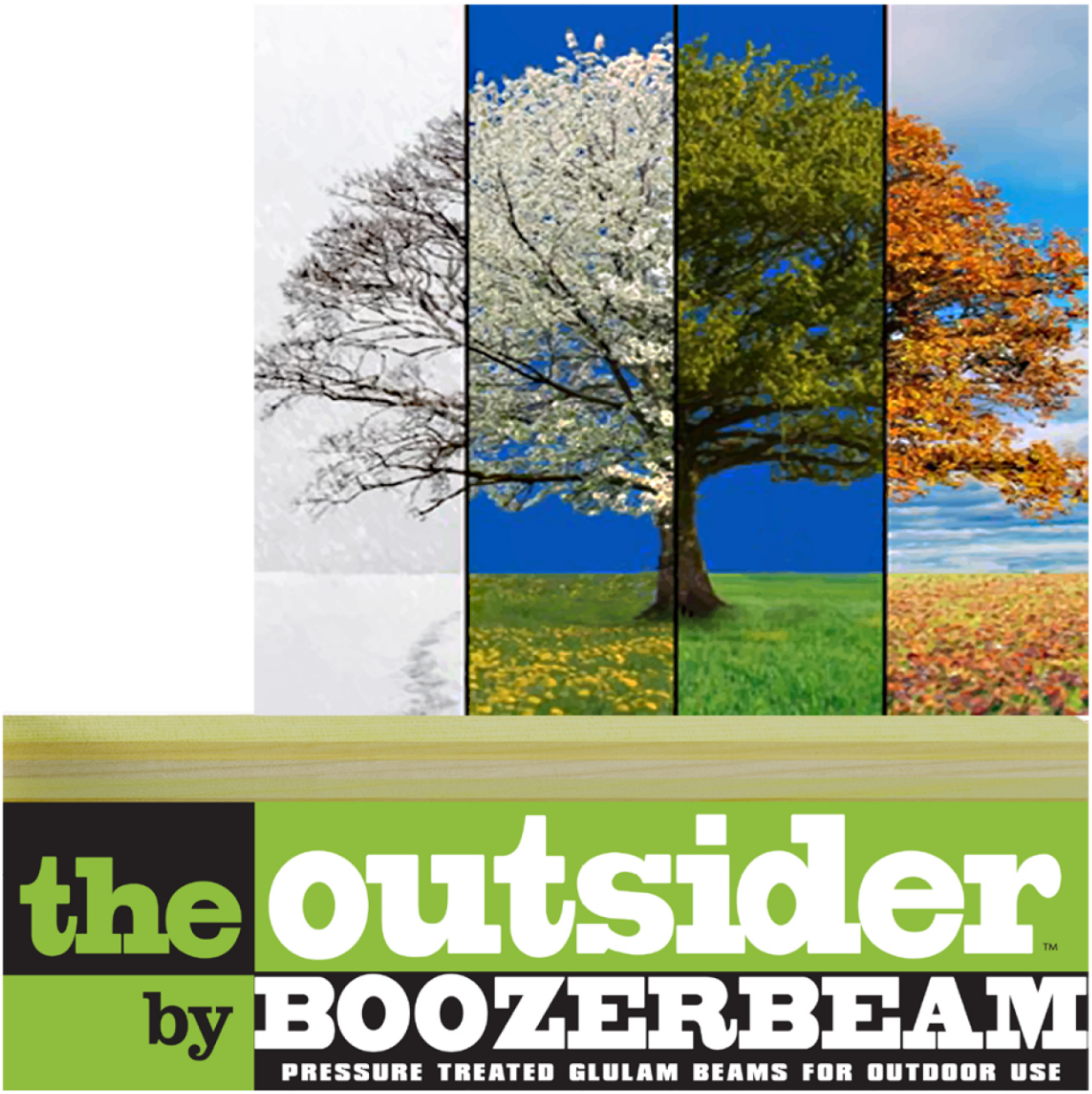


The OUTSIDER™—the finest pressure-treated glulam beams and columns engineered for building outdoors

The Outsider beams and columns are made of **Southern Yellow Pine** and then **pressure treated** to resist rot and decay. Manufactured to match standard framing widths and depths make the Outsider ideal for decks, trellises, porches and balconies.

The OUTSIDER is treated with Cop-Guard™ by Hoover.

The Outsider is treated with Hoover Treated Wood Products' **Cop-Guard (Copper-Nap),** which contains solubized copper naphthenate. Copper-Nap provides resistance to insects, decay, mold, mildew and bacterial growths. Pressure treatment of **The Outsider** is clean, non-swelling, non-leaching and non-corrosive.

OUTSIDER Beams

Beams are manufactured to a performance level of 24F/1.8E with a balanced layup, straight with no designated top or bottom, for easy installation. And of course, **The Outsider** is sized to match **standard framing widths and depths.** They may also be used in both "wet-use" and "dry-use" applications.

Beams Are Available in Common Sizes:

Widths: 3-1/2" , 5-1/4" and 5-7/16"
Depths: 9-1/4", 9-1/2", 11-1/4", 11-7/8", 14", 16" and 18"

OUTSIDER Columns

Columns are manufactured to a combination #50/1.9E lay up and are ideal anywhere a post is needed for your application. Columns placed on a pier block are considered to be in a "dry-use" application, provided it never reached 16% or greater moisture content. The attached Table 1 should be used for these values. However, columns that have direct ground contact or are imbedded constitute a "wet-use" application and **Table 2** applies.

Columns Are Available in Common Sizes:

Widths: 3-1/2", 5-7/16" and 7"
Depths: 3-1/2", 5-1/2" and 7"

Recommended Applications

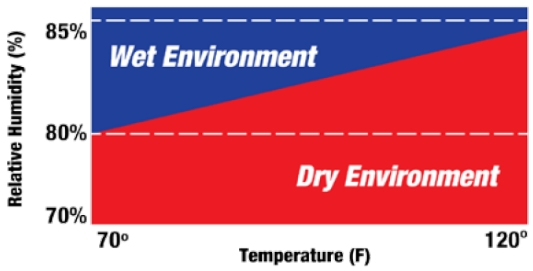
The Outsider is the best engineered wood beam for building outdoors. Wet conditions are no problem. Moisture and decay-resistance helps protect the areas around hardware connections; however, field fabrication and trimming, hole drilling, and minor surface damage should be re-sealed with Copper-Napthenate (available at your local building supply store). Outsider beams and columns should not be used in marine applications such as docks, marinas and standing water conditions.

What are "Wet-use" and "Dry-use"?

Glulam products are often intermittently exposed to the elements. This is typically followed by drying. Even though the beam or column is exposed to the elements, it could be considered to be in a "dry-use" condition provided it never reached 16% or greater moisture content. In this situation, **Table 1** capacity charts may be used.

An application is considered "wet-use" if at anytime the moisture content reaches 16% or greater (see the chart below). These conditions necessitate the use of the **Table 2** capacity chart. Due to The Outsider's exceptional strength and quality, use of "wet-use" tables (**Table 2**) is the most beneficial for more conservative design assurance.

To retain an open-air moisture content of at least 16% (wet-use application), a beam must stay in a wet environment year-round, as illustrated at right.



Treated 2400Fb-1.8E-300Fv Southern Pine Glulam Roof Beams (lbf/ft) – Snow Load (DRY USE)

Load Duration Factor = 1.25, Fbx = 2,400 psi, Fvx = 300 psi, Ex = 1,800,000 psi

3-1/2-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1551	990	685	440	292	203	145	107	81	62	---	---	---	---	---	---	---
9-1/2	1637	1044	723	477	317	220	158	117	88	67	52	---	---	---	---	---	---
11-1/4	2297	1466	1015	743	530	370	267	198	150	116	91	72	57	---	---	---	---
11-7/8	2560	1634	1132	829	625	436	315	234	178	137	108	86	69	55	---	---	---
14	3560	2274	1575	1154	880	693	521	388	296	230	182	145	118	96	79	65	54
16	4652	2972	2059	1509	1152	907	732	584	446	348	276	221	180	148	122	102	85
18	5890	3764	2609	1912	1460	1150	929	762	635	500	397	320	260	214	178	149	125

5-1/4-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	2327	1485	1027	660	438	304	218	161	121	92	71	56	---	---	---	---	---
9-1/2	2455	1566	1084	716	475	330	237	175	132	101	78	61	---	---	---	---	---
11-1/4	3445	2199	1523	1115	796	554	400	297	225	174	136	108	86	69	56	---	---
11-7/8	3840	2452	1697	1243	938	654	472	351	266	206	162	128	103	83	68	55	---
14	5340	3411	2363	1731	1321	1038	781	582	444	345	273	218	176	144	118	98	81
16	6978	4458	3089	2264	1725	1350	1083	876	669	522	413	332	270	221	183	152	127
18	8835	5645	3913	2865	2173	1701	1366	1119	932	750	595	479	391	322	267	223	188

5-7/16-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	2410	1538	1064	684	454	315	226	167	125	96	74	58	---	---	---	---	---
9-1/2	2542	1622	1123	742	492	342	246	181	136	104	81	63	---	---	---	---	---
11-1/4	3568	2278	1577	1154	824	574	414	307	233	180	141	112	89	72	58	---	---
11-7/8	3977	2539	1758	1287	971	677	489	363	276	213	168	133	107	86	70	57	---
14	5531	3533	2447	1793	1368	1073	809	603	460	357	282	226	183	149	122	101	84
16	7227	4617	3200	2345	1783	1396	1120	907	693	541	428	344	279	229	190	158	132
18	9150	5847	4053	2962	2246	1759	1412	1157	964	776	617	497	405	333	277	231	195

Notes:

(1) For preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.

