b>6 x 16</b>	W	4556	5062	5569	6075	6581	7087	7594	8100	9112	10125
	w	157	174	192	209	226	244	261	279	314	349
	$F_v$	40	44	48	53	57	62	66	71	80	89
	E	1515	1683	1852	2020	2189	2357	2525	2694	3030	3367

## WOOD BEAMS—SAFE LOAD TABLES

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>29' - 0" SPAN CONT'D</b>											
<b>8 x 14</b>	W	4713	5237	5760	6284	6808	7331	7855	8379	9426	10474
	w	162	180	198	216	234	252	270	288	325	361
	$F_v$	34	38	42	46	50	54	58	62	69	77
	E	1739	1933	2126	2319	2513	2706	2899	3093	3479	3866
<b>12 x 12</b>	W	5244	5827	6409	6992	7575	8157	8740	9323	10488	11654
	w	180	200	221	241	261	281	301	321	361	401
	$F_v$	29	33	36	39	42	46	49	52	59	66
	E	2042	2269	2496	2723	2950	3177	3404	3631	4085	4539
<b>6 x 18</b>	W	5808	6453	7098	7744	8389	9034	9680	10325	11616	12907
	w	200	222	244	267	289	311	333	356	400	445
	$F_v$	45	50	55	60	65	70	75	80	90	100
	E	1342	1491	1640	1789	1938	2087	2237	2386	2684	2982
<b>10 x 14</b>	W	5970	6633	7296	7960	8623	9287	9950	10613	11940	13267
	w	205	228	251	274	297	320	343	365	411	457
	$F_v$	34	38	42	46	50	54	58	62	69	77
	E	1739	1933	2126	2319	2513	2706	2899	3093	3479	3866
<b>8 x 16</b>	W	6213	6903	7594	8284	8974	9665	10355	11045	12426	13807
	w	214	238	261	285	309	333	357	380	428	476
	$F_v$	40	44	48	53	57	62	66	71	80	89
	E	1515	1683	1852	2020	2189	2357	2525	2694	3030	3367
<b>6 x 20</b>	W	7211	8012	8814	9615	10416	11218	12019	12820	14423	16025
	w	248	276	303	331	359	386	414	442	497	552
	$F_v$	50	56	61	67	72	78	84	89	100	112
	E	1204	1338	1472	1606	1739	1873	2007	2141	2409	2676
<b>12 x 14</b>	W	7227	8030	8833	9636	10439	11242	12045	12848	14454	16060
	w	249	276	304	332	359	387	415	443	498	553
	$F_v$	34	38	42	46	50	54	58	62	69	77
	E	1739	1933	2126	2319	2513	2706	2899	3093	3479	3866
<b>10 x 16</b>	W	7870	8744	9619	10493	11368	12242	13117	13991	15740	17489
	w	271	301	331	361	392	422	452	482	542	603
	$F_v$	40	44	48	53	57	62	66	71	80	89
	E	1515	1683	1852	2020	2189	2357	2525	2694	3030	3367
<b>8 x 18</b>	W	7920	8800	9680	10560	11440	12320	13200	14080	15840	17600
	w	273	303	333	364	394	424	455	485	546	606
	$F_v$	45	50	55	60	65	70	75	80	90	100
	E	1342	1491	1640	1789	1938	2087	2237	2386	2684	2982
<b>14 x 14</b>	W	8484	9426	10369	11312	12254	13197	14140	15082	16968	18853
	w	292	325	357	390	422	455	487	520	585	650
	$F_v$	34	38	42	46	50	54	58	62	69	77
	E	1739	1933	2126	2319	2513	2706	2899	3093	3479	3866

WOOD BEAMS – SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>29' - 0" SPAN CONT'D</b>											
<b>6 x 22</b>	W	8766	9740	10714	11689	12663	13637	14611	15585	17533	19481
	w	302	335	369	403	436	470	503	537	604	671
	$F_v$	55	61	67	74	80	86	92	98	111	123
	E	1092	1213	1335	1456	1578	1699	1820	1942	2185	2427
<b>12 x 16</b>	W	9527	10585	11644	12702	13761	14820	15878	16937	19054	21171
	w	328	365	401	438	474	511	547	584	657	730
	$F_v$	40	44	48	53	57	62	66	71	80	89
	E	1515	1683	1852	2020	2189	2357	2525	2694	3030	3367
<b>8 x 20</b>	W	9834	10926	12019	13112	14204	15297	16390	17482	19668	21853
	w	339	376	414	452	489	527	565	602	678	753
	$F_v$	50	56	61	67	72	78	84	89	100	112
	E	1204	1338	1472	1606	1739	1873	2007	2141	2409	2676
<b>10 x 18</b>	W	10032	11147	12261	13376	14491	15605	16720	17835	20064	22294
	w	345	384	422	461	499	538	576	615	691	768
	$F_v$	45	50	55	60	65	70	75	80	90	100
	E	1342	1491	1640	1789	1938	2088	2237	2386	2684	2982
<b>6 x 24</b>	W	10473	11637	12801	13964	15128	16292	17456	18619	20947	23274
	w	361	401	441	481	521	561	601	642	722	802
	$F_v$	60	67	74	81	87	94	101	108	121	135
	E	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>14 x 16</b>	W	11184	12426	13669	14912	16154	17397	18640	19882	22368	24853
	w	385	428	471	514	557	599	642	685	771	857
	$F_v$	40	44	48	53	57	62	66	71	80	89
	E	1515	1683	1852	2020	2189	2357	2525	2694	3030	3367
<b>8 x 22</b>	W	11954	13283	14611	15939	17267	18596	19924	21252	23909	26566
	w	412	458	503	549	595	641	687	732	824	916
	$F_v$	55	61	67	74	80	86	92	98	111	123
	E	1092	1213	1335	1456	1578	1699	1820	1942	2185	2427
<b>12 x 18</b>	W	12144	13493	14843	16192	17541	18891	20240	21590	24288	26987
	w	418	465	511	558	604	651	697	744	837	930
	$F_v$	45	50	55	60	65	70	75	80	90	100
	E	1342	1491	1640	1789	1938	2087	2237	2386	2684	2982
<b>10 x 20</b>	W	12456	13840	15224	16608	17992	19376	20760	22144	24912	27681
	w	429	477	524	572	620	668	715	763	859	954
	$F_v$	50	56	61	67	72	78	84	89	100	112
	E	1204	1338	1472	1606	1739	1873	2007	2141	2409	2676
<b>16 x 16</b>	W	12840	14267	15694	17121	18548	19974	21401	22828	25681	28535
	w	442	491	541	590	639	688	737	787	885	983
	$F_v$	40	44	48	53	57	62	66	71	80	89
	E	1515	1683	1852	2020	2189	2357	2525	2694	3030	3367
<b>14 x 18</b>	W	14256	15840	17424	19008	20592	22176	23760	25344	28512	31681
	w	491	546	600	655	710	764	819	873	983	1092
	$F_v$	45	50	55	60	65	70	75	80	90	100
	E	1342	1491	1640	1789	1938	2087	2237	2386	2684	2982
<b>8 x 24</b>	W	14282	15869	17456	19043	20630	22216	23803	25390	28564	31738
	w	492	547	601	656	711	766	820	875	984	1094
	$F_v$	60	67	74	81	87	94	101	108	121	135
	E	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>12 x 20</b>	W	15078	16754	18429	20105	21780	23456	25131	26806	30157	33508
	w	519	577	635	693	751	808	866	924	1039	1155
	$F_v$	50	56	61	67	72	78	84	89	100	112
	E	1204	1338	1472	1606	1739	1873	2007	2141	2409	2676

