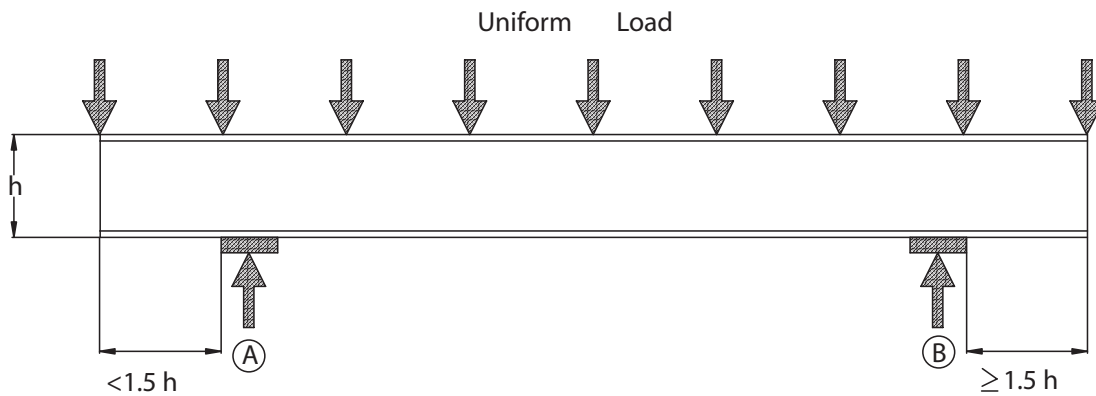
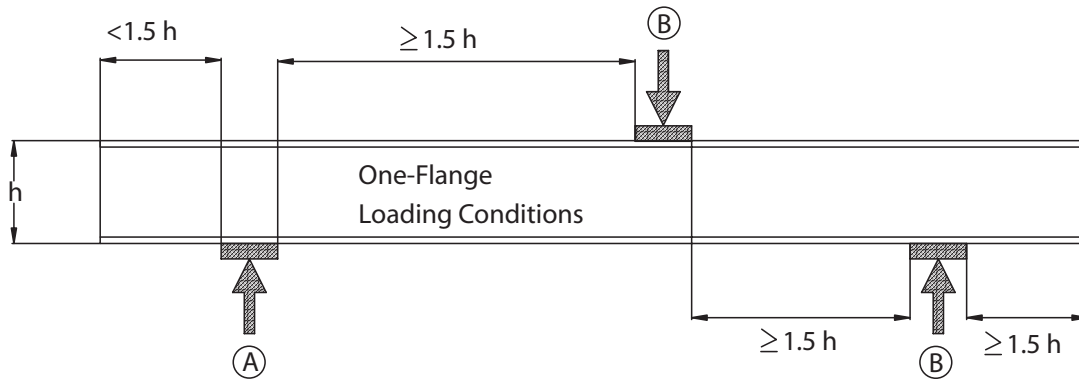
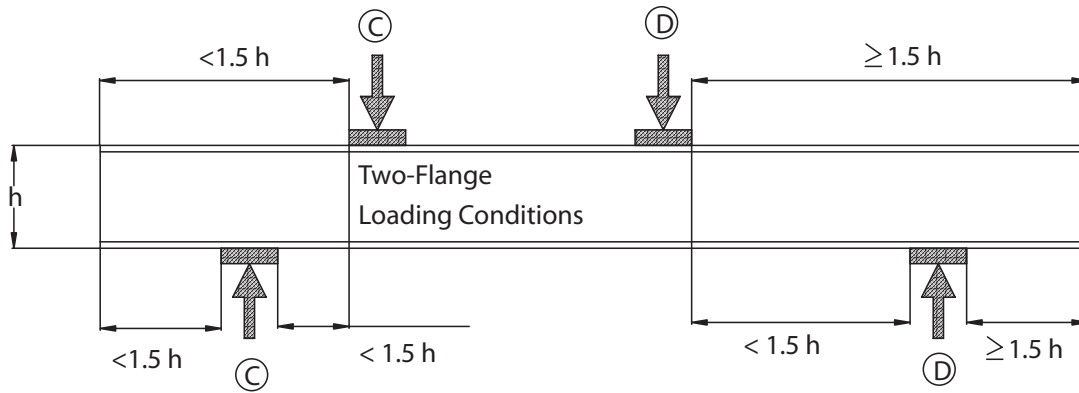