(2) Span = simply supported beam.

(3) Maximum deflection = L/180 under total load. Other deflection limits may apply.

(4) Service condition = dry.

(5) Tabulated values represent total loads and have taken the dead weight of the beam (assumed 37.5 pcf) into account.

(6) Sufficient bearing length shall be provided at supports

(7) Maximum beam shear is located at a distance from the supports equal to the depth of the beam.

(8) Upper-right areas limited by deflection; lower-left areas limited by bending strength.

Treated 2400Fb-1.8E-300Fv Southern Pine Glulam Roof Beams (lbf/ft) – Snow Load (WET USE)

Load Duration Factor = 1.25, Fbx = 2,400 x 0.8 psi, Fvx = 300 x 0.875 psi, Ex = 1,800,000 x 0.833 psi

3-1/2-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1236	787	543	362	239	164	117	85	62	---	---	---	---	---	---	---	---
9-1/2	1304	830	573	393	259	178	127	92	68	51	---	---	---	---	---	---	---
11-1/4	1831	1167	806	588	436	302	216	159	119	91	70	54	---	---	---	---	---
11-7/8	2041	1301	899	656	499	357	256	189	142	108	84	65	51	---	---	---	---
14	2841	1812	1253	916	697	547	427	316	240	185	144	114	91	73	59	---	---
16	3713	2369	1639	1199	913	717	577	473	364	282	222	176	142	115	94	77	63
18	4702	3001	2077	1520	1159	911	733	600	498	407	322	257	208	170	139	115	95

5-1/4-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1854	1180	814	543	358	246	175	127	94	70	53	---	---	---	---	---	---
9-1/2	1956	1245	859	589	389	268	190	138	103	77	58	---	---	---	---	---	---
11-1/4	2747	1751	1209	883	654	453	325	239	179	136	105	81	63	---	---	---	---
11-7/8	3062	1952	1348	985	749	536	384	283	213	163	126	98	77	60	---	---	---
14	4261	2717	1879	1373	1045	819	640	474	359	277	216	171	136	109	88	71	57
16	5570	3554	2459	1798	1367	1067	854	697	546	423	332	265	213	172	140	115	94
18	7053	4502	3116	2277	1724	1347	1078	881	732	611	482	386	312	254	209	172	143

5-7/16-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1920	1222	843	562	371	255	181	131	97	72	54	---	---	---	---	---	---
9-1/2	2026	1290	890	610	403	277	197	143	106	80	60	---	---	---	---	---	---
11-1/4	2845	1813	1252	914	678	469	336	247	185	141	108	84	65	51	---	---	---
11-7/8	3172	2021	1397	1020	775	555	398	293	221	168	130	102	80	62	---	---	---
14	4413	2815	1946	1423	1083	847	663	491	372	287	224	177	141	113	91	73	59
16	5769	3681	2546	1862	1413	1103	883	721	565	438	344	274	220	178	145	119	97
18	7305	4663	3227	2355	1782	1392	1115	911	756	633	499	399	323	263	216	179	148

Notes:

(1) For preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.
(2) Span = simply supported beam.
(3) Maximum deflection = L/180 under total load. Other deflection limits may apply.
(4) Service condition = wet.
(5) Tabulated values represent total loads and have taken the dead weight of the beam (assumed 52 pcf) into account.
(6) Sufficient bearing length shall be provided at supports
(7) Maximum beam shear is located at a distance from the supports equal to the depth of the beam.
(8) Upper-right areas limited by deflection; lower-left areas limited by bending strength.

Treated 2400Fb-1.8E-300Fv Southern Pine Glulam Roof Beams (lbf/ft) – Snow Load (DRY USE)

Load Duration Factor = 1.15, Fbx = 2,400 psi, Fvx = 300 psi, Ex = 1,800,000 psi

3-1/2-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1427	910	629	440	292	203	145	107	81	62	---	---	---	---	---	---	---
9-1/2	1505	960	664	477	317	220	158	117	88	67	52	---	---	---	---	---	---
11-1/4	2112	1348	933	683	520	370	267	198	150	116	91	72	57	---	---	---	---
11-7/8	2354	1503	1040	761	580	436	315	234	178	137	108	86	69	55	---	---	---
14	3274	2091	1448	1061	809	637	513	388	296	230	182	145	118	96	79	65	54
16	4279	2733	1894	1387	1059	833	672	553	446	348	276	221	180	148	122	102	85
18	5417	3461	2399	1758	1342	1057	853	700	583	492	397	320	260	214	178	149	125

5-1/4-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	2140	1365	944	660	438	304	218	161	121	92	71	56	---	---	---	---	---
9-1/2	2257	1440	996	716	475	330	237	175	132	101	78	61	---	---	---	---	---
11-1/4	3168	2022	1400	1024	781	554	400	297	225	174	136	108	86	69	56	---	---
11-7/8	3531	2254	1560	1142	871	654	472	351	266	206	162	128	103	83	68	55	---
14	4911	3136	2172	1591	1214	954	765	582	444	345	273	218	176	144	118	98	81
16	6418	4100	2840	2081	1585	1240	995	815	669	522	413	332	270	221	183	152	127
18	8126	5192	3598	2634	1997	1563	1255	1028	856	723	595	479	391	322	267	223	188

5-7/16-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	2216	1414	978	684	454	315	226	167	125	96	74	58	---	---	---	---	---
9-1/2	2338	1491	1032	742	492	342	246	181	136	104	81	63	---	---	---	---	---
11-1/4	3282	2094	1450	1061	808	574	414	307	233	180	141	112	89	72	58	---	---
11-7/8	3657	2335	1616	1183	902	677	489	363	276	213	168	133	107	86	70	57	---
14	5087	3248	2250	1648	1257	986	791	603	460	357	282	226	183	149	122	101	84
16	6647	4246	2942	2155	1639	1282	1029	842	693	541	428	344	279	229	190	158	132
18	8416	5377	3726	2723	2065	1616	1297	1063	885	747	617	497	405	333	277	231	195

Notes:

(1) For preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.

(2) Span = simply supported beam.

(3) Maximum deflection = L/180 under total load. Other deflection limits may apply.

(4) Service condition = dry.

(5) Tabulated values represent total loads and have taken the dead weight of the beam (assumed 37.5 pcf) into account.

(6) Sufficient bearing length shall be provided at supports

(7) Maximum beam shear is located at a distance from the supports equal to the depth of the beam.

(8) Upper-right areas limited by deflection; lower-left areas limited by bending strength.