## WOOD BEAMS—SAFE LOAD TABLES

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

$W$  = Total uniformly distributed load, pounds

$w$  = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load  $W$

$E$  = Modulus of elasticity, 1000 psi, induced by load  $W$  for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>29' - 0" SPAN CONT'D</b>											
<b>10 x 22</b>	$W$	15142	16825	18507	20190	21872	23555	25237	26920	30285	33650
	$w$	522	580	638	696	754	812	870	928	1044	1160
	$F_v$	55	61	67	74	80	86	92	98	111	123
	$E$	1092	1213	1335	1456	1578	1699	1820	1942	2185	2427
<b>16 x 18</b>	$W$	16368	18187	20005	21824	23643	25462	27280	29099	32737	36374
	$w$	564	627	689	752	815	878	940	1003	1128	1254
	$F_v$	45	50	55	60	65	70	75	80	90	100
	$E$	1342	1491	1640	1789	1938	2087	2237	2386	2684	2982
<b>14 x 20</b>	$W$	17701	19668	21634	23601	25568	27535	29502	31468	35402	39336
	$w$	610	678	746	813	881	949	1017	1085	1220	1356
	$F_v$	50	56	61	67	72	78	84	89	100	112
	$E$	1204	1338	1472	1606	1739	1873	2007	2141	2409	2676
<b>10 x 24</b>	$W$	18090	20101	22111	24121	26131	28141	30151	32161	36181	40202
	$w$	623	693	762	831	901	970	1039	1109	1247	1386
	$F_v$	60	67	74	81	87	94	101	108	121	135
	$E$	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>12 x 22</b>	$W$	18330	20367	22404	24440	26477	28514	30550	32587	36661	40734
	$w$	632	702	772	842	913	983	1053	1123	1264	1404
	$F_v$	55	61	67	74	80	86	92	98	111	123
	$E$	1092	1213	1335	1456	1578	1699	1820	1942	2185	2427
<b>18 x 18</b>	$W$	18480	20534	22587	24640	26694	28747	30800	32854	36961	41068
	$w$	637	708	778	849	920	991	1062	1132	1274	1416
	$F_v$	45	50	55	60	65	70	75	80	90	100
	$E$	1342	1491	1640	1789	1938	2087	2237	2386	2684	2982
<b>16 x 20</b>	$W$	20323	22581	24840	27098	29356	31614	33872	36131	40647	45163
	$w$	700	778	856	934	1012	1090	1168	1245	1401	1557
	$F_v$	50	56	61	67	72	78	84	89	100	112
	$E$	1204	1338	1472	1606	1739	1873	2007	2141	2409	2676
<b>14 x 22</b>	$W$	21518	23909	26300	28691	31082	33473	35864	38255	43037	47818
	$w$	742	824	906	989	1071	1154	1236	1319	1484	1648
	$F_v$	55	61	67	74	80	86	92	98	111	123
	$E$	1092	1213	1335	1456	1578	1699	1820	1942	2185	2427
<b>12 x 24</b>	$W$	21899	24332	26766	29199	31632	34065	36499	38932	43799	48665
	$w$	755	839	922	1006	1090	1174	1258	1342	1510	1678
	$F_v$	60	67	74	81	87	94	101	108	121	135
	$E$	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>18 x 20</b>	$W$	22946	25495	28045	30594	33144	35693	38243	40793	45892	50991
	$w$	791	879	967	1054	1142	1230	1318	1406	1582	1758
	$F_v$	50	56	61	67	72	78	84	89	100	112
	$E$	1204	1338	1472	1606	1739	1873	2007	2141	2409	2676

WOOD BEAMS—SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>29' - 0" SPAN CONT'D</b>											
<b>16 x 22</b>	W	24706	27451	30196	32941	35687	38432	41177	43922	49412	54903
	w	851	946	1041	1135	1230	1325	1419	1514	1703	1893
	$F_v$	55	61	67	74	80	86	92	98	111	123
	E	1092	1213	1335	1456	1578	1699	1820	1942	2185	2427
<b>20 x 20</b>	W	25568	28409	31250	34091	36932	39773	42614	45455	51137	56818
	w	881	979	1077	1175	1273	1371	1469	1567	1763	1959
	$F_v$	50	56	61	67	72	78	84	89	100	112
	E	1204	1338	1472	1606	1739	1873	2007	2141	2409	2676
<b>14 x 24</b>	W	25708	28564	31421	34277	37134	39990	42846	45703	51416	57129
	w	886	984	1083	1181	1280	1378	1477	1575	1772	1969
	$F_v$	60	67	74	81	87	94	101	108	121	135
	E	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>18 x 22</b>	W	27894	30993	34093	37192	40291	43391	46490	49590	55788	61987
	w	961	1068	1175	1282	1389	1496	1603	1710	1923	2137
	$F_v$	55	61	67	74	80	86	92	98	111	123
	E	1092	1213	1335	1456	1578	1699	1820	1942	2185	2427
<b>16 x 24</b>	W	29516	32796	36076	39355	42635	45915	49194	52474	59033	65592
	w	1017	1130	1244	1357	1470	1583	1696	1809	2035	2261
	$F_v$	60	67	74	81	87	94	101	108	121	135
	E	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>20 x 22</b>	W	31082	34535	37989	41443	44896	48350	51803	55257	62164	69071
	w	1071	1190	1309	1429	1548	1667	1786	1905	2143	2381
	$F_v$	55	61	67	74	80	86	92	98	111	123
	E	1092	1213	1335	1456	1578	1699	1820	1942	2185	2427
<b>18 x 24</b>	W	33325	37028	40731	44433	48136	51839	55542	59245	66650	74056
	w	1149	1276	1404	1532	1659	1787	1915	2042	2298	2553
	$F_v$	60	67	74	81	87	94	101	108	121	135
	E	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>22 x 22</b>	W	34270	38078	41885	45693	49501	53309	57117	60924	68540	76156
	w	1181	1313	1444	1575	1706	1838	1969	2100	2363	2626
	$F_v$	55	61	67	74	80	86	92	98	111	123
	E	1092	1213	1335	1456	1578	1699	1820	1942	2185	2427
<b>20 x 24</b>	W	37134	41260	45386	49512	53638	57764	61890	66016	74268	82520
	w	1280	1422	1565	1707	1849	1991	2134	2276	2560	2845
	$F_v$	60	67	74	81	87	94	101	108	121	135
	E	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>22 x 24</b>	W	40942	45491	50041	54590	59139	63688	68237	72786	81885	90983
	w	1411	1568	1725	1882	2039	2196	2353	2509	2823	3137
	$F_v$	60	67	74	81	87	94	101	108	121	135
	E	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>24 x 24</b>	W	44751	49723	54696	59668	64640	69613	74585	79557	89502	99447
	w	1543	1714	1886	2057	2228	2400	2571	2743	3086	3429
	$F_v$	60	67	74	81	87	94	101	108	121	135
	E	999	1110	1221	1332	1443	1554	1665	1777	1999	2221
<b>30' - 0" SPAN</b>											
<b>3 x 14</b>	W	1463	1625	1788	1950	2113	2275	2438	2600	2926	3251
	w	48	54	59	65	70	75	81	86	97	108
	$F_v$	33	36	40	44	47	51	55	58	66	73
	E	1833	2037	2241	2445	2649	2852	3056	3260	3667	4075

