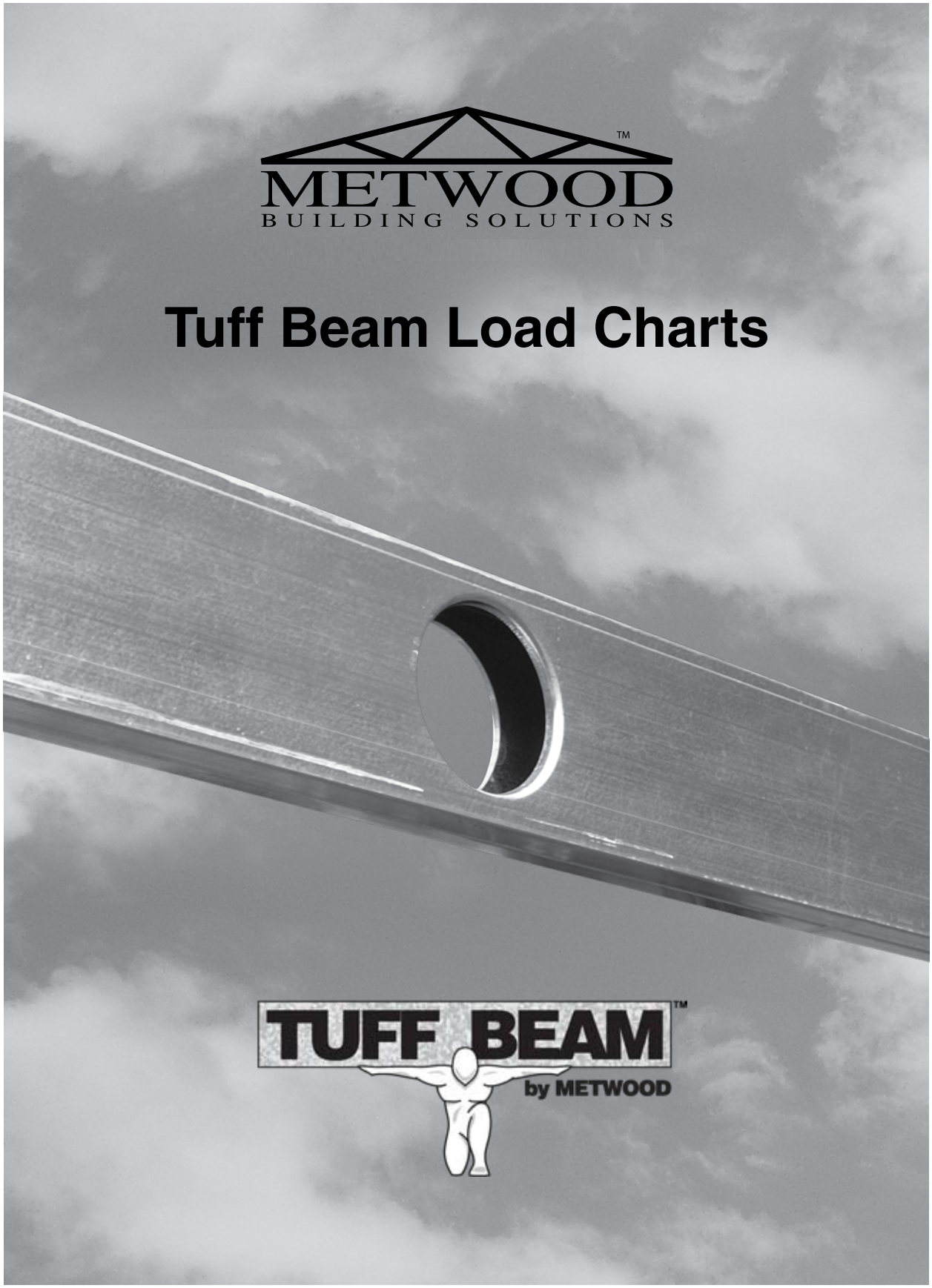
METWOOD™
BUILDING SOLUTIONS

Tuff Beam Load Charts



TUFF BEAM™
by METWOOD

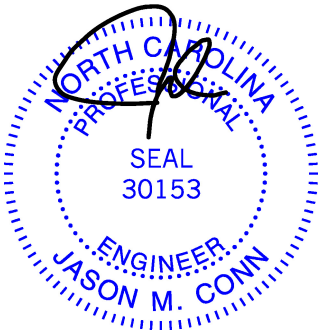
5 WAYS BETTER

Allowable Uniform Load* (In Pounds Per Lineal Foot)