Treated 2400Fb-1.8E-300Fv Southern Pine Glulam Roof Beams (lbf/ft) – Snow Load (WET USE)

Load Duration Factor = 1.15, Fbx = 2,400 x 0.8 psi, Fvx = 300 x 0.875 psi, Ex = 1,800,000 x 0.833 psi

3-1/2-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1136	723	499	362	239	164	117	85	62	---	---	---	---	---	---	---	---
9-1/2	1199	763	526	383	259	178	127	92	68	51	---	---	---	---	---	---	---
11-1/4	1684	1073	740	540	410	302	216	159	119	91	70	54	---	---	---	---	---
11-7/8	1877	1196	826	603	458	357	256	189	142	108	84	65	51	---	---	---	---
14	2612	1665	1151	841	640	502	403	316	240	185	144	114	91	73	59	---	---
16	3414	2178	1506	1101	838	658	529	434	361	282	222	176	142	115	94	77	63
18	4324	2759	1909	1397	1064	836	673	550	456	384	322	257	208	170	139	115	95

5-1/4-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1704	1085	748	543	358	246	175	127	94	70	53	---	---	---	---	---	---
9-1/2	1798	1144	789	575	389	268	190	138	103	77	58	---	---	---	---	---	---
11-1/4	2526	1609	1111	810	615	453	325	239	179	136	105	81	63	---	---	---	---
11-7/8	2815	1794	1239	904	687	536	384	283	213	163	126	98	77	60	---	---	---
14	3918	2498	1727	1261	960	752	601	474	359	277	216	171	136	109	88	71	57
16	5122	3267	2259	1652	1255	979	783	639	530	423	332	265	213	172	140	115	94
18	6486	4139	2864	2092	1583	1236	989	808	670	564	479	386	312	254	209	172	143

5-7/16-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1765	1123	774	562	371	255	181	131	97	72	54	---	---	---	---	---	---
9-1/2	1862	1185	817	596	403	277	197	143	106	80	60	---	---	---	---	---	---
11-1/4	2616	1666	1150	839	637	469	336	247	185	141	108	84	65	51	---	---	---
11-7/8	2916	1858	1283	936	712	555	398	293	221	168	130	102	80	62	---	---	---
14	4058	2587	1788	1307	994	777	621	491	372	287	224	177	141	113	91	73	59
16	5305	3384	2340	1711	1298	1013	810	660	547	438	344	274	220	178	145	119	97
18	6718	4287	2966	2163	1637	1278	1023	835	693	583	496	399	323	263	216	179	148

Notes:

(1) For preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.

(2) Span = simply supported beam.

(3) Maximum deflection = L/180 under total load. Other deflection limits may apply.

(4) Service condition = wet.

(5) Tabulated values represent total loads and have taken the dead weight of the beam (assumed 52 pcf) into account.

(6) Sufficient bearing length shall be provided at supports

(7) Maximum beam shear is located at a distance from the supports equal to the depth of the beam.

(8) Upper-right areas limited by deflection; lower-left areas limited by bending strength.

2400Fb-1.8E-300Fv Southern Pine Glulam Floor Beams (lbf/ft) (DRY USE)

Load Duration Factor = 1.0, Fbx = 2,400 psi, Fvx = 300 psi, Ex = 1,800,000 psi

3-1/2-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1239	761	437	272	179	124	88	64	---	---	---	---	---	---	---	---	---
9-1/2	1307	825	474	295	195	134	96	70	52	---	---	---	---	---	---	---	---
11-1/4	1835	1171	791	494	328	227	163	120	90	69	53	---	---	---	---	---	---
11-7/8	2046	1305	903	582	387	268	193	142	107	82	63	---	---	---	---	---	---
14	2846	1817	1258	921	639	445	321	238	180	139	109	86	69	55	---	---	---
16	3719	2375	1645	1204	919	668	483	359	273	212	167	133	107	87	71	58	---
18	4709	3008	2084	1526	1165	917	692	516	394	306	242	194	157	128	105	87	72

5-1/4-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1859	1142	655	408	269	185	132	96	71	53	---	---	---	---	---	---	---
9-1/2	1961	1237	711	443	292	201	143	104	77	58	---	---	---	---	---	---	---
11-1/4	2753	1756	1186	741	492	341	244	180	135	103	79	62	---	---	---	---	---
11-7/8	3068	1958	1355	874	580	403	289	213	160	123	95	74	58	---	---	---	---
14	4268	2725	1886	1381	958	667	481	357	270	209	163	129	103	83	67	54	---
16	5578	3562	2467	1807	1375	1002	725	539	410	318	250	199	160	130	106	87	71
18	7063	4511	3125	2287	1733	1356	1039	774	591	459	363	290	235	192	158	130	108

5-7/16-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1925	1182	679	423	279	192	136	99	73	55	---	---	---	---	---	---	---
9-1/2	2031	1282	736	458	303	209	148	108	80	60	---	---	---	---	---	---	---
11-1/4	2852	1819	1229	768	509	353	253	186	140	106	82	64	---	---	---	---	---
11-7/8	3178	2028	1403	905	601	417	299	221	166	127	98	77	60	---	---	---	---
14	4421	2822	1954	1430	992	691	498	369	280	216	169	134	107	86	69	56	---
16	5777	3689	2555	1871	1422	1038	751	558	425	329	259	206	166	135	110	90	74
18	7315	4673	3237	2364	1792	1402	1076	802	612	476	376	301	243	199	163	135	112

Notes:

(1) For preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.

(2) Span = simply supported beam.

(3) Maximum deflection = L/360 under live load, based on live/total load = 0.8. Where additional stiffness is desired or for other live/total load ratios, design for deflection must be modified per requirements.

(4) Service condition = dry.

(5) Tabulated values represent total loads based on live/total load = 0.8 and have taken the dead weight of the beam (assumed 37.5 pcf) into account.

(6) Sufficient bearing length shall be provided at supports

(7) Maximum beam shear is located at a distance from the supports equal to the depth of the beam.

(8) Upper-right areas limited by deflection; lower-left areas limited by bending strength.

2400Fb-1.8E-300Fv Southern Pine Glulam Floor Beams (lbf/ft) (WET USE)

Load Duration Factor = 1.0, Fbx = 2,400 x 0.8 psi, Fvx = 300 x 0.875 psi, Ex = 1,800,000 x 0.833 psi

3-1/2-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	987	627	359	222	145	98	68	---	---	---	---	---	---	---	---	---	---
9-1/2	1041	662	390	241	158	107	75	53	---	---	---	---	---	---	---	---	---
11-1/4	1462	931	642	406	267	184	130	94	69	51	---	---	---	---	---	---	---
11-7/8	1630	1038	716	479	316	218	155	112	83	62	---	---	---	---	---	---	---
14	2269	1446	999	729	525	363	260	191	143	109	84	65	50	---	---	---	---
16	2966	1891	1307	955	726	549	394	291	220	169	131	103	81	64	51	---	---
18	3757	2396	1657	1212	922	724	568	421	319	246	192	152	121	97	78	63	51

5-1/4-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1480	941	539	333	217	147	103	73	52	---	---	---	---	---	---	---	---
9-1/2	1561	993	585	362	236	161	112	80	57	---	---	---	---	---	---	---	---
11-1/4	2194	1396	963	609	401	275	195	141	104	77	57	---	---	---	---	---	---
11-7/8	2445	1557	1074	719	474	326	232	169	125	93	70	53	---	---	---	---	---
14	3403	2169	1498	1093	787	545	390	287	215	163	125	97	75	58	---	---	---
16	4450	2837	1961	1433	1087	823	592	437	330	253	196	154	122	96	76	60	---
18	5636	3595	2486	1815	1372	1071	851	631	478	369	289	228	182	146	118	95	77

5-7/16-INCH WIDTH	SPAN (ft)																
Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
9-1/4	1533	974	558	345	225	153	106	75	54	---	---	---	---	---	---	---	---
9-1/2	1617	1028	606	374	245	166	116	83	59	---	---	---	---	---	---	---	---
11-1/4	2272	1446	997	631	415	285	202	146	107	80	60	---	---	---	---	---	---
11-7/8	2533	1612	1113	745	491	338	240	175	129	97	73	55	---	---	---	---	---
14	3525	2246	1551	1133	815	564	404	297	222	169	130	100	78	60	---	---	---
16	4609	2938	2031	1484	1124	852	613	453	341	262	203	159	126	100	79	63	---
18	5837	3723	2575	1877	1419	1107	882	654	495	382	299	236	189	151	122	98	79

Notes:

(1) For preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.

(2) Span = simply supported beam.

(3) Maximum deflection = L/360 under live load, based on live/total load = 0.8. Where additional stiffness is desired or for other live/total load ratios, design for deflection must be modified per requirements.

(4) Service condition = wet.

(5) Tabulated values represent total loads based on live/total load = 0.8 and have taken the dead weight of the beam (assumed 52 pcf) into account.

(6) Sufficient bearing length shall be provided at supports

(7) Maximum beam shear is located at a distance from the supports equal to the depth of the beam.

(8) Upper-right areas limited by deflection; lower-left areas limited by bending strength.

Allowable Axial Loads (Pounds) for Combination No. 50 Glulam Column (DRY USE)

Side loads are not permitted. End loads are limited to a maximum eccentricity of either 1/6 column width or depth, whichever is worse.