WEB CRIPPLING LOAD TABLES



- Ⓐ One-Flange End Loading
- Ⓑ One-Flange Interior Loading
- Ⓒ Two-Flange End Loading
- Ⓓ Two-Flange Interior Loading
- Ⓔ Point Load and Loading Condition

WEB CRIPPLING TABLE NOTES

1. Allowable web crippling loads are for members with stiffened flanges only (i.e. S-sections).
2. For Back-to-Back members the listed web crippling capacity is total for the two sections.
3. For Back-to-Back members the distance between web connectors and flanges should be kept to a minimum
4. Listed web crippling loads do not include the effect of punch-outs. Where punch-outs occur near bearing points web crippling capacity may be reduced. See NASPEC Section C3.4.2.

WEB CRIPPLING LOAD TABLES

ALLOWABLE WEB CRIPPLING LOADS IN POUNDS - SINGLE MEMBERS

Flange Loading Condition	Flange Bearing Length (in)	1 5/8 Web Height								2 1/2 Web Height								
		Base Material Thickness								Base Material Thickness								
		18 mils	27 mils	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	18 mils	27 mils	30 mils	33 mils	43 mils	54 - 50K	68 mils	68 - 50K
A - One-Flange End Loading	1	55	122	148	180	-	-	-	-	52	117	141	173	287	433	656	654	990
	3.5	89	194	233	282	-	-	-	-	84	186	223	271	443	657	996	977	1480
	6	95	205	246	297	-	-	-	-	89	196	235	285	466	690	1046	1024	1552
B - One-Flange Interior Loading	1	112	242	290	350	-	-	-	-	106	231	277	336	547	806	1222	1191	1805
	3.5	87	218	269	336	-	-	-	-	85	213	264	330	580	891	1350	1368	2073
	6	125	304	373	462	-	-	-	-	122	298	365	453	780	1178	1785	1778	2693
C - Two-Flange End Loading	1	131	317	388	481	-	-	-	-	128	310	381	472	810	1221	1850	1838	2785
	3.5	151	361	442	545	-	-	-	-	147	354	433	535	913	1369	2075	2050	3106
	6	45	111	137	170	-	-	-	-	37	96	119	150	267	430	652	693	1049
D - Two-Flange Interior Loading	1	64	151	185	229	-	-	-	-	51	130	161	201	351	556	842	880	1333
	3.5	67	157	192	237	-	-	-	-	54	135	167	209	364	574	870	907	1375
	6	76	178	217	267	-	-	-	-	61	153	189	235	407	639	968	1004	1521
A - One-Flange End Loading	1	122	290	356	441	-	-	-	-	109	268	330	411	720	1142	1730	1815	2750
	3.5	161	371	452	557	-	-	-	-	145	343	420	519	892	1392	2109	2179	3302
	6	166	383	466	574	-	-	-	-	150	354	433	535	918	1429	2165	2233	3384
D - Two-Flange Interior Loading	1	186	425	516	634	-	-	-	-	168	393	479	591	1006	1558	2361	2421	3669