Span (Ft)	Condition	7 1/4" x 3 1/4"			9 1/4" x 3 1/4"			12" x 3 1/4"			14" x 3 1/4"		
		734	737	739	934	937	939	1234	1237	1239	1434	1437	1439
8'	Live Load L/480	1263	2216	3011	2204	3599							
	Live Load L/360	1660	2941	3337	2205	3599							
	Total Load	1660	2941	3337	2205	3599							
10'	Live Load L/480	647	1135	1542	1129	1992	2739	1890	3177		2236	3459	
	Live Load L/360	862	1513	2056	1411	2547	2880	1890	3177		2236	3459	
	Total Load	1062	1882	2567	1411	2547	2880	1890	3177		2236	3459	
11'	Live Load L/480	486	852	1158	848	1496	2058	1528	2696	2888	1848	3144	
	Live Load L/360	648	1137	1544	1131	1195	2618	1562	2861	2888	1848	3144	
	Total Load	878	1556	2121	1166	2105	2618	1562	2861	2888	1848	3144	
12'	Live Load L/480	374	657	892	653	1153	1585	1177	2077	2648	1553	2864	2882
	Live Load L/360	499	876	1190	871	1537	2113	1312	2404	2648	1553	2864	2882
	Total Load	738	1307	1783	980	1769	2400	1312	2404	2648	1553	2864	2882
13'	Live Load L/480	294	516	702	514	907	1247	925	1633	2263	1309	2306	2661
	Live Load L/360	392	689	936	685	1209	1662	1118	2048	2444	1323	2441	2661
	Total Load	589	1033	1403	835	1507	2090	1118	2048	2444	1323	2441	2661
14'	Live Load L/480	236	414	562	411	726	998	741	1308	1812	1048	1846	2471
	Live Load L/360	314	551	749	548	968	1331	964	1744	2269	1141	2104	2471
	Total Load	471	827	1124	720	1299	1802	964	1766	2269	1141	2104	2471
15'	Live Load L/480	192	336	457	334	590	811	602	1063	1473	852	1501	2085
	Live Load L/360	255	448	609	446	787	1082	803	1418	1965	994	1833	2306
	Total Load	383	672	914	627	1132	1570	840	1538	2118	994	1833	2306
16'	Live Load L/480	158	277	376	276	486	669	496	876	1214	702	1237	1718
	Live Load L/360	211	369	502	367	648	891	662	1168	1619	874	1611	2162
	Total Load	316	554	753	551	972	1337	738	1352	1901	874	1611	2162
17'	Live Load L/480		231	314	230	405	557	414	730	1012	585	1031	1432
	Live Load L/360		308	418	306	541	743	552	974	1350	774	1375	1910
	Total Load		462	628	459	881	1115	654	1198	1684	774	1427	2020
18'	Live Load L/480		195	264	194	341	470	349	615	853	493	869	1207
	Live Load L/360		259	352	258	455	626	465	820	1137	658	1158	1609
	Total Load		389	529	387	683	939	583	1068	1502	690	1273	1802
19'	Live Load L/480		165	225	165	290	399	296	523	725	419	739	1026
	Live Load L/360		221	300	219	387	532	395	698	967	559	985	1368
	Total Load		331	450	329	581	799	523	959	1348	620	1143	1617
20'	Live Load L/480			193		249	342	254	449	622	359	633	880
	Live Load L/360			257		332	456	339	598	829	479	844	1173
	Total Load			385		498	685	472	865	1217	559	1031	1459
21'	Live Load L/480			166		215	296	220	388	537	311	547	760
	Live Load L/360			222		287	394	293	517	716	414	729	1013
	Total Load			333		430	591	429	775	1074	507	935	1324
22'	Live Load L/480					187	257	191	337	467	270	476	661
	Live Load L/360					249	343	255	449	623	360	634	881
	Total Load					374	514	382	674	934	462	852	1206
24'	Live Load L/480						198		260	360	208	366	509
	Live Load L/360						264		346	480	277	489	679
	Total Load						396		519	719	388	716	1013
26'	Live Load L/480						156		204	283	164	288	400
	Live Load L/360						208		272	377	218	384	534
	Total Load						312		408	566	327	576	801