Effective Column Length (ft)	Lamination Net Width = 3-1/2 in.														
	Net Depth = 3-1/2 in. (3 lams)			Net Depth = 4-1/4 in. (4 lams)			Net Depth = 5-1/2 in. (4 lams)			Net Depth = 7 in. (6 lams)			Net Depth = 8-1/4 in. (6 lams)		
	Load Duration Factor			Load Duration Factor			Load Duration Factor			Load Duration Factor			Load Duration Factor		
	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25
4	11,970	13,420	14,330	17,180	19,220	20,510	23,320	25,890	27,460	29,700	32,950	34,950	35,010	38,830	41,200
5	10,840	11,950	12,620	15,450	16,960	17,850	20,340	22,080	23,100	25,890	28,100	29,400	30,520	33,120	34,650
6	9,560	10,330	10,770	13,300	14,150	14,640	17,210	18,310	18,950	21,900	23,300	24,110	25,810	27,470	28,420
7	8,240	8,760	9,060	11,110	11,680	12,000	14,380	15,110	15,530	18,300	19,230	19,770	21,570	22,670	23,300
8	7,050	7,410	7,610	9,320	9,710	9,940	12,060	12,570	12,860	15,350	16,000	16,370	18,090	18,860	19,300
9	6,040	6,300	6,450	7,880	8,170	8,340	10,200	10,570	10,790	12,980	13,460	13,730	15,300	15,860	16,180
10	5,210	5,400	5,520	6,730	6,950	7,080	8,710	8,990	9,160	11,090	11,450	11,650	13,070	13,490	13,730
11	4,520	4,670	4,760	5,810	5,980	6,070	7,520	7,730	7,860	9,570	9,840	10,000	11,270	11,600	11,790
12	3,960	4,080	4,150	5,050	5,190	5,260	6,540	6,710	6,810	8,330	8,540	8,670	9,810	10,070	10,220
13	3,490	3,590	3,640	4,440	4,540	4,600	5,740	5,880	5,960	7,310	7,480	7,580	8,610	8,820	8,930
14	3,100	3,170	3,220	3,920	4,010	4,060	5,080	5,190	5,250	6,460	6,600	6,680	7,610	7,780	7,880

Notes:

1. The tabulated allowable loads apply only to one-piece glulam members made with all N1D14 laminations (Combination 50) without special tension laminations.
2. Applicable service conditions = dry
3. The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse.
   For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2015 NDS
4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
5. Design properties for normal load duration and dry-use service conditions:
   Compression parallel to grain (F_c) = 2,300 psi for 4 or more lams, or 1,700 psi for 2 or 3 lams.
   Modulus of elasticity (E) = 1.9 x 10^6 psi
   Flexural stress when loaded parallel to wide faces of lamination (F_{by}) = 2,300 psi for 4 or more lams, or 2,100 psi for 3 lams.
   Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = 2,100 psi for 2 lams to 15 in. deep without special tension laminations.
   Volume factor for F_{bx} is in accordance with 2015 NDS. Size factor for F_{by} is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.

Allowable Axial Loads (Pounds) for Combination No. 50 Glulam Column (WET USE)

Side loads are not permitted. End loads are limited to a maximum eccentricity of either 1/6 column width or depth, whichever is worse.

Effective Column Length (ft)	Lamination Net Width = 3-1/2 in.														
	Net Depth = 3-1/2 in. (3 lams)			Net Depth = 4-1/4 in. (4 lams)			Net Depth = 5-1/2 in. (4 lams)			Net Depth = 7 in. (6 lams)			Net Depth = 8-1/4 in. (6 lams)		
	Load Duration Factor			Load Duration Factor			Load Duration Factor			Load Duration Factor			Load Duration Factor		
	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25
4	9,250	10,400	11,140	13,370	15,020	16,060	18,040	20,290	21,590	23,170	25,820	27,470	27,300	30,430	32,380
5	8,490	9,410	9,970	12,200	13,460	14,230	16,140	17,630	18,510	20,540	22,430	23,560	24,210	26,440	27,760
6	7,600	8,270	8,660	10,720	11,470	11,900	13,870	14,840	15,400	17,660	18,890	19,590	20,810	22,260	23,090
7	6,650	7,100	7,360	9,050	9,540	9,820	11,710	12,350	12,710	14,910	15,720	16,180	17,570	18,520	19,070
8	5,740	6,050	6,230	7,630	7,970	8,170	9,880	10,320	10,570	12,570	13,130	13,450	14,810	15,470	15,850
9	4,940	5,170	5,300	6,470	6,720	6,860	8,380	8,700	8,880	10,660	11,070	11,310	12,570	13,050	13,320
10	4,270	4,440	4,540	5,540	5,730	5,830	7,170	7,410	7,550	9,130	9,440	9,610	10,760	11,120	11,330
11	3,720	3,850	3,920	4,790	4,930	5,010	6,200	6,380	6,490	7,890	8,120	8,260	9,290	9,570	9,730
12	3,260	3,360	3,420	4,170	4,290	4,350	5,400	5,550	5,630	6,870	7,060	7,160	8,100	8,320	8,440
13	2,880	2,960	3,010	3,660	3,760	3,810	4,740	4,860	4,930	6,040	6,190	6,270	7,110	7,290	7,390
14	2,560	2,620	2,660	3,240	3,320	3,360	4,200	4,290	4,350	5,340	5,460	5,530	6,290	6,440	6,520

Notes:

1. The tabulated allowable loads apply only to one-piece glulam members made with all N1D14 laminations (Combination 50) without special tension laminations.
2. Applicable service conditions = wet
3. The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse.
   For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2015 NDS
4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
5. Design properties for normal load duration and wet-use service conditions:
   Compression parallel to grain (F_c) = 2,300 x 0.73 psi for 4 or more lams, or 1,700 x 0.73 psi for 2 or 3 lams.
   Modulus of elasticity (E) = 1.9 x 0.833 x 10^6 psi
   Flexural stress when loaded parallel to wide faces of lamination (F_{by}) = 2,300 x 0.8 psi for 4 or more lams, or 2,100 x 0.8 psi for 3 lams.
   Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = 2,100 x 0.8 psi for 2 lams to 15 in. deep without special tension laminations.
   Volume factor for F_{bx} is in accordance with 2015 NDS. Size factor for F_{by} is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.

Allowable Axial Loads (Pounds) for Combination No. 50 Glulam Column (DRY USE)

Side loads are not permitted. End loads are limited to a maximum eccentricity of either 1/6 column width or depth, whichever is worse.

Effective Column Length (ft)	Lamination Net Width = 5-1/2 in.											
	Net Depth = 5-1/2 in. (4 lams)			Net Depth = 7 in. (6 lams)			Net Depth = 8-1/4 in. (6 lams)			Net Depth = 9-5/8 in. (7 lams)		
	Load Duration Factor			Load Duration Factor			Load Duration Factor			Load Duration Factor		
	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25
4	37,760	42,840	46,150	49,420	56,300	60,810	58,990	67,330	72,820	69,400	79,320	85,860
5	35,880	40,390	43,280	47,710	54,040	58,140	57,350	65,140	70,210	67,790	76,940	82,420
6	33,680	37,530	39,950	45,610	51,260	54,840	54,950	61,180	65,070	64,110	71,370	75,910
7	31,220	34,370	36,300	43,100	47,380	49,960	50,800	55,840	58,880	59,260	65,140	68,690
8	28,570	31,050	32,520	39,290	42,590	44,520	46,310	50,190	52,470	54,030	58,560	61,220
9	25,870	27,780	28,900	35,400	37,880	39,320	41,720	44,650	46,340	48,680	52,090	54,060
10	23,270	24,750	25,610	31,680	33,560	34,650	37,330	39,560	40,840	43,560	46,150	47,640
11	20,890	22,060	22,740	28,290	29,760	30,600	33,340	35,070	36,070	38,900	40,920	42,080
12	18,770	19,710	20,250	25,300	26,470	27,140	29,820	31,190	31,990	34,790	36,390	37,320
13	16,910	17,680	18,120	22,690	23,640	24,180	26,750	27,860	28,500	31,200	32,500	33,250
14	15,280	15,910	16,280	20,430	21,210	21,660	24,080	25,000	25,520	28,090	29,160	29,780
15	13,860	14,390	14,690	18,470	19,110	19,490	21,760	22,530	22,970	25,390	26,280	26,790
16	12,610	13,060	13,320	16,760	17,300	17,610	19,750	20,390	20,760	23,040	23,790	24,220
17	11,520	11,900	12,120	15,260	15,730	15,990	17,990	18,530	18,850	20,990	21,620	21,990
18	10,550	10,880	11,070	13,950	14,350	14,580	16,440	16,910	17,180	19,190	19,730	20,040
19	9,700	9,980	10,150	12,800	13,140	13,340	15,090	15,490	15,720	17,600	18,070	18,340
20	8,940	9,190	9,330	11,780	12,080	12,250	13,880	14,230	14,430	16,200	16,600	16,840
21	8,270	8,490	8,610	10,870	11,130	11,280	12,820	13,120	13,300	14,950	15,310	15,510
22	7,670	7,860	7,970	10,070	10,290	10,420	11,860	12,130	12,290	13,840	14,150	14,330