Flange Loading Condition	Flange Bearing Length (in)	3 1/2 Web Height								3 5/8 Web Height									
		Base Material Thickness								Base Material Thickness									
		18 mils	27 mils	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	18 mils	27 mils	30 mils	33 mils	43 mils	54 - 50K	68 mils	68 - 50K	
A - One-Flange End Loading	1	49	112	135	166	278	420	637	637	965	49	111	135	165	277	419	634	635	962
	3.5	80	177	214	260	428	638	967	951	1441	79	177	213	259	427	636	963	948	1437
	6	84	187	225	274	451	670	1016	998	1512	84	186	224	273	449	668	1012	995	1507
B - One-Flange Interior Loading	1	100	221	266	323	528	783	1186	1160	1758	99	220	265	322	526	780	1182	1157	1752
	3.5	83	209	259	324	571	879	1331	1351	2047	82	209	258	323	570	877	1329	1349	2044
	6	119	292	359	445	768	1162	1761	1756	2660	119	291	358	444	767	1160	1758	1753	2657
C - Two-Flange End Loading	1	124	304	373	463	798	1204	1825	1816	2751	124	303	373	462	796	1202	1822	1813	2747
	3.5	143	347	425	526	900	1351	2046	2025	3068	143	346	424	525	898	1348	2043	2022	3064
	6	28	81	103	131	240	392	594	640	970	27	80	101	129	236	388	588	635	961
D - Two-Flange Interior Loading	1	40	111	139	175	315	507	768	813	1232	39	108	136	173	311	501	760	806	1221
	3.5	42	115	144	182	326	524	794	839	1271	40	113	141	179	322	518	785	831	1259
	6	48	130	163	205	365	583	883	928	1406	46	127	160	202	360	577	874	920	1393
A - One-Flange End Loading	1	98	247	306	384	680	1086	1645	1736	2631	97	245	304	381	675	1079	1635	1728	2618
	3.5	130	316	389	484	842	1324	2005	2085	3159	128	313	386	480	836	1316	1994	2074	3143
	6	134	327	402	499	866	1359	2059	2137	3238	132	324	398	495	860	1351	2047	2126	3221
D - Two-Flange Interior Loading	1	150	362	445	551	949	1482	2245	2317	3510	149	359	441	547	943	1473	2232	2305	3492

Flange Loading Condition	Flange Bearing Length (in)	4 Web Height								5 1/2 Web Height									
		Base Material Thickness								Base Material Thickness									
		18 mils	27 mils	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	18 mils	27 mils	30 mils	33 mils	43 mils	54 - 50K	68 mils	68 - 50K	
A - One-Flange End Loading	1	-	109	133	163	274	415	628	629	953	-	103	126	155	262	400	606	609	923
	3.5	-	174	210	256	422	629	954	940	1424	-	164	199	243	405	607	920	910	1380
	6	-	183	221	269	444	661	1002	986	1494	-	173	210	256	426	638	966	955	1447
B - One-Flange Interior Loading	1	-	217	261	317	520	772	1170	1147	1737	-	205	248	302	499	745	1128	1111	1683
	3.5	-	207	257	322	567	873	1323	1344	2036	-	202	251	315	556	859	1302	1324	2007
	6	-	289	356	442	763	1155	1750	1746	2646	-	282	348	432	749	1136	1722	1721	2608
C - Two-Flange End Loading	1	-	301	370	460	792	1197	1813	1806	2736	-	294	362	450	778	1177	1784	1780	2697
	3.5	-	344	421	522	893	1342	2034	2014	3051	-	336	412	511	877	1320	2001	1985	3007
	6	-	75	95	122	227	376	569	617	936	-	58	76	100	195	331	502	557	844
D - Two-Flange Interior Loading	1	-	102	129	164	299	485	735	784	1188	-	79	103	134	256	428	649	707	1071
	3.5	-	106	134	170	309	502	760	809	1226	-	82	106	139	265	443	671	729	1105
	6	-	120	151	192	346	558	846	895	1356	-	93	120	157	297	493	746	807	1223
A - One-Flange End Loading	1	-	238	296	372	662	1061	1607	1702	2579	-	214	268	339	614	995	1508	1611	2441
	3.5	-	305	376	469	819	1293	1960	2044	3096	-	274	341	428	760	1213	1838	1934	2931
	6	-	315	388	483	843	1328	2012	2094	3173	-	283	351	441	782	1246	1887	1982	3003
D - Two-Flange Interior Loading	1	-	349	429	534	924	1448	2194	2271	3440	-	314	389	487	858	1358	2058	2149	3256