*Can be applied to the beam in addition to its own weight.

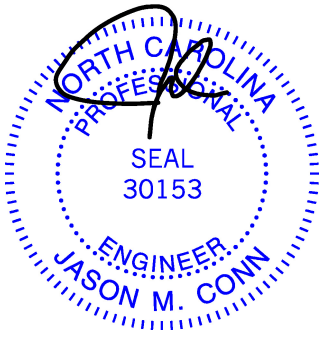
KEY TO TABLES
Live Load L.480 = Maximum Live Load - Limits Deflection to L/480
Live Load L.360 = Maximum Live Load - Limits Deflection to L/360
Total Load = Maximum Total Load - Limits Deflection to L/240



Allowable Uniform Load* (In Pounds Per Lineal Foot)

Span (Ft)	Condition	7 1/4" x 5"			9 1/4" x 5"				11 7/8" x 5"				14' X 5"			
		754	757	759	954	957	959	9511	1254	1257	1259	12511	1454	1457	1459	14511
10'	Live Load L/480	733	1261	1688	1352	2215	2880		2103	3177			2484	3459		
	Live Load L/360	1031	1681	2224	1681	2814	2880		2103	3177			2484	3459		
	Total Load	1222	2042	2670	1681	2814	2880		2103	3177			2484	3459		
12'	Live Load L/480	447	730	965	783	1282	1714	2276	1385	2285	2648		1725	2882		
	Live Load L/360	597	973	1287	1043	1709	2285	2400	1461	2553	2648		1725	2882		
	Total Load	849	1418	1893	1167	1954	2400	2400	1461	2553	2648		1725	2882		
14'	Live Load L/480	282	460	608	493	807	1079	1433	872	1439	1943	2269	1229	2026	2471	
	Live Load L/360	376	613	811	657	1076	1439	1911	1073	1876	2269	2269	1267	2232	2471	
	Total Load	563	919	1216	857	1436	1937	2057	1073	1876	2269	2269	1267	2232	2471	
16'	Live Load L/480	189	308	407	330	541	723	960	584	964	1302	1753	823	1357	1838	2162
	Live Load L/360	252	411	543	440	721	964	1280	779	1285	1736	1986	970	1709	2162	2162
	Total Load	377	616	815	656	1081	1446	1800	822	1436	1986	1986	970	1709	2162	2162
17'	Live Load L/480	157	257	340	275	451	603	800	487	804	1085	1462	686	1131	1533	2035
	Live Load L/360	210	342	453	367	601	804	1067	649	1071	1447	1869	860	1509	2035	2035
	Total Load	315	513	679	550	901	1206	1601	728	1272	1759	1869	860	1514	2035	2035
18'	Live Load L/480		216	286	232	380	508	674	410	677	914	1231	578	953	1291	1748
	Live Load L/360		288	381	309	505	667	899	547	903	1219	1642	767	1271	1722	1922
	Total Load		432	572	464	759	1016	1349	649	1135	1569	1765	767	1350	1879	1922
19'	Live Load L/480		184	243	197	323	432	573	349	576	777	1047	492	810	1098	1487
	Live Load L/360		245	324	263	430	576	765	465	767	1036	1396	655	1081	1464	1820
	Total Load		368	486	394	646	863	1147	583	1018	1408	1672	688	1212	1687	1820
20'	Live Load L/480		158	209	169	277	370	492	299	493	666	898	421	695	941	1275
	Live Load L/360		210	278	225	369	494	655	399	658	889	1197	562	926	1255	1699
	Total Load		315	417	338	554	740	983	526	919	1271	1589	621	1094	1522	1729
21'	Live Load L/480			180		239	320	425	258	426	576	775	364	600	813	1101
	Live Load L/360			240		319	426	566	345	568	768	1034	485	800	1084	1468
	Total Load			360		478	640	849	477	834	1151	1513	563	992	1381	1647
22'	Live Load L/480			157		208	278	369	225	371	501	674	317	522	707	958
	Live Load L/360			209		277	371	492	300	494	668	899	422	696	943	1277
	Total Load			313		416	556	739	435	741	1001	1349	513	904	1258	1572
23'	Live Load L/480					182	243	323	197	324	438	590	277	457	619	838
	Live Load L/360					243	325	431	262	433	584	787	369	609	825	1117
	Total Load					364	487	646	393	649	876	1180	470	827	1151	1504
24'	Live Load L/480					160	214	284	173	286	386	519	244	402	545	738
	Live Load L/360					214	286	379	231	381	514	693	325	536	726	983
	Total Load					320	428	569	346	571	771	1039	431	759	1057	1441
25'	Live Load L/480						190	252	153	253	341	460	216	356	482	653
	Live Load L/360						253	336	204	337	455	613	288	474	643	870
	Total Load						379	503	306	505	682	919	397	700	964	1305
26'	Live Load L/480						168	224		225	303	409	192	316	428	580
	Live Load L/360						225	298		299	404	545	256	422	571	774
	Total Load						337	448		449	607	817	367	633	857	1160
28'	Live Load L/480							179		180	243	327	154	253	343	464
	Live Load L/360							239		240	324	436	205	338	457	619
	Total Load							358		360	486	654	307	506	686	929
30'	Live Load L/480										197	266		206	279	378
	Live Load L/360										263	355		275	372	504
	Total Load										395	532		412	558	755