Notes:

1. The tabulated allowable loads apply only to one-piece glulam members made with all N1D14 laminations (Combination 50) without special tension laminations.
2. Applicable service conditions = dry
3. The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse.
   For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2015 NDS
4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
5. Design properties for normal load duration and dry-use service conditions:
   Compression parallel to grain (F_c) = 2,300 psi for 4 or more lams, or 1,700 psi for 2 or 3 lams.
   Modulus of elasticity (E) = 1.9 x 10^6 psi
   Flexural stress when loaded parallel to wide faces of lamination (F_{by}) = 2,300 psi for 4 or more lams, or 2,100 psi for 3 lams.
   Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = 2,100 psi for 2 lams to 15 in. deep without special tension laminations.
   Volume factor for F_{bx} is in accordance with 2015 NDS. Size factor for F_{by} is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.

Allowable Axial Loads (Pounds) for Combination No. 50 Glulam Column (WET USE)

Side loads are not permitted. End loads are limited to a maximum eccentricity of either 1/6 column width or depth, whichever is worse.

Effective Column Length (ft)	Lamination Net Width = 5-1/2 in.											
	Net Depth = 5-1/2 in. (4 lams)			Net Depth = 7 in. (6 lams)			Net Depth = 8-1/4 in. (6 lams)			Net Depth = 9-5/8 in. (7 lams)		
	Load Duration Factor			Load Duration Factor			Load Duration Factor			Load Duration Factor		
	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25
4	29,100	33,080	35,670	37,940	43,270	46,780	45,200	51,640	55,890	53,120	60,760	65,800
5	27,840	31,420	33,720	36,800	41,760	44,990	44,110	50,190	54,160	52,050	59,320	63,930
6	26,330	29,450	31,420	35,390	39,890	42,770	42,730	47,830	51,010	49,910	55,810	59,520
7	24,620	27,240	28,850	33,700	37,460	39,640	39,950	44,150	46,720	46,610	51,510	54,510
8	22,750	24,860	26,130	31,240	34,070	35,740	36,820	40,150	42,130	42,950	46,840	49,150
9	20,790	22,440	23,410	28,440	30,600	31,860	33,520	36,070	37,540	39,100	42,080	43,800
10	18,840	20,120	20,860	25,650	27,300	28,240	30,230	32,170	33,290	35,270	37,540	38,830
11	17,010	18,010	18,590	23,040	24,310	25,040	27,150	28,650	29,510	31,680	33,430	34,430
12	15,330	16,140	16,600	20,680	21,690	22,260	24,380	25,560	26,240	28,440	29,820	30,610
13	13,850	14,500	14,880	18,600	19,410	19,880	21,920	22,880	23,430	25,580	26,690	27,330
14	12,540	13,080	13,390	16,780	17,440	17,820	19,770	20,560	21,010	23,070	23,980	24,510
15	11,390	11,840	12,100	15,190	15,740	16,060	17,900	18,550	18,920	20,880	21,640	22,080
16	10,370	10,760	10,980	13,800	14,260	14,530	16,260	16,810	17,120	18,970	19,610	19,970
17	9,480	9,810	10,000	12,580	12,970	13,200	14,830	15,290	15,560	17,300	17,840	18,150
18	8,700	8,980	9,140	11,510	11,850	12,040	13,560	13,960	14,190	15,820	16,290	16,550
19	8,000	8,240	8,380	10,560	10,860	11,020	12,450	12,790	12,990	14,530	14,930	15,150
20	7,380	7,590	7,710	9,730	9,980	10,120	11,470	11,760	11,930	13,380	13,720	13,920
21	6,830	7,010	7,120	8,980	9,210	9,330	10,590	10,850	11,000	12,350	12,660	12,830
22	6,330	6,500	6,590	8,320	8,520	8,630	9,810	10,040	10,170	11,440	11,710	11,860

Notes:

1. The tabulated allowable loads apply only to one-piece glulam members made with all N1D14 laminations (Combination 50) without special tension laminations.
2. Applicable service conditions = wet
3. The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse.
   For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2015 NDS
4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
5. Design properties for normal load duration and wet-use service conditions:
   Compression parallel to grain (F_c) = 2,300 x 0.73 psi for 4 or more lams, or 1,700 x 0.73 psi for 2 or 3 lams.
   Modulus of elasticity (E) = 1.9 x 0.833 x 10^6 psi
   Flexural stress when loaded parallel to wide faces of lamination (F_{bv}) = 2,300 x 0.8 psi for 4 or more lams, or 2,100 x 0.8 psi for 3 lams.
   Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = 2,100 x 0.8 psi for 2 lams to 15 in. deep without special tension laminations.
   Volume factor for F_{bx} is in accordance with 2015 NDS. Size factor for F_{by} is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.

Allowable Axial Loads (Pounds) for Combination No. 50 Glulam Column (DRY USE)

Side loads are not permitted. End loads are limited to a maximum eccentricity of either 1/6 column width or depth, whichever is worse.

Effective Column Length (ft)	Lamination Net Width = 7 in.								
	Net Depth = 7 in. (6 lams)			Net Depth = 8-1/4 in. (6 lams)			Net Depth = 9-5/8 in. (7 lams)		
	Load Duration Factor			Load Duration Factor			Load Duration Factor		
	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25
8	53,460	59,380	63,060	66,190	74,000	78,900	78,960	87,620	92,980
9	50,270	55,300	58,360	62,940	69,730	73,540	74,100	81,400	85,800
10	46,900	51,070	53,550	59,110	64,220	67,230	68,960	74,930	78,440
11	43,460	46,860	48,850	54,600	58,700	61,090	63,700	68,490	71,270
12	40,070	42,840	44,450	50,160	53,450	55,360	58,510	62,360	64,580
13	36,840	39,110	40,430	45,940	48,620	50,170	53,600	56,730	58,530
14	33,840	35,730	36,830	42,060	44,270	45,540	49,070	51,650	53,130
15	31,110	32,700	33,620	38,540	40,380	41,440	44,960	47,110	48,350
16	28,630	29,990	30,770	35,370	36,930	37,820	41,270	43,080	44,130
17	26,410	27,570	28,240	32,530	33,860	34,620	37,950	39,500	40,400
18	24,400	25,400	25,980	29,990	31,130	31,790	34,990	36,320	37,090
19	22,600	23,470	23,970	27,710	28,700	29,270	32,330	33,490	34,150
20	20,980	21,740	22,180	25,670	26,530	27,030	29,950	30,960	31,540
21	19,510	20,180	20,570	23,840	24,590	25,030	27,810	28,690	29,200
22	18,190	18,780	19,120	22,180	22,850	23,230	25,880	26,660	27,100
23	16,990	17,510	17,820	20,690	21,280	21,620	24,130	24,830	25,220
24	15,900	16,370	16,640	19,330	19,860	20,160	22,560	23,170	23,520
25	14,910	15,330	15,570	18,100	18,580	18,850	21,120	21,670	21,990
26	14,000	14,380	14,600	16,990	17,410	17,650	19,820	20,310	20,590
27	13,170	13,520	13,710	15,970	16,350	16,570	18,630	19,070	19,330
28	12,410	12,720	12,900	15,030	15,380	15,580	17,540	17,940	18,170
29	11,720	12,000	12,160	14,180	14,490	14,670	16,540	16,910	17,110

Notes:

1. The tabulated allowable loads apply only to one-piece glulam members made with all N1D14 laminations (Combination 50) without special tension laminations.
2. Applicable service conditions = dry
3. The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse. For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2015 NDS
4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
5. Design properties for normal load duration and dry-use service conditions:
   Compression parallel to grain (F_c) = 2,300 psi for 4 or more lams, or 1,700 psi for 2 or 3 lams.
   Modulus of elasticity (E) = 1.9 x 10^6 psi
   Flexural stress when loaded parallel to wide faces of lamination (F_{by}) = 2,300 psi for 4 or more lams, or 2,100 psi for 3 lams.
   Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = 2,100 psi for 2 lams to 15 in. deep without special tension laminations.
   Volume factor for F_{bx} is in accordance with 2015 NDS. Size factor for F_{by} is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.