## WOOD BEAMS - SAFE LOAD TABLES

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>30' - 0" SPAN CONT'D</b>											
<b>4 x 12</b>	W	1476	1640	1804	1968	2132	2296	2460	2625	2953	3281
	w	49	54	60	65	71	76	82	87	98	109
	$F_v$	28	31	34	37	40	43	46	50	56	62
	E	2159	2399	2639	2879	3119	3359	3599	3839	4319	4799
<b>3 x 16</b>	W	1938	2153	2368	2584	2799	3014	3230	3445	3876	4306
	w	64	71	78	86	93	100	107	114	129	143
	$F_v$	38	42	46	50	55	59	63	67	76	84
	E	1593	1770	1947	2124	2301	2478	2655	2832	3186	3540
<b>4 x 14</b>	W	2126	2362	2598	2835	3071	3307	3543	3780	4252	4725
	w	70	78	86	94	102	110	118	126	141	157
	$F_v$	33	37	41	45	48	52	56	60	67	75
	E	1799	1999	2199	2399	2599	2799	2999	3199	3599	3999
<b>6 x 12</b>	W	2424	2693	2963	3232	3502	3771	4040	4310	4849	5387
	w	80	89	98	107	116	125	134	143	161	179
	$F_v$	28	31	35	38	41	44	47	51	57	63
	E	2113	2347	2582	2817	3052	3286	3521	3756	4226	4695
<b>4 x 16</b>	W	2802	3114	3425	3737	4048	4360	4671	4982	5605	6228
	w	93	103	114	124	134	145	155	166	186	207
	$F_v$	38	43	47	51	55	60	64	68	77	86
	E	1567	1741	1916	2090	2264	2438	2612	2787	3135	3483
<b>8 x 12</b>	W	3306	3673	4040	4408	4775	5143	5510	5877	6612	7347
	w	110	122	134	146	159	171	183	195	220	244
	$F_v$	28	31	35	38	41	44	47	51	57	63
	E	2113	2347	2582	2817	3052	3286	3521	3756	4226	4695
<b>6 x 14</b>	W	3341	3712	4083	4455	4826	5197	5568	5940	6682	7425
	w	111	123	136	148	160	173	185	198	222	247
	$F_v$	33	37	41	45	48	52	56	60	67	75
	E	1799	1999	2199	2399	2599	2799	2999	3199	3599	3999
<b>10 x 12</b>	W	4187	4653	5118	5583	6049	6514	6979	7445	8375	9306
	w	139	155	170	186	201	217	232	248	279	310
	$F_v$	28	31	35	38	41	44	47	51	57	63
	E	2113	2347	2582	2817	3052	3286	3521	3756	4226	4695
<b>6 x 16</b>	W	4404	4893	5383	5872	6362	6851	7340	7830	8809	9787
	w	146	163	179	195	212	228	244	261	293	326
	$F_v$	38	43	47	51	55	60	64	68	77	86
	E	1567	1741	1916	2090	2264	2438	2612	2787	3135	3483
<b>8 x 14</b>	W	4556	5062	5568	6075	6581	7087	7593	8100	9112	10125
	w	151	168	185	202	219	236	253	270	303	337
	$F_v$	33	37	41	45	48	52	56	60	67	75
	E	1799	1999	2199	2399	2599	2799	2999	3199	3599	3999

WOOD BEAMS - SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>30' - 0" SPAN CONT'D</b>											
<b>12 x 12</b>	W	5069	5632	6196	6759	7322	7886	8449	9012	10139	11265
	w	168	187	206	225	244	262	281	300	337	375
	$F_v$	28	31	35	38	41	44	47	51	57	63
	E	2113	2347	2582	2817	3052	3286	3521	3756	4226	4695
<b>6 x 18</b>	W	5614	6238	6862	7486	8109	8733	9357	9981	11229	12476
	w	187	207	228	249	270	291	311	332	374	415
	$F_v$	43	48	53	58	63	68	72	77	87	97
	E	1388	1542	1697	1851	2005	2159	2314	2468	2777	3085
<b>10 x 14</b>	W	5771	6412	7053	7695	8336	8977	9618	10260	11542	12825
	w	192	213	235	256	277	299	320	342	384	427
	$F_v$	33	37	41	45	48	52	56	60	67	75
	E	1799	1999	2199	2399	2599	2799	2999	3199	3599	3999
<b>8 x 16</b>	W	6006	6673	7340	8008	8675	9343	10010	10677	12012	13347
	w	200	222	244	266	289	311	333	355	400	444
	$F_v$	38	43	47	51	55	60	64	68	77	86
	E	1567	1741	1916	2090	2264	2438	2612	2787	3135	3483
<b>6 x 20</b>	W	6971	7745	8520	9295	10069	10844	11618	12393	13942	15491
	w	232	258	284	309	335	361	387	413	464	516
	$F_v$	48	54	59	65	70	75	81	86	97	108
	E	1246	1384	1523	1661	1799	1938	2076	2215	2492	2769
<b>12 x 14</b>	W	6986	7762	8538	9315	10091	10867	11643	12420	13972	15525
	w	232	258	284	310	336	362	388	414	465	517
	$F_v$	33	37	41	45	48	52	56	60	67	75
	E	1799	1999	2199	2399	2599	2799	2999	3199	3599	3999
<b>10 x 16</b>	W	7607	8453	9298	10143	10989	11834	12679	13525	15215	16906
	w	253	281	309	338	366	394	422	450	507	563
	$F_v$	38	43	47	51	55	60	64	68	77	86
	E	1567	1741	1916	2090	2264	2438	2612	2787	3135	3483
<b>8 x 18</b>	W	7656	8506	9357	10208	11059	11909	12760	13611	15312	17013
	w	255	283	311	340	368	396	425	453	510	567
	$F_v$	43	48	53	58	63	68	72	77	87	97
	E	1388	1542	1697	1851	2005	2159	2314	2468	2777	3085
<b>14 x 14</b>	W	8201	9112	10023	10935	11846	12757	13668	14580	16402	18225
	w	273	303	334	364	394	425	455	486	546	607
	$F_v$	33	37	41	45	48	52	56	60	67	75
	E	1799	1999	2199	2399	2599	2799	2999	3199	3599	3999
<b>6 x 22</b>	W	8474	9416	10357	11299	12241	13182	14124	15065	16949	18832
	w	282	313	345	376	408	439	470	502	564	627
	$F_v$	53	59	65	71	77	83	89	95	107	119
	E	1130	1255	1381	1506	1632	1758	1883	2009	2260	2511
<b>12 x 16</b>	W	9209	10232	11256	12279	13302	14326	15349	16372	18419	20465
	w	306	341	375	409	443	477	511	545	613	682
	$F_v$	38	43	47	51	55	60	64	68	77	86
	E	1567	1741	1916	2090	2264	2438	2612	2787	3135	3483
<b>8 x 20</b>	W	9506	10562	11618	12675	13731	14787	15843	16900	19012	21125
	w	316	352	387	422	457	492	528	563	633	704
	$F_v$	48	54	59	65	70	75	81	86	97	108
	E	1246	1384	1523	1661	1799	1938	2076	2215	2492	2769
<b>10 x 18</b>	W	9697	10775	11853	12930	14008	15085	16163	17240	19395	21550
	w	323	359	395	431	466	502	538	574	646	718
	$F_v$	43	48	53	58	63	68	72	77	87	97
	E	1388	1542	1697	1851	2005	2159	2314	2468	2777	3085

