

**Allowable Roof Construction Load ( $C_D = 1.25$ ) for EWS 20F-V12/AC and 20F-V13/AC in Dry-Service Conditions (Ibf/ft)**

Fb = 2,000 psi, Fv = 265 psi, E = 1,500,000 psi

3-1/8-INCH WIDTH		SPAN (ft)																			
Depth (in)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
6	484	245	140	87	56	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7-1/2	757	483	277	172	114	78	55	---	---	---	---	---	---	---	---	---	---	---	---	---	---
9	1092	696	481	301	199	138	99	72	54	---	---	---	---	---	---	---	---	---	---	---	---
10-1/2	1487	949	657	480	319	222	160	118	89	68	53	---	---	---	---	---	---	---	---	---	---
12	1944	1241	859	629	479	334	241	179	136	105	82	65	52	---	---	---	---	---	---	---	---
13-1/2	2462	1572	1088	797	608	478	346	257	196	152	119	95	77	62	51	---	---	---	---	---	---
15	3040	1942	1345	985	752	591	477	355	271	211	167	133	108	88	72	60	---	---	---	---	---
16-1/2	3680	2351	1629	1193	911	717	578	476	364	283	224	180	146	120	99	82	69	58	---	---	---
18	4381	2799	1939	1421	1085	854	689	567	472	370	294	236	192	158	131	109	92	77	66	56	---
19-1/2	5143	3286	2277	1669	1275	1004	810	665	551	464	376	303	247	204	169	142	119	101	86	73	63
21	5965	3812	2642	1937	1479	1166	940	766	636	535	455	381	311	257	214	179	152	129	110	94	81
22-1/2	6849	4377	3035	2225	1700	1339	1072	875	726	611	520	448	385	318	265	223	189	161	138	118	102
24	7794	4982	3454	2533	1935	1518	1213	990	821	692	589	507	441	386	325	273	232	198	170	146	126
25-1/2	8800	5625	3900	2860	2186	1705	1362	1112	923	777	662	570	496	434	383	330	280	240	206	178	154
27	9867	6308	4374	3208	2440	1901	1520	1240	1030	867	739	637	554	485	428	380	335	287	247	214	185

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	42	44	46	48
6	542	275	157	97	63	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7-1/2	848	540	310	193	127	87	62	---	---	---	---	---	---	---	---	---	---	---	---	---	---
9	1223	780	539	337	223	154	110	81	61	---	---	---	---	---	---	---	---	---	---	---	---
10-1/2	1666	1063	735	538	357	248	179	132	100	76	59	---	---	---	---	---	---	---	---	---	---
12	2177	1390	962	704	537	374	270	200	152	117	92	73	58	---	---	---	---	---	---	---	---
13-1/2	2757	1760	1219	893	681	535	387	288	219	170	134	107	86	70	57	---	---	---	---	---	---
15	3405	2175	1506	1103	842	662	534	398	304	236	187	149	121	99	81	67	56	---	---	---	---
16-1/2	4122	2633	1824	1336	1020	803	648	533	407	317	251	202	164	134	111	92	77	65	54	---	---
18	4907	3135	2172	1592	1215	957	772	631	523	415	329	265	215	177	147	122	103	87	73	62	53
19-1/2	5760	3680	2551	1870	1428	1124	903	736	610	513	421	339	277	228	189	159	134	113	96	82	70
21	6681	4270	2960	2170	1657	1302	1040	848	704	592	504	427	348	288	239	201	170	144	123	105	91
22-1/2	7671	4903	3399	2492	1903	1486	1187	968	803	676	576	496	430	357	297	250	212	180	154	133	114
24	8730	5580	3868	2837	2158	1681	1343	1096	909	766	652	562	488	427	364	306	260	221	190	164	142
25-1/2	9856	6300	4368	3204	2423	1887	1508	1231	1022	860	733	631	549	480	424	370	314	268	231	199	173
27	11051	7065	4899	3584	2702	2105	1683	1373	1140	960	818	705	613	537	473	420	375	321	277	239	208