Allowable Axial Loads (Pounds) for Combination No. 50 Glulam Column (WET USE)

Side loads are not permitted. End loads are limited to a maximum eccentricity of either 1/6 column width or depth, whichever is worse.

Effective Column Length (ft)	Lamination Net Width = 7 in.								
	Net Depth = 7 in. (6 lams)			Net Depth = 8-1/4 in. (6 lams)			Net Depth = 9-5/8 in. (7 lams)		
	Load Duration Factor			Load Duration Factor			Load Duration Factor		
	1.00	1.15	1.25	1.00	1.15	1.25	1.00	1.15	1.25
8	41,890	46,720	49,750	51,570	57,860	61,850	61,680	68,750	73,170
9	39,670	43,860	46,430	49,360	54,940	58,410	58,340	64,430	68,150
10	37,300	40,840	42,960	46,900	51,300	53,900	54,750	59,850	62,880
11	34,820	37,750	39,470	43,710	47,270	49,350	50,990	55,150	57,570
12	32,310	34,710	36,100	40,440	43,320	44,980	47,180	50,540	52,470
13	29,870	31,830	32,970	37,260	39,590	40,930	43,470	46,190	47,750
14	27,550	29,170	30,110	34,250	36,160	37,260	39,960	42,190	43,470
15	25,390	26,760	27,550	31,480	33,070	33,980	36,730	38,580	39,640
16	23,430	24,580	25,250	28,960	30,290	31,060	33,790	35,340	36,240
17	21,640	22,630	23,200	26,680	27,820	28,470	31,130	32,450	33,220
18	20,030	20,880	21,370	24,630	25,610	26,170	28,740	29,870	30,530
19	18,570	19,310	19,740	22,790	23,630	24,120	26,590	27,570	28,140
20	17,250	17,900	18,270	21,130	21,860	22,290	24,650	25,510	26,000
21	16,060	16,630	16,960	19,630	20,280	20,650	22,910	23,660	24,090
22	14,980	15,490	15,770	18,280	18,850	19,180	21,330	21,990	22,370
23	14,000	14,450	14,710	17,060	17,570	17,850	19,910	20,490	20,830
24	13,110	13,510	13,740	15,950	16,400	16,660	18,610	19,140	19,440
25	12,300	12,660	12,860	14,950	15,350	15,580	17,440	17,910	18,170
26	11,560	11,880	12,070	14,030	14,390	14,600	16,370	16,790	17,030
27	10,880	11,170	11,340	13,190	13,520	13,700	15,390	15,770	15,990
28	10,260	10,520	10,670	12,430	12,720	12,890	14,500	14,840	15,030
29	9,680	9,920	10,060	11,720	11,990	12,140	13,680	13,990	14,160

Notes:

1. The tabulated allowable loads apply only to one-piece glulam members made with all N1D14 laminations (Combination 50) without special tension laminations.
2. Applicable service conditions = wet
3. The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse. For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2015 NDS
4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
5. Design properties for normal load duration and wet-use service conditions:
   Compression parallel to grain (F_c) = 2,300 x 0.73 psi for 4 or more lams, or 1,700 x 0.73 psi for 2 or 3 lams.
   Modulus of elasticity (E) = 1.9 x 0.833 x 10^6 psi
   Flexural stress when loaded parallel to wide faces of lamination (F_{by}) = 2,300 x 0.8 psi for 4 or more lams, or 2,100 x 0.8 psi for 3 lams.
   Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = 2,100 x 0.8 psi for 2 lams to 15 in. deep without special tension laminations.
   Volume factor for F_{bx} is in accordance with 2015 NDS. Size factor for F_{by} is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.

BOOZERBEAM™

INSTALLATION AND STORAGE REQUIREMENTS AND USE MEASURES APPLICABLE TO ALL BOOZER PRODUCTS.

(Revised as of January 18, 2019)

Specific use, storage and installation requirements and instructions applicable to all Boozer products, including but not limited to Boozer Glued Laminated Timber Beams, Treated Beams, Columns, Joists, and Headers (the "Product") may be found at http://boozer-beam.com/products/. The following precautions should be taken both when handling any BoozerBeam™ Product and in determining where to use and dispose of the Product. These requirements and instructions are provided as part of and incorporated by reference into Boozer's Limited Warranty.

- The Product should not be exposed to the elements (sun, rain, snow, water, moisture, excessive heat, excessive cold, etc.), other than very short periods prior to installation.
- The Product should not be used in direct water or marine applications, below grade, or in applications in which the Product is in direct contact with the soil. Columns may be installed on concrete if a installed onto a metal plate that separates the columns from the concrete.
- The Product should not be used where it will be in frequent or prolonged contact with bare skin, unless an effective sealer has been applied.
- The Product is not suitable for food garden uses.
- All shipping containers, plastic, or other wrapping applied during shipment should be removed from the Product prior to installation.
- Do not use the Product for cutting-boards or countertops.
- For all interior applications, the purchaser is responsible for ensuring that the installation of a treated product complies with all applicable indoor air quality standards (IAQs) as prescribed by the federal or applicable state or local regulatory authority.
- Dispose of the Product by ordinary trash collection or burial. Treated wood should not be burned in open fires or in stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g., construction sites) may be burned only in commercial or industrial incinerators or boilers in accordance with state and federal regulations.
- Avoid frequent or prolonged inhalation of sawdust from the Product. When sawing and machining treated wood, wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid indoor accumulations of airborne sawdust from treated wood.
- When power sawing and machining, wear goggles to protect eyes from flying particles.
- After working with the Product, and before eating, drinking, and use of tobacco products, wash all exposed skin areas thoroughly and completely.
- If oily preservatives or Product sawdust accumulate on clothes, launder before reuse of the clothes. Work clothes exposed to the Product or its sawdust or preservatives should be washed separately from other clothing.
- While in storage, the Product should be kept dry and under cover and not be exposed to standing water or marine conditions.
- It is the purchaser and intended user of the Product's sole responsibility to install the Product correctly and to select the proper-sized Product for its/his/her intended use.
- When storing a Product for any extended amount of time, the Product should be stored on its down-side, with gravity acting on the Product as it would in its eventual installation.
- All Products should be installed with the standard, as-designed orientation (e.g., for Beams, with the narrow side down). For Products with a specific or designated orientation instruction (which should appear on the Product), that instruction should be strictly followed.

BOOZERBEAM™

LIMITED WARRANTY

(Revised as of January 18, 2019)

1. LIMITED WARRANTY COVERAGE: Boozer Laminated Beam Company, Inc. ("Boozer") warrants (for installation within the U.S.) to the purchaser and all transferees prior to and including the first owner of the structure to which the Product (as hereafter defined) is properly installed (each a "Covered Person") that each Product sold by Boozer, including but not limited to Boozer Glued Laminated Timber Beams, Treated Beams, Columns, Joists, and Headers (the "Product"), when manufactured is free from defects in material and manufacture and, when used for its intended purpose and in accordance with Boozer's installation and use requirements, will perform in accordance with the published Product specifications. This Limited Warranty only covers defects and failures of the Product that result in structural failure of the Product. If the Product is defective in material or manufacture (when used for its intended purpose and in accordance with Boozer's installation and use requirements), Boozer will replace the Product with a non-defective Product (or equivalent product, if the Product is no longer available) at no charge. Boozer's replacement of the defective Product pursuant to this Section 1 of this Limited Warranty SHALL BE THE SOLE AND EXCLUSIVE REMEDY available to the Covered Person with respect to defects in material or manufacture or any performance of the Product that is not in accordance with relevant specifications. Boozer will not refund or pay any costs in connection with labor or accessory materials or for any other damages regardless of whether caused by the Product or otherwise.

2. CONDITIONS OF WARRANTY: Boozer's liability hereunder to the Covered Person shall be subject to the following terms and conditions:

(a) The claimant must provide reasonable proof that he/she is a Covered Person.