Flange Loading Condition	Flange Bearing Length (in)	6 Web Height								8 Web Height									
		Base Material Thickness								Base Material Thickness									
		30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	97 mils	97 - 50K	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	97 mils	97 - 50K
A - One-Flange End Loading	1	124	153	259	395	599	604	914	1157	1752	-	-	247	379	575	582	882	1123	1702
	3.5	196	240	400	600	909	902	1366	1684	2551	-	-	381	576	872	870	1318	1635	2477
	6	206	253	420	631	956	946	1433	1762	2669	-	-	401	605	917	912	1382	1711	2592
B - One-Flange Interior Loading	1	243	297	493	736	1116	1100	1666	2034	3081	-	-	470	706	1070	1061	1607	1975	2992
	3.5	249	313	553	855	1295	1318	1998	2575	3902	-	-	542	839	1272	1297	1966	2541	3850
	6	345	430	745	1131	1713	1713	2596	3260	4939	-	-	730	1110	1682	1686	2555	3216	4873
C - Two-Flange End Loading	1	359	447	773	1172	1775	1772	2685	3361	5093	-	-	757	1150	1743	1744	2642	3316	5025
	3.5	409	507	872	1314	1991	1976	2994	3714	5628	-	-	854	1290	1955	1944	2946	3665	5553
	6	70	93	185	318	482	539	816	1175	1781	-	-	150	270	409	473	716	1068	1618
D - Two-Flange Interior Loading	1	95	125	243	411	623	684	1036	1455	2205	-	-	197	349	529	600	910	1322	2003
	3.5	98	130	252	425	644	706	1069	1497	2268	-	-	204	361	547	619	939	1360	2060
	6	111	146	282	473	716	781	1183	1641	2487	-	-	228	402	608	685	1038	1491	2259
A - One-Flange End Loading	1	260	329	600	975	1478	1583	2399	3306	5010	-	-	548	904	1370	1485	2250	3142	4761
	3.5	330	416	743	1189	1802	1901	2881	3884	5885	-	-	678	1102	1670	1783	2701	3691	5593
	6	340	429	764	1221	1850	1949	2952	3969	6014	-	-	698	1131	1714	1827	2768	3773	5716
D - Two-Flange Interior Loading	1	377	473	838	1331	2017	2113	3201	4267	6466	-	-	765	1234	1869	1981	3001	4056	6145

Flange Loading Condition	Flange Bearing Length (in)	10 Web Height								12 Web Height									
		Base Material Thickness								Base Material Thickness									
		30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	97 mils	97 - 50K	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	97 mils	97 - 50K
A - One-Flange End Loading	1	-	-	-	365	553	563	854	1094	1657	-	-	-	-	547	828	1068	1618	-
	3.5	-	-	-	554	840	842	1275	1592	2412	-	-	-	-	816	123			

WEB CRIPPLING LOAD TABLES

ALLOWABLE WEB CRIPPLING LOADS IN POUNDS - BACK-TO-BACK MEMBERS

Flange Loading Condition	Flange Bearing Length (in)	1 5/8 Web Height								2 1/2 Web Height								
		Base Material Thickness								Base Material Thickness								
		18 mils	27 mils	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	18 mils	27 mils	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils
A - One-Flange End Loading	1	247	535	642	779	-	-	-	-	247	534	641	777	1273	1895	2871	2832	4291
	3.5	392	826	985	1186	-	-	-	-	391	825	983	1184	1904	2787	4223	4094	6203
	4	414	869	1036	1247	-	-	-	-	413	868	1034	1245	1998	2919	4423	4281	6487
	6	488	1020	1213	1457	-	-	-	-	487	1018	1211	1454	2323	3380	5121	4933	7474
B - One-Flange Interior Loading	1	256	609	747	926	-	-	-	-	255	605	742	921	1597	2484	3764	3877	5874
	3.5	316	730	890	1097	-	-	-	-	314	726	885	1091	1862	2860	4333	4409	6680
	4	325	748	911	1122	-	-	-	-	323	744	906	1116	1901	2916	4418	4488	6800
	6	356	811	985	1211	-	-	-	-	353	806	980	1204	2038	3109	4711	4763	7216
C - Two-Flange End Loading	1	151	368	454	565	-	-	-	-	129	329	408	512	910	1461	2213	2347	3557
	3.5	200	472	577	713	-	-	-	-	171	421	519	647	1127	1781	2698	2819	4271
	4	207	487	595	735	-	-	-	-	177	435	535	666	1159	1828	2770	2889	4377
	6	232	540	659	812	-	-	-	-	198	482	593	736	1271	1993	3020	3132	4745
D - Two-Flange Interior Loading	1	305	771	957	1200	-	-	-	-	261	688	861	1088	1964	3159	4786	5077	7692
	3.5	403	987	1216	1515	-	-	-	-	345	881	1094	1373	2432	3851	5835	6096	9236
	4	418	1020	1255	1561	-	-	-	-	357	910	1129	1415	2501	3954	5990	6247	9465
	6	468	1131	1389	1724	-	-	-	-	400	1010	1249	1562	2743	4311	6532	6773	10263