## WOOD BEAMS - SAFE LOAD TABLES

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

$W$  = Total uniformly distributed load, pounds

$w$  = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load  $W$

$E$  = Modulus of elasticity, 1000 psi, induced by load  $W$  for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>30' - 0" SPAN CONT'D</b>											
<b>6 x 24</b>	W	10124	11249	12374	13499	14624	15749	16874	17999	20249	22499
	w	337	374	412	449	487	524	562	599	674	749
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>14 x 16</b>	W	10811	12012	13213	14415	15616	16817	18018	19220	21622	24025
	w	360	400	440	480	520	560	600	640	720	800
	$F_v$	38	43	47	51	55	60	64	68	77	86
	E	1567	1741	1916	2090	2264	2438	2612	2787	3135	3483
<b>8 x 22</b>	W	11556	12840	14124	15408	16692	17976	19260	20544	23112	25680
	w	385	428	470	513	556	599	642	684	770	856
	$F_v$	53	59	65	71	77	83	89	95	107	119
	E	1130	1255	1381	1506	1632	1758	1883	2009	2260	2511
<b>12 x 18</b>	W	11739	13043	14348	15652	16957	18261	19565	20870	23479	26087
	w	391	434	478	521	565	608	652	695	782	869
	$F_v$	43	48	53	58	63	68	72	77	87	97
	E	1388	1542	1697	1851	2005	2159	2314	2468	2777	3085
<b>10 x 20</b>	W	12041	13379	14717	16055	17392	18730	20068	21406	24082	26758
	w	401	445	490	535	579	624	668	713	802	891
	$F_v$	48	54	59	65	70	75	81	86	97	108
	E	1246	1384	1523	1661	1799	1938	2076	2215	2492	2769
<b>16 x 16</b>	W	12412	13792	15171	16550	17929	19308	20688	22067	24825	27584
	w	413	459	505	551	597	643	689	735	827	919
	$F_v$	38	43	47	51	55	60	64	68	77	86
	E	1567	1741	1916	2090	2264	2438	2612	2787	3135	3483
<b>14 x 18</b>	W	13781	15312	16843	18375	19906	21437	22968	24500	27562	30625
	w	459	510	561	612	663	714	765	816	918	1020
	$F_v$	43	48	53	58	63	68	72	77	87	97
	E	1388	1542	1697	1851	2005	2159	2314	2468	2777	3085
<b>8 x 24</b>	W	13806	15340	16874	18408	19942	21476	23010	24544	27612	30680
	w	460	511	562	613	664	715	767	818	920	1022
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>12 x 20</b>	W	14576	16195	17815	19435	21054	22674	24293	25913	29152	32391
	w	485	539	593	647	701	755	809	863	971	1079
	$F_v$	48	54	59	65	70	75	81	86	97	108
	E	1246	1384	1523	1661	1799	1938	2076	2215	2492	2769
<b>10 x 22</b>	W	14637	16264	17890	19517	21143	22770	24396	26022	29275	32528
	w	487	542	596	650	704	759	813	867	975	1084
	$F_v$	53	59	65	71	77	83	89	95	107	119
	E	1130	1255	1381	1506	1632	1758	1883	2009	2260	2511

WOOD BEAMS—SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>30' - 0" SPAN CONT'D</b>											
<b>16 x 18</b>	W	15822	17581	19339	21097	22855	24613	26371	28129	31645	35162
	w	527	586	644	703	761	820	879	937	1054	1172
	$F_v$	43	48	53	58	63	68	72	77	87	97
	E	1388	1542	1697	1851	2005	2159	2314	2468	2777	3085
<b>14 x 20</b>	W	17111	19012	20913	22815	24716	26617	28518	30420	34222	38025
	w	570	633	697	760	823	887	950	1014	1140	1267
	$F_v$	48	54	59	65	70	75	81	86	97	108
	E	1246	1384	1523	1661	1799	1938	2076	2215	2492	2769
<b>10 x 24</b>	W	17487	19431	21374	23317	25260	27203	29146	31089	34975	38862
	w	582	647	712	777	842	906	971	1036	1165	1295
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>12 x 22</b>	W	17719	19688	21657	23626	25594	27563	29532	31501	35439	39376
	w	590	656	721	787	853	918	984	1050	1181	1312
	$F_v$	53	59	65	71	77	83	89	95	107	119
	E	1130	1255	1381	1506	1632	1758	1883	2009	2260	2511
<b>18 x 18</b>	W	17864	19849	21834	23819	25804	27789	29774	31759	35729	39699
	w	595	661	727	793	860	926	992	1058	1190	1323
	$F_v$	43	48	53	58	63	68	72	77	87	97
	E	1388	1542	1697	1851	2005	2159	2314	2468	2777	3085
<b>16 x 20</b>	W	19646	21829	24012	26195	28377	30560	32743	34926	39292	43658
	w	654	727	800	873	945	1018	1091	1164	1309	1455
	$F_v$	48	54	59	65	70	75	81	86	97	108
	E	1246	1384	1523	1661	1799	1938	2076	2215	2492	2769
<b>14 x 22</b>	W	20801	23112	25423	27735	30046	32357	34668	36980	41602	46225
	w	693	770	847	924	1001	1078	1155	1232	1386	1540
	$F_v$	53	59	65	71	77	83	89	95	107	119
	E	1130	1255	1381	1506	1632	1758	1883	2009	2260	2511
<b>12 x 24</b>	W	21169	23521	25873	28226	30578	32930	35282	37634	42339	47043
	w	705	784	862	940	1019	1097	1176	1254	1411	1568
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>18 x 20</b>	W	22181	24645	27110	29575	32039	34504	36968	39433	44362	49291
	w	739	821	903	985	1067	1150	1232	1314	1478	1643
	$F_v$	48	54	59	65	70	75	81	86	97	108
	E	1246	1384	1523	1661	1799	1938	2076	2215	2492	2769
<b>16 x 22</b>	W	23882	26536	29190	31843	34497	37151	39804	42458	47765	53073
	w	796	884	973	1061	1149	1238	1326	1415	1592	1769
	$F_v$	53	59	65	71	77	83	89	95	107	119
	E	1130	1255	1381	1506	1632	1758	1883	2009	2260	2511
<b>20 x 20</b>	W	24716	27462	30208	32955	35701	38447	41193	43940	49432	54925
	w	823	915	1006	1098	1190	1281	1373	1464	1647	1830
	$F_v$	48	54	59	65	70	75	81	86	97	108
	E	1246	1384	1523	1661	1799	1938	2076	2215	2492	2769
<b>14 x 24</b>	W	24851	27612	30373	33135	35896	38657	41418	44180	49702	55225
	w	828	920	1012	1104	1196	1288	1380	1472	1656	1840
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>18 x 22</b>	W	26964	29960	32956	35952	38948	41944	44940	47937	53929	59921
	w	898	998	1098	1198	1298	1398	1498	1597	1797	1997
	$F_v$	53	59	65	71	77	83	89	95	107	119
	E	1130	1255	1381	1506	1632	1758	1883	2009	2260	2511