(b) The Product must be properly stored and installed in accordance with Boozer's installation, storage and use requirements (available at: http://boozerbeam.com/products/) and all applicable building codes, rules, and ordinances ("Applicable Building Rules") adopted by federal, state or local governments or government agencies and applicable to the installation. Failure to install the Product in accordance with Boozer's installation requirements and all Applicable Building Rules voids this Limited Warranty.

(c) The Covered Person must provide written notice of any claim under this Limited Warranty to Boozer within 45 days after discovery of any claimed Product failure covered by this Limited Warranty and before beginning any permanent repair. The notice must describe the location of the Product, details of the failure, and provide all information necessary for Boozer to investigate the claim. Photos of the Product, showing defect or failure, should accompany the notice. Before any permanent repair, the Covered Person must allow Boozer or Boozer's agent to enter the property and structure where the Product is installed, and examine, photograph and take samples of the Product.

(d) Upon discovery of a possible Product defect or failure, the Covered Person must immediately, and at the Covered Person's own expense, provide for protection of all property that could be affected until the problem or failure is remedied.

(e) Only defects and failures that result in the structural failure of the Product are covered by this Limited Warranty

3. EXCLUSIONS: This Limited Warranty does not cover loss, damage or defects resulting from or in any way attributable to: (a) any Product failure due to any reason other than structural failure or defect in material and manufacture; (b) the improper storage, shipping, handling or installation of the Product (including, without limitation, failure of the Product to be installed in strict compliance with Boozer's installation, storage and use requirements and all Applicable Building Rules) or improper installation of other accessories; (c) repair or alteration of the Product; (d) settlement or structural movement or movement of materials to which the Product is attached; (e) damage from incorrect or improper design of the structure; (f) exceeding any applicable maximum designed weight or wind loads; (g) acts of God including, but not limited to, hurricanes, tornados, floods, earthquakes, extreme weather or other natural phenomena, (including, but not limited to, unusual climate conditions); (h) performance of any paints or coatings; (i) lack of proper maintenance;
(j) damage during the construction process; (k) damage caused by the weathering of the Product including, but not limited to including but not limited to, raised grain, splitting, checking, twisting, warping, shrinkage, swelling; or de-lamination; (l) damage caused by the use of inappropriate fasteners; (m) any Product failure or damage due to water or marine applications; (n) discoloration or minor cosmetic defects; (o) failure due to moisture or exposure to elements; (p) wet use applications or any application in which the Product is enclosed and moisture cannot naturally evaporate from the Product; (q) any application in which the Product is in direct contact with the ground (except, in the case of Treated Columns, when the column is mounted on a metal plate on a concrete slab, in accordance with Boozer's general and specific installation requirements and Applicable Building Rules); (r) failures or defects if the Product is subjected to further processing or alteration after shipment; (s) damage due to fungal decay of or termite attack (any such warranty on a Treated Product will be provided, if at all, by a third-party applicator as provided in Paragraph 4, below); (t) any unapproved pressure or topical treatment; or (u) any other neglect, abuse, or misuse by the Covered Person or a third party. In addition, only defects and failures of the Product that result in the structural failure of the Product are covered by this Limited Warranty.

4. TREATED PRODUCTS ONLY: To the extent a Covered Person has purchased or possesses a Boozer Product that has been treated with a chemical designed to deter or prevent insect damage or fungal growth on the Product (a "Treated Product"), Boozer assigns to such Covered Person any and all warranties applicable to the Treated Product, if any, against fungal damage or insect attack provided to Boozer from the manufacturers and applicators of such product.

5. DISCLAIMER: The statements in this Limited Warranty constitute the only warranty extended by Boozer for the Product. BOOZER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXCEPT AS PROVIDED BY APPLICABLE STATE LAW IN WHICH CASE THE DURATION OF ANY APPLICABLE IMPLIED WARRANTIES ARE LIMITED TO THE FULLEST EXTENT ALLOWED BY APPLICABLE LAW. NO OTHER WARRANTY IS OR WILL BE MADE BY OR ON BEHALF OF THE MANUFACTURER OR THE SELLER OR BY OPERATION OF LAW OR BY USAGE OF TRADE OR COURSE OF DEALING WITH RESPECT TO THE PRODUCT OR ITS INSTALLATION, STORAGE, HANDLING, MAINTENANCE, USE, REPLACEMENT OR REPAIR.

6. EXCLUSION OF INCIDENTAL AND CONSEQUENTIAL DAMAGES: EXCEPT AS EXPRESSLY OVERRIDDEN BY APPLICABLE LAW, IN NO EVENT WILL BOOZER BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM NONDELIVERY OR FROM THE USE, MISUSE, OR INABILITY TO USE THE PRODUCT OR FROM DEFECTS IN THE PRODUCT.

7. SETTLEMENT OF CLAIM: Any warranty payment or material replacement by Boozer pursuant to Section 1 hereof shall constitute a full settlement and release of all claims of any Covered Person or their successors and assigns hereunder for damages or other relief, and shall be a complete bar to any litigation arising out of this warranty or the Covered Person's purchase or use of the Product filed subsequent to the Covered Person's acceptance of such compensation.

HOOVER
TREATED WOOD PRODUCTS, INC.

154 Wire Road
Thomson, Georgia 30824
706-595-7355

COP-GUARD MATERIAL SAFETY DATA SHEET

COPPER NAPHTHENATE PRESERVED WOOD

PLEASE NOTE THAT THIS INFORMATION IS BASED ON THE MATERIAL USED TO TREAT THE WOOD AND INCLUDES HAZARDS ASSOCIATED WITH WOOD DUST GENERATED FROM SAWING, SANDING, ROUTING OR CHIPPING. THESE HAZARDS ARE THE SAME AS FOR UNTREATED WOOD.

Date of Last Revision: 7/12/99
Product Name: *COP-GUARD*

I. PHYSICAL AND CHEMICAL CHARACTERISTICS

APPEARANCE:	Light olive-colored wood.		
BOILING POINT (INITIAL) (F/C):	N/A / N/A	DENSITY (Lbs/Ft^3) (Water @20C = 62.4):	24 - 52
VAPOR PRESSURE (mm Hg):	N/A	EVAPORATION RATE (nBuAC=1):	N/A
SOLUBILITY IN WATER:	Insoluble	VAPOR DENSITY (Air=1):	N/A

PRESERVATIVE RETENTION IN WOOD: 0.04 - 0.15 Lbs/Ft^3 as Copper

II. HAZARDOUS INGREDIENTS (See Section X Also)

COMMON NAME	CHEMICAL NAME	C.A.S.#	%	OSHA PEL	ACGIH TLV
Copper Naphthenate	Naphthenic Acid, Copper Salt*	1338-02-9	1.0-5.0	1.0 mg/M^3	1.0 mg/M^3
Mineral Spirits	Petroleum Hydrocarbons		11-62	500.0 ppm	N/A
Natural Wood Fiber	Wood, Natural (all species)	N/A	70-80	5.0 mg/m^3	5.0 mg/m^3

Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372) requires that certain toxic chemicals be identified. Any such chemicals contained in this product are listed in Section II and are identified by an asterisk (*). OSHA's Hazard Communication (Standard 29CFR 1910.1200) requires hazardous chemicals to be listed and the MSDS to identify the hazards associated with the product. This information must be included in all MSDS's that are copied and distributed for this product.

HMIS HAZARD RATINGS

Health Hazard: 1 Fire Hazard: 1 Reactivity: 0 Special Hazard: ----
(Based on the revised National Paint & Coatings Association HMIS Rating System) (1984)

III. HEALTH HAZARD DATA (See Section IX Also)

EMERGENCY AND FIRST AID PROCEDURES:

EYES:
IMMEDIATELY flush eyes with plenty of water for at least 15 minutes holding eyelids apart to ensure flushing of the entire eye surface. Seek medical attention if irritation persists.

INGESTION:
NEVER induce vomiting or give anything by mouth to an unconscious person. Keep airway clear. Drink promptly large quantities of milk or water and induce vomiting by touching the back of the throat with your finger. Repeat until vomit is clear. Seek medical attention IMMEDIATELY.

INHALATION:
Persons administering first aid to overexposure victims should carefully wash off any visible product from the victim's face. Do not give anything by mouth to an unconscious person. Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, administer oxygen. Seek medical attention.

SKIN:
Brush or shake material off clothes and shoes in a well ventilated area. Allow clothes to ventilate well before laundering. Do not leave contaminated clothes in a confined area such as automobiles, vans, motel rooms, etc. Wash with plenty of soap and water. Remove contaminated clothing and footwear. Wash clothing and decontaminate footwear before reuse. Rinse skin free of material to avoid abrasion before washing. Seek medical attention if irritation persists.