Flange Loading Condition	Flange Bearing Length (in)	3 1/2 Web Height								3 5/8 Web Height									
		Base Material Thickness								Base Material Thickness									
		18 mils	27 mils	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	18 mils	27 mils	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K
A - One-Flange End Loading	1	246	533	640	776	1272	1892	2867	2829	4286	246	533	640	776	1271	1892	2867	2828	4285
	3.5	390	823	981	1182	1901	2783	4217	4089	6196	390	823	981	1182	1901	2783	4217	4089	6195
	4	412	866	1032	1242	1995	2916	4417	4276	6479	412	865	1032	1242	1994	2915	4417	4276	6479
	6	486	1016	1208	1452	2320	3375	5114	4927	7466	486	1015	1208	1452	2319	3375	5113	4927	7465
B - One-Flange Interior Loading	1	253	602	739	917	1590	2474	3749	3863	5853	253	602	738	916	1589	2473	3747	3861	5851
	3.5	312	722	880	1086	1854	2849	4316	4393	6657	311	722	880	1085	1853	2847	4314	4392	6654
	4	320	740	901	1111	1893	2904	4400	4472	6776	320	739	901	1110	1892	2903	4398	4470	6773
	6	351	802	975	1198	2029	3097	4693	4746	7191	350	801	974	1197	2028	3096	4691	4744	7188
C - Two-Flange End Loading	1	109	292	366	463	838	1361	2062	2208	3346	107	288	361	458	830	1349	2045	2193	3322
	3.5	144	374	465	585	1037	1659	2514	2652	4018	141	369	459	578	1027	1645	2493	2633	3989
	4	149	386	480	603	1067	1703	2581	2717	4117	146	381	474	595	1057	1689	2559	2698	4088
	6	167	429	531	665	1170	1857	2814	2946	4464	164	422	524	657	1159	1842	2790	2925	4432
D - Two-Flange Interior Loading	1	220	611	771	984	1808	2943	4459	4776	7236	215	603	761	972	1790	2918	4422	4742	7185
	3.5	291	783	981	1241	2239	3588	5436	5735	8689	285	772	968	1226	2217	3558	5391	5694	8627
	4	301	808	1012	1279	2303	3684	5581	5877	8904	295	797	999	1264	2280	3653	5535	5835	8841
	6	338	897	1120	1412	2525	4016	6085	6372	9654	330	884	1105	1395	2501	3983	6035	6326	9585