**WOOD BEAMS – SAFE LOAD TABLES**

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>30' - 0" SPAN CONT'D</b>											
<b>16 x 24</b>	W	28532	31703	34873	38043	41214	44384	47554	50725	57065	63406
	w	951	1056	1162	1268	1373	1479	1585	1690	1902	2113
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>20 x 22</b>	W	30046	33384	36723	40061	43400	46738	50077	53415	60092	66769
	w	1001	1112	1224	1335	1446	1557	1669	1780	2003	2225
	$F_v$	53	59	65	71	77	83	89	95	107	119
	E	1130	1255	1381	1506	1632	1758	1883	2009	2260	2511
<b>18 x 24</b>	W	32214	35793	39373	42952	46532	50111	53690	57270	64429	71587
	w	1073	1193	1312	1431	1551	1670	1789	1909	2147	2386
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>22 x 22</b>	W	33127	36808	40489	44170	47851	51532	55213	58894	66255	73617
	w	1104	1226	1349	1472	1595	1717	1840	1963	2208	2453
	$F_v$	53	59	65	71	77	83	89	95	107	119
	E	1130	1255	1381	1506	1632	1758	1883	2009	2260	2511
<b>20 x 24</b>	W	35896	39884	43873	47861	51850	55838	59827	63815	71792	79769
	w	1196	1329	1462	1595	1728	1861	1994	2127	2393	2658
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>22 x 24</b>	W	39577	43975	48373	52770	57168	61565	65963	70360	79155	87950
	w	1319	1465	1612	1759	1905	2052	2198	2345	2638	2931
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>24 x 24</b>	W	43259	48066	52872	57679	62486	67292	72099	76905	86519	96132
	w	1441	1602	1762	1922	2082	2243	2403	2563	2883	3204
	$F_v$	58	65	71	78	84	91	97	104	117	130
	E	1034	1148	1263	1378	1493	1608	1723	1838	2068	2297
<b>31' - 0" SPAN</b>											
<b>3 x 14</b>	W	1415	1573	1730	1887	2045	2202	2359	2517	2831	3146
	w	45	50	55	60	65	71	76	81	91	101
	$F_v$	32	35	39	42	46	49	53	56	64	71
	E	1895	2105	2316	2526	2737	2947	3158	3369	3790	4211
<b>4 x 12</b>	W	1428	1587	1746	1905	2064	2222	2381	2540	2857	3175
	w	46	51	56	61	66	71	76	81	92	102
	$F_v$	27	30	33	36	39	42	45	48	54	60
	E	2231	2479	2727	2975	3223	3471	3719	3967	4463	4959

**WOOD BEAMS – SAFE LOAD TABLES**

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>31' - 0" SPAN CONT'D</b>											
<b>3 x 16</b>	W	1875	2083	2292	2500	2709	2917	3125	3334	3751	4167
	w	60	67	73	80	87	94	100	107	121	134
	$F_v$	36	40	45	49	53	57	61	65	73	81
	E	1646	1829	2012	2195	2378	2561	2744	2927	3293	3659
<b>4 x 14</b>	W	2057	2286	2514	2743	2972	3200	3429	3658	4115	4572
	w	66	73	81	88	95	103	110	118	132	147
	$F_v$	32	36	39	43	47	50	54	58	65	72
	E	1859	2066	2273	2479	2686	2893	3099	3306	3719	4133
<b>6 x 12</b>	W	2346	2607	2867	3128	3389	3649	3910	4171	4692	5214
	w	75	84	92	100	109	117	126	134	151	168
	$F_v$	27	30	34	37	40	43	46	49	55	61
	E	2183	2426	2668	2911	3153	3396	3639	3881	4366	4852
<b>4 x 16</b>	W	2712	3013	3315	3616	3918	4219	4520	4822	5424	6027
	w	87	97	106	116	126	136	145	155	175	194
	$F_v$	37	41	45	50	54	58	62	66	75	83
	E	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>8 x 12</b>	W	3199	3555	3910	4266	4621	4977	5332	5688	6399	7110
	w	103	114	126	137	149	160	172	183	206	229
	$F_v$	27	30	34	37	40	43	46	49	55	61
	E	2183	2426	2668	2911	3153	3396	3639	3881	4366	4852
<b>6 x 14</b>	W	3233	3592	3952	4311	4670	5029	5389	5748	6466	7185
	w	104	115	127	139	150	162	173	185	208	231
	$F_v$	32	36	39	43	47	50	54	58	65	72
	E	1859	2066	2273	2479	2686	2893	3099	3306	3719	4133
<b>10 x 12</b>	W	4052	4503	4953	5403	5854	6304	6754	7205	8105	9006
	w	130	145	159	174	188	203	217	232	261	290
	$F_v$	27	30	34	37	40	43	46	49	55	61
	E	2183	2426	2668	2911	3153	3396	3639	3881	4366	4852
<b>6 x 16</b>	W	4262	4736	5209	5683	6156	6630	7104	7577	8524	9472
	w	137	152	168	183	198	213	229	244	275	305
	$F_v$	37	41	45	50	54	58	62	66	75	83
	E	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>8 x 14</b>	W	4409	4899	5389	5879	6368	6858	7348	7838	8818	9798
	w	142	158	173	189	205	221	237	252	284	316
	$F_v$	32	36	39	43	47	50	54	58	65	72
	E	1859	2066	2273	2479	2686	2893	3099	3306	3719	4133
<b>12 x 12</b>	W	4906	5451	5996	6541	7086	7631	8176	8721	9812	10902
	w	158	175	193	211	228	246	263	281	316	351
	$F_v$	27	30	34	37	40	43	46	49	55	61
	E	2183	2426	2668	2911	3153	3396	3639	3881	4366	4852
<b>6 x 18</b>	W	5433	6037	6640	7244	7848	8452	9055	9659	10866	12074
	w	175	194	214	233	253	272	292	311	350	389
	$F_v$	42	47	51	56	61	65	70	75	84	94
	E	1434	1594	1753	1913	2072	2231	2391	2550	2869	3188
<b>10 x 14</b>	W	5585	6205	6826	7446	8067	8687	9308	9929	11170	12411
	w	180	200	220	240	260	280	300	320	360	400
	$F_v$	32	36	39	43	47	50	54	58	65	72
	E	1859	2066	2273	2479	2686	2893	3099	3306	3719	4133
<b>8 x 16</b>	W	5812	6458	7104	7750	8395	9041	9687	10333	11625	12916
	w	187	208	229	250	270	291	312	333	375	416
	$F_v$	37	41	45	50	54	58	62	66	75	83
	E	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599

**WOOD BEAMS – SAFE LOAD TABLES**

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>31' - 0" SPAN CONT'D</b>											
<b>6 x 20</b>	W	6746	7495	8245	8995	9744	10494	11243	11993	13492	14991
	w	217	241	265	290	314	338	362	386	435	483
	$F_v$	47	52	57	62	68	73	78	83	94	104
	E	1287	1430	1573	1716	1859	2003	2146	2289	2575	2861
<b>12 x 14</b>	W	6760	7512	8263	9014	9765	10516	11268	12019	13521	15024
	w	218	242	266	290	315	339	363	387	436	484
	$F_v$	32	36	39	43	47	50	54	58	65	72
	E	1859	2066	2273	2479	2686	2893	3099	3306	3719	4133
<b>10 x 16</b>	W	7362	8180	8998	9816	10634	11452	12270	13088	14724	16361
	w	237	263	290	316	343	369	395	422	475	527
	$F_v$	37	41	45	50	54	58	62	66	75	83
	E	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>8 x 18</b>	W	7409	8232	9055	9879	10702	11525	12348	13172	14818	16465
	w	239	265	292	318	345	371	398	424	478	531
	$F_v$	42	47	51	56	61	65	70	75	84	94
	E	1434	1594	1753	1913	2072	2231	2391	2550	2869	3188
<b>14 x 14</b>	W	7936	8818	9700	10582	11464	12345	13227	14109	15873	17637
	w	256	284	312	341	369	398	426	455	512	568
	$F_v$	32	36	39	43	47	50	54	58	65	72
	E	1859	2066	2273	2479	2686	2893	3099	3306	3719	4133
<b>6 x 22</b>	W	8201	9112	10023	10934	11846	12757	13668	14579	16402	18224
	w	264	293	323	352	382	411	440	470	529	587
	$F_v$	52	57	63	69	75	80	86	92	104	115
	E	1167	1297	1427	1557	1686	1816	1946	2076	2335	2595
<b>12 x 16</b>	W	8912	9902	10893	11883	12873	13863	14854	15844	17824	19805
	w	287	319	351	383	415	447	479	511	575	638
	$F_v$	37	41	45	50	54	58	62	66	75	83
	E	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>8 x 20</b>	W	9199	10221	11243	12266	13288	14310	15332	16354	18399	20443
	w	296	329	362	395	428	461	494	527	593	659
	$F_v$	47	52	57	62	68	73	78	83	94	104
	E	1287	1430	1573	1716	1859	2003	2146	2289	2575	2861
<b>10 x 18</b>	W	9385	10427	11470	12513	13556	14599	15641	16684	18770	20855
	w	302	336	370	403	437	470	504	538	605	672
	$F_v$	42	47	51	56	61	65	70	75	84	94
	E	1434	1594	1753	1913	2072	2231	2391	2550	2869	3188
<b>6 x 24</b>	W	9797	10886	11975	13063	14152	15241	16329	17418	19595	21773
	w	316	351	386	421	456	491	526	561	632	702
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374