NOTE TO PHYSICIAN: The principal health effects reported from occupational exposure to sawdust or wood dust generated from untreated wood are dermatitis, rhinitis, conjuntivitis, reduced or suppressed mucociliary clearance rates, chronic obstructive lung changes, and nasal sinus cancer. Skin and respiratory sensitization have been reported from exposure to hardwood dust.

Primary Routes Of Entry: Inhalation Eyes Skin Ingestion

TOXICOLOGY DATA AND EFFECTS OF OVEREXPOSURE:

EYES:
Can cause irritation, transient corneal injury, and blurred vision. Treated or untreated wood dust may cause mechanical irritation.

INGESTION:
Acute Toxicity (Rat): LD50 = Greater than 5000 mg/kg. Eating treated sawdust or wood may cause mouth, throat, and stomach irritation, nausea, vomiting, and diarrhea. Avoid using treated wood under circumstances where the preservatives may become a component of food or animal feed.

INHALATION:
Breathing of dust from dried product or wood dust from sawing can cause irritation of nasal and respiratory passages, and can produce dryness of the nasal passages, dry cough, and headaches.

SKIN:
May cause skin irritation or rash on prolonged or repeated contact. Wood dust(s), of certain species can elicit allergic contact dermatitis in sensitized individuals.

CHRONIC HEALTH HAZARDS:
Wood dust(s), depending on the species, may cause allergic contact dermatitis with prolonged, repeated contact, and respiratory sensitization after prolonged exposure to elevated dust levels.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Wood dust may aggravate pre-existing respiratory conditions or allergies.

LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY: None for product. See Section 9 regarding components.

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Degrees F, Method): >200 TCC
FLAMMABLE LIMITS IN AIR (LEL): 40 grams /m^3 for wood dust
EXTINGUISHER MEDIA: Foam, carbon dioxide, water spray, dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES: Wear MSHA/NIOSH-approved, self-contained breathing apparatus and full protective clothing. Cool exposed containers with water.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Dust (powder) may form an explosive mixture in air.

V. REACTIVITY DATA

STABILITY: Stable. CONDITIONS TO AVOID: None known.
INCOMPATIBILITY: Strong acids, open flame.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may release oxides of carbon, nitrogen, and copper.
CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: Material is not known to polymerize.

VI. ENVIRONMENTAL PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: Not applicable.

LARGE SPILL: Not applicable.

WASTE DISPOSAL METHODS: Follow all applicable federal, state, and local regulations for disposal of a waste material. Treated wood should not be burned in open fires, stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial applications may be burned only in industrial incinerators or boilers in accordance with state and federal regulations.

VII. SPECIAL PROTECTION EQUIPMENT

VENTILATION REQUIREMENTS: Ventilate via mechanical methods (general or local exhaust) to maintain exposure below TLV(s), if applicable. Good industrial hygiene practice dictates that indoor work areas should be isolated and provided with adequate local exhaust ventilation.

RESPIRATORY: None normally required if good ventilation is maintained. Use a MSHA/NIOSH approved dust high efficiency filter respirator when sawing or machining treated wood.

EYE: Safety glasses, goggles, or face shield. Do not wear contact lenses.

GLOVES: Wear impervious gloves, such as: Nitrile Rubber, Neoprene, PVA, PVC, or NBR(Buna-N). Special precautions should be taken to ensure that material cannot get inside gloves.

OTHER PROTECTIVE EQUIPMENT: None normally required. Use as necessary to prevent exposure.

VIII. OTHER SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS: Observe good personal hygiene practices. Change protective gloves/clothing when signs of contamination appear. Keep out of reach of children.

OTHER PRECAUTIONS: Wash thoroughly after skin contact and before eating, drinking, use of tobacco products, or using restrooms. A shower and clothing change are recommended at the end of each shift. Whenever possible, sawing/machining of treated wood should be performed outdoors.

IX. ADDITIONAL INFORMATION

USE SITE PRECAUTIONS: Treated wood may be used inside residences as long as it is visibly clean and free of surface residue and all construction debris are cleaned up and disposed. Do not use treated wood for cutting boards or countertops. Do not use treated wood for construction of beehives which may come into contact with the honey.

UNTREATED WOOD DUST OR SAWDUST: Epidemiological studies have been reported on carcinogenic risks of employment in the furniture-making industry, the carpentry industry, and the lumber and sawmill industry. The International Agency on Research of Carcinogens (IARC) has reviewed these studies and reports that there is sufficient evidence that nasal carcinomas have been caused by employment in the furniture-making industry where the excess risk is associated with exposure to untreated wood dust or sawdust from softwood and hardwood species. The IARC concluded that epidemiological data are sufficient to make a direct linkage between wood dust exposure and a rare form of nasal cancer.

OSHA's Hazard Communication Standard, 29 CFR 1910, 1200 requires that a MSDS be kept on file and distributed to employees and/or customers. If this product is used at other locations, it is your responsibility to promptly distribute this information to that location. Additional copies of the Material Safety Data Sheets are available upon request.

X. SHIPPING INFORMATION

Shipping Information is not available for this product.

This product is classified for transportation purposes as follows:

	YES	NO
IATA (Air)		X
IMO (Water)		X
DOT (Land)		X

DISCLAIMER STATEMENT:

Seller warrants that this material conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use and Buyer assumes the risk of any use contrary to such directions. **Seller makes no other express or implied warranty of Fitness or of Merchantability, and no agent of Seller is authorized to do so**. In no event shall Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.

Buyers and users of this product are responsible for all loss of damage from use or handling of this product which results from conditions beyond the control of seller, including, but not limited to, incompatibility with other products unless otherwise expressly provided in the Directions for Use of this product, weather conditions, moisture conditions or other environmental conditions, and those conditions which are outside of the ranges that are generally recognized as being conductive to good industrial practice.

HOOVER
TREATED WOOD PRODUCTS, INC.
154 Wire Road • Thomson, GA 30824
TEL (706) 595-5058 / FAX (706) 595-1326
Web Address: http://www.FRTW.com

HOOVER WARRANTY

LIMITED WARRANTY

(1) What Is Covered By This Limited Warranty? Hoover Treated Wood Products, Inc. ("Hoover") warrants, to Boozer Laminated Beam Company, Inc. ("Boozer") only, that its Copper Naphthenate formulation will prevent structural failure of the treated wood members due to fungal decay or wood destroying insect attack when the treated wood members are installed above ground or for below ground contact, per AWPA Use Standards UC3A, UC3B, UC4A, UC4B, or UC4C. The term "fungal decay" as used in this limited warranty means attack by wood-destroying fungi that disintegrate the wood cell walls, but excludes surface mold associated with the "weathering" of wood. The duration of this warranty is 25 years from date of delivery. If Boozer discovers structural failure of a treated wood member or members within this period, it must promptly notify Hoover in writing. In no event shall such notification be given to Hoover more than 90 days from the date on which Boozer discovers a structural failure. Within a reasonable time after such notification, Hoover will provide a replacement wood member or members. If Hoover is unable to provide a replacement wood member or members, Hoover will refund the original purchase price of the affected wood member or members. These remedies are the exclusive remedies for breach of warranty.

(2) What Is Not Covered By This Limited Warranty (Warranty Exclusions). Hoover does not warrant and is not responsible for: (a) damage caused by something other than fungal decay or wood destroying insects; (b) damage caused by overloading of treated wood members; (c) damage caused to treated wood members during the construction process or during use; (d) damage caused by the "weathering" of treated wood members, including but

not limited to raised grain, splitting, checking, twisting, warping, shrinkage, swelling; or delamination (e) damage caused by defects in the treated wood members themselves; (g) damage caused by failure to follow standard industry guidelines concerning installation and use of treated wood members; (h) damage caused by failure to use appropriate fasteners with treated wood members; and (i) any other abuse or misuse by the purchaser.

(3) Disclaimer of Warranty. THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. HOOVER DISCLAIMS ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

(4) Limitation of Remedies. In no case shall Hoover be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, the costs associated with the removal and replacement of treated wood members, loss of profits, loss of use, and damage to property.

(5) Time Limit for Bringing Suit. Any action or suit must be commenced within one-year after the cause of action has accrued.

(6) No Other Warranties. This limited warranty constitutes the only warranty given, superseding all prior or contemporaneous oral or written representations concerning Copper Naphthenate and wood members treated with it. No Hoover employee or any other person is authorized to modify this limited warranty or make any warranty in addition to those set forth herein.