Flange Loading Condition	Flange Bearing Length (in)	4 Web Height								5 1/2 Web Height									
		Base Material Thickness								Base Material Thickness									
		18 mils	27 mils	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	18 mils	27 mils	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K
A - One-Flange End Loading	1	-	533	639	776	1271	1891	2866	2827	4284	-	531	638	774	1269	1888	2861	2823	4278
	3.5	-	822	981	1181	1900	2782	4215	4087	6193	-	821	979	1179	1897	2778	4208	4082	6185
	4	-	865	1031	1242	1993	2914	4415	4274	6476	-	863	1029	1239	1990	2909	4408	4268	6467
	6	-	1015	1208	1451	2318	3373	5111	4925	7462	-	1013	1205	1448	2314	3368	5104	4918	7452
B - One-Flange Interior Loading	1	-	600	737	915	1587	2470	3743	3857	5844	-	597	732	909	1579	2459	3725	3841	5820
	3.5	-	720	878	1083	1850	2844	4309	4387	6646	-	716	873	1077	1841	2831	4289	4369	6619
	4	-	738	899	1108	1889	2899	4393	4465	6765	-	733	894	1102	1879	2886	4372	4447	6738
	6	-	800	972	1195	2025	3092	4685	4739	7180	-	795	966	1188	2015	3078	4663	4719	7150
C - Two-Flange End Loading	1	-	276	347	442	806	1317	1995	2147	3253	-	233	298	384	721	1200	1818	1985	3008
	3.5	-	353	441	557	998	1605	2432	2578	3906	-	298	378	484	893	1463	2217	2384	3612
	4	-	365	455	574	1026	1648	2497	2642	4003	-	308	390	499	919	1502	2276	2443	3702
	6	-	405	504	634	1126	1797	2723	2865	4340	-	341	432	551	1007	1638	2482	2649	4013
D - Two-Flange Interior Loading	1	-	577	732	937	1739	2848	4315	4644	7036	-	487	627	815	1556	2595	3933	4294	6506
	3.5	-	739	931	1183	2154	3472	5260	5576	8448	-	624	798	1028	1927	3164	4794	5156	7812
	4	-	763	960	1219	2215	3564	5401	5714	8658	-	644	823	1060	1982	3249	4922	5284	8005
	6	-	847	1063	1346	2429	3886	5889	6195	9387	-	715	911	1170	2174	3542	5367	5728	8680

Flange Loading Condition	Flange Bearing Length (in)	6 Web Height								8 Web Height									
		Base Material Thickness								Base Material Thickness									
		30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	97 mils	97 - 50K	30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	97 mils	97 - 50K
A - One-Flange End Loading	1	638	774	1268	1888	2860	2822	4276	5272	7988	-	-	1266	1885	2855	2818	4270	5265	7978
	3.5	978	1178	1896	2776	4207	4080	6182	7418	11240	-	-	1892	2772	4200	4074	6173	7409	11226
	4	1029	1238	1989	2908	4406	4267	6465	7737	11722	-	-	1985	2903	4399	4260	6455	7727	11707
	6	1204	1447	2313	3367	5101	4916	7449	8844	13401	-	-	2309	3361	5093	4909	7438	8833	13384
B - One-Flange Interior Loading	1	731	908	1576	2455	3720	3836	5812	7641	11577	-	-	1567	2443	3702	3819	5786	7612	11533
	3.5	871	1075	1838	2827	4283	4363	6611	8543	12944	-	-	1827	2812	4261	4344	6581	8510	12895
	4	892	1100	1876	2882	4366	4441	6729	8677	13146	-	-	1866	2867	4344	4421	6699	8644	13097
	6	965	1186	2011	3073	4657	4713	7141	9142	13852	-	-	2000	3058	4633	4692	7109	9107	13799
C - Two-Flange End Loading	1	283	366	696	1165	1765	1937	2935	4157	6299	-	-	603	1038	1573	1762	2669	3867	5859
	3.5	359	462	862	1420	2152	2326	3524	4883	7399	-	-	747	1266	1918	2115	3205	4542	6882
	4	371	477	886	1458	2209	2383	3611	4991	7562	-	-	769	1300	1969	2168	3284	4642	7034
	6	410	526	972	1590	2409	2584	3915	5366	8130	-	-	843	1417	2147	2350	3561	4991	7562
D - Two-Flange Interior Loading	1	596	778	1501	2520	3818	4189	6347	8991	13623	-	-	1302	2246	3402	3810	5772	8363	12671
	3.5	757	982	1859	3072	4654	5030	7621	10562	16002	-	-	1613	2738	4148	4575	6981	9823	14883
	4	781	1012	1912	3154	4778	5154	7810	10795	16355	-	-	1659	2811	4259	4688	7103	10040	15212
	6	865	1117	2097	3439	5210	5589	8467	11605	17583	-	-	1819	3065	4643	5083	7701	10794	16354

Flange Loading Condition	Flange Bearing Length (in)	10 Web Height								12 Web Height							
		Base Material Thickness								Base Material Thickness							
		30 mils	33 mils	43 mils	54 mils	54 - 50K	68 mils	68 - 50K	97 mils	97 - 50K	30 mils	33 mils	43 mils	54 mils	54		