WOOD BEAMS—SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>31' - 0" SPAN CONT'D</b>											
<b>14 x 16</b>	W	10462	11625	12787	13950	15112	16275	17437	18600	20925	23250
	w	337	375	412	450	487	525	562	600	675	750
	$F_v$	37	41	45	50	54	58	62	66	75	83
	E	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>8 x 22</b>	W	11183	12426	13668	14911	16153	17396	18639	19881	22366	24852
	w	360	400	440	481	521	561	601	641	721	801
	$F_v$	52	57	63	69	75	80	86	92	104	115
	E	1167	1297	1427	1557	1686	1816	1946	2076	2335	2595
<b>12 x 18</b>	W	11360	12623	13885	15147	16410	17672	18934	20197	22721	25246
	w	366	407	447	488	529	570	610	651	732	814
	$F_v$	42	47	51	56	61	65	70	75	84	94
	E	1434	1594	1753	1913	2072	2231	2391	2550	2869	3188
<b>10 x 20</b>	W	11652	12947	14242	15537	16831	18126	19421	20716	23305	25895
	w	375	417	459	501	542	584	626	668	751	835
	$F_v$	47	52	57	62	68	73	78	83	94	104
	E	1287	1430	1573	1716	1859	2003	2146	2289	2575	2861
<b>16 x 16</b>	W	12012	13347	14681	16016	17351	18686	20020	21355	24024	26694
	w	387	430	473	516	559	602	645	688	775	861
	$F_v$	37	41	45	50	54	58	62	66	75	83
	E	1619	1799	1979	2159	2339	2519	2699	2879	3239	3599
<b>14 x 18</b>	W	13336	14818	16300	17782	19264	20745	22227	23709	26673	29637
	w	430	478	525	573	621	669	717	764	860	956
	$F_v$	42	47	51	56	61	65	70	75	84	94
	E	1434	1594	1753	1913	2072	2231	2391	2550	2869	3188
<b>8 x 24</b>	W	13360	14845	16329	17814	19299	20783	22268	23752	26721	29690
	w	430	478	526	574	622	670	718	766	861	957
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374
<b>12 x 20</b>	W	14106	15673	17240	18808	20375	21942	23510	25077	28212	31346
	w	455	505	556	606	657	707	758	808	910	1011
	$F_v$	47	52	57	62	68	73	78	83	94	104
	E	1287	1430	1573	1716	1859	2003	2146	2289	2575	2861
<b>10 x 22</b>	W	14165	15739	17313	18887	20461	22035	23609	25183	28331	31479
	w	456	507	558	609	660	710	761	812	913	1015
	$F_v$	52	57	63	69	75	80	86	92	104	115
	E	1167	1297	1427	1557	1686	1816	1946	2076	2335	2595
<b>16 x 18</b>	W	15312	17013	18715	20416	22118	23819	25520	27222	30624	34027
	w	493	548	603	658	713	768	823	878	987	1097
	$F_v$	42	47	51	56	61	65	70	75	84	94
	E	1434	1594	1753	1913	2072	2231	2391	2550	2869	3188
<b>14 x 20</b>	W	16559	18399	20239	22079	23918	25758	27598	29438	33118	36798
	w	534	593	652	712	771	830	890	949	1068	1187
	$F_v$	47	52	57	62	68	73	78	83	94	104
	E	1287	1430	1573	1716	1859	2003	2146	2289	2575	2861
<b>10 x 24</b>	W	16923	18804	20684	22565	24445	26325	28206	30086	33847	37608
	w	545	606	667	727	788	849	909	970	1091	1213
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374
<b>12 x 22</b>	W	17147	19053	20958	22863	24769	26674	28579	30485	34295	38106
	w	553	614	676	737	799	860	921	983	1106	1229
	$F_v$	52	57	63	69	75	80	86	92	104	115
	E	1167	1297	1427	1557	1686	1816	1946	2076	2335	2595

**WOOD BEAMS – SAFE LOAD TABLES**

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>31' - 0" SPAN CONT'D</b>											
<b>18 x 18</b>	W	17288	19209	21130	23051	24971	26892	28813	30734	34576	38418
	w	557	619	681	743	805	867	929	991	1115	1239
	$F_v$	42	47	51	56	61	65	70	75	84	94
	E	1434	1594	1753	1913	2072	2231	2391	2550	2869	3188
<b>16 x 20</b>	W	19012	21125	23237	25350	27462	29574	31687	33880	38024	42250
	w	613	681	749	817	885	954	1022	1090	1226	1362
	$F_v$	47	52	57	62	68	73	78	83	94	104
	E	1287	1430	1573	1716	1859	2003	2146	2289	2575	2861
<b>14 x 22</b>	W	20130	22366	24603	26840	29077	31313	33550	35787	40260	44733
	w	649	721	793	865	937	1010	1082	1154	1298	1443
	$F_v$	52	57	63	69	75	80	86	92	104	115
	E	1167	1297	1427	1557	1686	1816	1946	2076	2335	2595
<b>12 x 24</b>	W	20486	22762	25039	27315	29591	31868	34144	36420	40973	45525
	w	660	734	809	881	954	1028	1101	1174	1321	1468
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374
<b>18 x 20</b>	W	21465	23850	26235	28620	31006	33391	35776	38161	42931	47701
	w	692	769	846	923	1000	1077	1154	1231	1384	1538
	$F_v$	47	52	57	62	68	73	78	83	94	104
	E	1287	1430	1573	1716	1859	2003	2146	2289	2575	2861
<b>16 x 22</b>	W	23112	25680	28248	30816	33384	25952	38520	41088	46224	51361
	w	745	828	911	994	1076	1159	1242	1325	1491	1656
	$F_v$	52	57	63	69	75	80	86	92	104	115
	E	1167	1297	1427	1557	1686	1816	1946	2076	2335	2595
<b>20 x 20</b>	W	23918	26576	29234	31891	34549	37207	39864	42522	47837	53153
	w	771	857	943	1028	1114	1200	1285	1371	1543	1714
	$F_v$	47	52	57	62	68	73	78	83	94	104
	E	1287	1430	1573	1716	1859	2003	2146	2289	2575	2861
<b>14 x 24</b>	W	24049	26721	29393	32066	34738	37410	40082	42754	48099	53443
	w	775	861	948	1034	1120	1206	1292	1379	1551	1723
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374
<b>18 x 22</b>	W	26094	28994	31893	34792	37692	40591	43491	46390	52189	57988
	w	841	935	1028	1122	1215	1309	1402	1496	1683	1870
	$F_v$	52	57	63	69	75	80	86	92	104	115
	E	1167	1297	1427	1557	1686	1816	1946	2076	2335	2595
<b>16 x 24</b>	W	27612	30680	33748	36816	39884	42952	46020	49088	55224	61361
	w	890	989	1088	1187	1286	1385	1484	1583	1781	1979
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374