*Can be applied to the beam in addition to its own weight.



Using Allowable Uniform Load Tables

1. Tables are based on uniform loads, the more restrictive or simple or continuous spans, and dry-use conditions. For other loads or span configurations, contact a Metwood representative.

2. The Beam Depth is designated by the first group of numbers in the beam nomenclature:
7 –> 7 ¼", 9 –> 9 ¼", 12 –> 11 7/8", 14 –> 14".

3. The Beam Width is designated by the second group of numbers in the beam nomenclature:
3 –> 3 ¼", 5 –> 5", 7 –> 7 ½", 10 –> 10".

4. To size a beam it is necessary to check both live and total load. Selected beam must work in both rows.

5. For 7 ½" Width Beam Capacity, multiply the 5" Width Beam Capacity by 1.5. For 10" Width Beam Capacity, multiply the 5" Width Beam Capacity by 2.

6. To size a member for a span not shown, use capacities for the next larger span shown (example: for 7' span, use values shown for 8' span).

7. Verify deflection limit with local building code requirements.

8. Bearing across full width of beam is assumed. Minimum beam bearing length is 2". Adequate bearing condition and material are the responsibility of the contractor or end user of the beam.

9. Provide lateral support at bearing points, and continuous lateral support along the top edge of beam.

Example:

Select a Metwood beam to carry 400 PLF live load + 400 PLF dead load floor loading, spanning 20', with a Live Load Deflection of L/360.

Adding 400 PLF Live Load and 400 PLF Dead Load gives a total load of 800 PLF. Determine if width or depth is a factor. For this example, we can utilize a 5" width beam. Find 20' in the left most columns. To the right are three rows showing Live Load L/480, Live Load Load L/360, and Total Load. In the row marked Total Load, move to the right to locate a total load of at least 800 PLF. The 1257 beam can carry 919 PLF Total Load. Next, check Live Load capacity. The 1257 beam can carry 658 PLF Live Load. Therefore, 1257 is adequate to carry the required loading and meets the deflection criteria.

METWOOD™
BUILDING SOLUTIONS

A Publicly Traded Company, Ticker-MTWD

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