## WOOD BEAMS - SAFE LOAD TABLES

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>31' - 0" SPAN CONT'D</b>											
<b>20 x 22</b>	W	29077	32307	35538	38769	42000	45230	48461	51692	58154	64615
	w	937	1042	1146	1250	1354	1459	1563	1667	1875	2084
	$F_v$	52	57	63	69	75	80	86	92	104	115
	E	1167	1297	1427	1557	1686	1816	1946	2076	2335	2595
<b>18 x 24</b>	W	31175	34639	38103	41567	45031	48495	51958	55422	62350	69278
	w	1005	1117	1229	1340	1452	1564	1676	1787	2011	2234
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374
<b>22 x 22</b>	W	32059	35621	39183	42745	46307	49869	53432	56994	64118	71242
	w	1034	1149	1263	1378	1493	1608	1723	1838	2068	2298
	$F_v$	52	57	63	69	75	80	86	92	104	115
	E	1167	1297	1427	1557	1686	1816	1946	2076	2335	2595
<b>20 x 24</b>	W	34738	38598	42457	46317	50177	54037	57897	61756	69476	77196
	w	1120	1245	1369	1494	1618	1743	1867	1992	2241	2490
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374
<b>22 x 24</b>	W	38301	42556	46812	51068	55323	59579	63835	68091	76602	85113
	w	1235	1372	1510	1647	1784	1921	2059	2196	2471	2745
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374
<b>24 x 24</b>	W	41864	46515	51167	55818	60470	65121	69773	74425	83728	93031
	w	1350	1500	1650	1800	1950	2100	2250	2400	2700	3001
	$F_v$	56	63	69	75	82	88	94	101	113	126
	E	1068	1187	1305	1424	1543	1662	1780	1899	2137	2374
<b>32' - 0" SPAN</b>											
<b>4 x 16</b>	W	2627	2919	3211	3503	3795	4087	4379	4671	5255	5839
	w	82	91	100	109	118	127	136	145	164	182
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1672	1858	2043	2229	2415	2601	2787	2972	3344	3716
<b>6 x 14</b>	W	3132	3480	3828	4176	4524	4872	5220	5568	6264	6960
	w	97	108	119	130	141	152	163	174	195	217
	$F_v$	31	35	38	42	45	49	52	56	63	70
	E	1919	2133	2346	2559	2773	2986	3199	3413	3839	4266
<b>6 x 16</b>	W	4129	4588	5046	5505	5964	6423	6882	7340	8258	9176
	w	129	143	157	172	186	200	215	229	258	286
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1672	1858	2043	2229	2415	2601	2787	2972	3344	3716
<b>8 x 14</b>	W	4271	4746	5220	5695	6169	6644	7119	7593	8542	9492
	w	133	148	163	177	192	207	222	237	266	296
	$F_v$	31	35	38	42	45	49	52	56	63	70
	E	1919	2133	2346	2559	2773	2986	3199	3413	3839	4266
<b>6 x 18</b>	W	5263	5848	6433	7018	7603	8187	8772	9357	10527	11697
	w	164	182	201	219	237	255	274	292	328	365
	$F_v$	41	45	50	54	59	63	68	72	82	91
	E	1481	1645	1810	1974	2139	2303	2468	2633	2962	3291
<b>10 x 14</b>	W	5410	6011	6612	7214	7815	8416	9017	9618	10821	12023
	w	169	187	206	225	244	263	281	300	338	375
	$F_v$	31	35	38	42	45	49	52	56	63	70
	E	1919	2133	2346	2559	2773	2986	3199	3413	3839	4266

**WOOD BEAMS – SAFE LOAD TABLES**

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

$F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

$F_v$  = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>32' - 0" SPAN CONT'D</b>											
<b>8 x 16</b>	W	5630	6256	6882	7507	8133	8759	9384	10010	11261	12513
	w	175	195	215	234	254	273	293	312	351	391
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1672	1858	2043	2229	2415	2601	2787	2972	3344	3716
<b>6 x 20</b>	W	6535	7261	7987	8714	9440	10166	10892	11618	13071	14523
	w	204	226	249	272	295	317	340	363	408	453
	$F_v$	45	50	55	60	66	71	76	81	91	101
	E	1329	1476	1624	1772	1919	2067	2215	2363	2658	2953
<b>12 x 14</b>	W	6549	7277	8005	8732	9460	10188	10916	11643	13099	14554
	w	204	227	250	272	295	318	341	363	409	454
	$F_v$	31	35	38	42	45	49	52	56	63	70
	E	1919	2133	2346	2559	2773	2986	3199	3413	3839	4266
<b>10 x 16</b>	W	7132	7924	8717	9509	10302	11094	11887	12679	14264	15849
	w	222	247	272	297	321	346	371	396	445	495
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1672	1858	2043	2229	2415	2601	2787	2972	3344	3716
<b>8 x 18</b>	W	7177	7975	8772	9570	10367	11165	11962	12760	14355	15950
	w	224	249	274	299	323	348	373	398	448	498
	$F_v$	41	45	50	54	59	63	68	72	82	91
	E	1481	1645	1810	1974	2139	2303	2468	2633	2962	3291
<b>14 x 14</b>	W	7688	8542	9397	10251	11105	11960	12814	13668	15377	17085
	w	240	266	293	320	347	373	400	427	480	533
	$F_v$	31	35	38	42	45	49	52	56	63	70
	E	1919	2133	2346	2559	2773	2986	3199	3413	3839	4266
<b>6 x 22</b>	W	7944	8827	9710	10593	11475	12358	13241	14124	15889	17655
	w	248	275	303	331	358	386	413	441	496	551
	$F_v$	50	55	61	67	72	78	83	89	100	111
	E	1205	1339	1473	1607	1741	1875	2009	2143	2411	2679
<b>12 x 16</b>	W	8633	9593	10552	11511	12471	13430	14389	15349	17267	19186
	w	269	299	329	359	389	419	449	479	539	599
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1672	1858	2043	2229	2415	2601	2787	2972	3344	3716
<b>8 x 20</b>	W	8912	9902	10892	11882	12873	13863	14853	15843	17824	19804
	w	278	309	340	371	402	433	464	495	557	618
	$F_v$	45	50	55	60	66	71	76	81	91	101
	E	1329	1476	1624	1772	1919	2067	2215	2363	2658	2953
<b>10 x 18</b>	W	9091	10101	11112	12122	13132	14142	15152	16163	18183	20203
	w	284	315	347	378	410	441	473	505	568	631
	$F_v$	41	45	50	54	59	63	68	72	82	91
	E	1481	1645	1810	1974	2139	2303	2468	2633	2962	3291

WOOD BEAMS—SAFE LOAD TABLES											
SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>32' - 0" SPAN CONT'D</b>											
<b>6 x 24</b>	W	9491	10546	11601	12655	13710	14765	15819	16874	18983	21092
	w	296	329	362	395	428	461	494	527	593	659
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451
<b>14 x 16</b>	W	10135	11261	12387	13514	14640	15766	16892	18018	20271	22523
	w	316	351	387	422	457	492	527	563	633	703
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1672	1858	2043	2229	2415	2601	2787	2972	3344	3716
<b>8 x 22</b>	W	10833	12037	13241	14445	15649	16852	18056	19260	21667	24075
	w	338	376	413	451	489	526	564	601	677	752
	$F_v$	50	55	61	67	72	78	83	89	100	111
	E	1205	1339	1473	1607	1741	1875	2009	2143	2411	2679
<b>12 x 18</b>	W	11005	12228	13451	14674	15897	17120	18343	19565	22011	24457
	w	343	382	420	458	496	535	573	611	687	764
	$F_v$	41	45	50	54	59	63	68	72	82	91
	E	1481	1645	1810	1974	2139	2303	2468	2633	2962	3291
<b>10 x 20</b>	W	11288	12542	13797	15051	16305	17560	18814	20068	22577	25085
	w	352	391	431	470	509	548	587	627	705	783
	$F_v$	45	50	55	60	66	71	76	81	91	101
	E	1329	1476	1624	1772	1919	2067	2215	2363	2658	2953
<b>16 x 16</b>	W	11637	12930	14223	15516	16809	18102	19395	20688	23274	25860
	w	363	404	444	484	525	565	606	646	727	808
	$F_v$	36	40	44	48	52	56	60	64	72	80
	E	1672	1858	2043	2229	2415	2601	2787	2972	3344	3716
<b>14 x 18</b>	W	12919	14355	15791	17226	18662	20097	21533	22968	25839	28710
	w	403	448	493	538	583	628	672	717	807	897
	$F_v$	41	45	50	54	59	63	68	72	82	91
	E	1481	1645	1810	1974	2139	2303	2468	2633	2962	3291
<b>8 x 24</b>	W	12943	14381	15819	17257	18695	20134	21572	23010	25886	28763
	w	404	449	494	539	584	629	674	719	808	898
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451
<b>12 x 20</b>	W	13665	15183	16701	18220	19738	21257	22775	24293	27330	30367
	w	427	474	521	569	616	664	711	759	854	948
	$F_v$	45	50	55	60	66	71	76	81	91	101
	E	1329	1476	1624	1772	1919	2067	2215	2363	2658	2953
<b>10 x 22</b>	W	13723	15247	16772	18297	19822	21346	22871	24396	27446	30495
	w	428	476	524	571	619	667	714	762	857	952
	$F_v$	50	55	61	67	72	78	83	89	100	111
	E	1205	1339	1473	1607	1741	1875	2009	2143	2411	2679
<b>16 x 18</b>	W	14833	16482	18130	19778	21426	23075	24723	26371	29667	32964
	w	463	515	566	618	669	721	772	824	927	1030
	$F_v$	41	45	50	54	59	63	68	72	82	91
	E	1481	1645	1810	1974	2139	2303	2468	2633	2962	3291
<b>14 x 20</b>	W	16041	17824	19606	21389	23171	24953	26736	28518	32083	35648
	w	501	557	612	668	724	779	835	891	1002	1114
	$F_v$	45	50	55	60	66	71	76	81	91	101
	E	1329	1476	1624	1772	1919	2067	2215	2363	2658	2953
<b>10 x 24</b>	W	16394	18216	20038	21859	23681	25503	27324	29146	32789	36433
	w	512	569	626	683	740	796	853	910	1024	1138
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451

**WOOD BEAMS—SAFE LOAD TABLES**

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

 $F_b$  = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

 $F_v$  = Horizontal shear stress, psi, induced by load WE = Modulus of elasticity, 1000 psi, induced by load W for  $l/360$  limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>32' - 0" SPAN CONT'D</b>											
<b>12 x 22</b>	W	16612	18457	20303	22149	23995	25841	27686	29532	33224	36915
	w	519	576	634	692	749	807	865	922	1038	1153
	$F_v$	50	55	61	67	72	78	83	89	100	111
	E	1205	1339	1473	1607	1741	1875	2009	2143	2411	2679
<b>18 x 18</b>	W	16748	18608	20469	22330	24191	26052	27913	29774	33496	37217
	w	523	581	639	697	755	814	872	930	1046	1163
	$F_v$	41	45	50	54	59	63	68	72	82	91
	E	1481	1645	1810	1974	2139	2303	2468	2633	2962	3291
<b>16 x 20</b>	W	18418	20464	22511	24557	26604	28650	30697	32743	36836	40929
	w	575	639	703	767	831	895	959	1023	1151	1279
	$F_v$	45	50	55	60	66	71	76	81	91	101
	E	1329	1476	1624	1772	1919	2067	2215	2363	2658	2953
<b>14 x 22</b>	W	19501	21667	23834	26001	28168	30335	32501	34668	39002	43335
	w	609	677	744	812	880	947	1015	1083	1218	1354
	$F_v$	50	55	61	67	72	78	83	89	100	111
	E	1205	1339	1473	1607	1741	1875	2009	2143	2411	2679
<b>12 x 24</b>	W	19846	22051	24256	26461	28667	30872	33077	35282	39692	44103
	w	620	689	758	826	895	964	1033	1102	1240	1378
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451
<b>18 x 20</b>	W	20794	23105	25416	27726	30037	32347	34658	36968	41589	46210
	w	649	722	794	866	938	1010	1083	1155	1299	1444
	$F_v$	45	50	55	60	66	71	76	81	91	101
	E	1329	1476	1624	1772	1919	2067	2215	2363	2658	2953
<b>16 x 22</b>	W	22390	24878	27365	29853	32341	34829	37317	39804	44780	49756
	w	699	777	855	932	1010	1088	1166	1243	1399	1554
	$F_v$	50	55	61	67	72	78	83	89	100	111
	E	1205	1339	1473	1607	1741	1875	2009	2143	2411	2679
<b>20 x 20</b>	W	23171	25746	28320	30895	33469	36044	38619	41193	46342	51492
	w	724	804	885	965	1045	1126	1206	1287	1448	1609
	$F_v$	45	50	55	60	66	71	76	81	91	101
	E	1329	1476	1624	1772	1919	2067	2215	2363	2658	2953
<b>14 x 24</b>	W	23298	25886	28475	31064	33652	36241	38830	41418	46596	51773
	w	728	808	889	970	1051	1132	1213	1294	1456	1617
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451
<b>18 x 22</b>	W	25279	28088	30896	33705	36514	39323	42132	44940	50558	56176
	w	789	877	965	1053	1141	1228	1316	1404	1579	1755
	$F_v$	50	55	61	67	72	78	83	89	100	111
	E	1205	1339	1473	1607	1741	1875	2009	2143	2411	2679

## WOOD BEAMS—SAFE LOAD TABLES

SIZE OF BEAM		$F_b$									
		900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>32' - 0" SPAN CONT'D</b>											
<b>16 x 24</b>	W	26749	29721	32693	35666	38638	41610	44582	47554	53499	59443
	w	835	928	1021	1114	1207	1300	1393	1486	1671	1857
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451
<b>20 x 22</b>	W	28168	31298	34427	37557	40687	43817	46947	50077	56336	62596
	w	880	978	1075	1173	1271	1369	1467	1564	1760	1956
	$F_v$	50	55	61	67	72	78	83	89	100	111
	E	1205	1339	1473	1607	1741	1875	2009	2143	2411	2679
<b>18 x 24</b>	W	30201	33556	36912	40268	43623	46979	50335	53690	60402	67113
	w	943	1048	1153	1258	1363	1468	1572	1677	1887	2097
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451
<b>22 x 22</b>	W	31057	34508	37959	41409	44860	48311	51762	55213	62114	69016
	w	970	1078	1186	1294	1401	1509	1617	1725	1941	2156
	$F_v$	50	55	61	67	72	78	83	89	100	111
	E	1205	1339	1473	1607	1741	1875	2009	2143	2411	2679
<b>20 x 24</b>	W	33652	37391	41131	44870	48609	52348	56087	59827	67305	74783
	w	1051	1168	1285	1402	1519	1635	1752	1869	2103	2336
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451
<b>22 x 24</b>	W	37104	41226	45349	49472	53595	57717	61840	65963	74208	82453
	w	1159	1288	1417	1546	1674	1803	1932	2061	2319	2576
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451
<b>24 x 24</b>	W	40555	45062	49568	54074	58580	63086	67593	72099	81111	90124
	w	1267	1408	1549	1689	1830	1971	2112	2253	2534	2816
	$F_v$	55	61	67	73	79	85	91	97	110	122
	E	1102	1225	1348	1470	1593	1715	1838	1960	2205	2451