**Allowable Roof Construction Load ( $C_D = 1.25$ ) for EWS 20F-V12/AC and 20F-V13/AC in Dry-Service Conditions (Ibf/ft)**

Fb = 2,000 psi, Fv = 265 psi, E = 1,500,000 psi

5-1/8-INCH WIDTH		SPAN (ft)																			
Depth (in)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
12	3188	2035	1409	1031	786	547	395	293	222	172	134	107	85	69	55	---	---	---	---	---	---
13-1/2	4037	2578	1785	1307	997	784	567	422	321	249	196	156	126	102	83	68	56	---	---	---	---
15	4986	3184	2206	1616	1233	963	768	583	445	346	273	219	177	144	119	98	81	68	57	---	---
16-1/2	6035	3855	2671	1957	1486	1156	923	752	596	465	368	295	240	196	162	135	113	95	80	67	57
18	7185	4590	3181	2331	1755	1366	1090	888	736	607	482	388	315	259	215	179	151	127	108	91	78
19-1/2	8434	5389	3735	2716	2046	1592	1271	1036	859	722	615	497	405	334	277	232	196	166	141	120	103
21	9783	6252	4334	3128	2357	1835	1465	1195	991	833	710	610	510	421	351	294	249	211	180	154	133
22-1/2	11233	7179	4942	3568	2689	2093	1672	1364	1131	952	811	698	606	522	435	366	310	264	226	194	167
24	12783	8170	5589	4035	3041	2368	1892	1544	1281	1078	918	790	686	601	529	448	380	324	278	240	207
25-1/2	14432	9214	6273	4530	3414	2659	2125	1734	1439	1211	1032	889	772	676	596	529	460	393	338	292	253
27	16182	10273	6995	5051	3808	2966	2371	1934	1606	1352	1152	992	862	755	666	591	527	471	405	350	304
28-1/2	18032	11386	7753	5599	4221	3289	2629	2145	1781	1500	1279	1102	957	839	740	657	586	525	473	416	362
30	19982	12554	8548	6174	4655	3627	2900	2367	1965	1655	1412	1216	1057	926	817	726	648	581	523	473	426
31-1/2	22032	13775	9381	6776	5109	3981	3183	2599	2158	1818	1550	1336	1162	1018	899	798	712	639	576	521	473
33	24070	15050	10249	7403	5583	4351	3479	2840	2359	1988	1695	1461	1271	1114	983	873	780	700	631	571	519

5-1/2-INCH WIDTH		SPAN (ft)																			
Depth (in)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
12	3421	2184	1512	1106	843	588	424	315	239	184	144	114	91	74	59	---	---	---	---	---	---
13-1/2	4333	2766	1916	1403	1070	838	608	453	345	267	210	168	135	109	89	73	60	---	---	---	---
15	5351	3417	2367	1734	1320	1026	819	626	477	371	293	235	190	155	127	105	87	73	61	51	---
16-1/2	6477	4137	2866	2100	1584	1232	983	801	640	499	395	317	257	211	174	145	121	101	85	72	61
18	7710	4926	3413	2484	1870	1455	1162	947	784	652	517	416	338	278	231	192	162	136	115	98	83
19-1/2	9051	5783	4008	2894	2180	1696	1354	1104	915	770	655	533	435	358	298	249	210	178	151	129	111
21	10499	6709	4618	3333	2511	1955	1561	1273	1056	888	756	650	548	452	376	316	267	227	193	166	143
22-1/2	12055	7704	5267	3802	2865	2230	1782	1453	1205	1014	864	743	645	560	467	393	332	283	242	208	180
24	13718	8749	5956	4300	3240	2523	2016	1645	1365	1148	978	842	731	640	564	481	408	348	298	257	223
25-1/2	15488	9819	6685	4827	3638	2833	2264	1847	1533	1291	1100	947	822	720	635	563	494	422	362	313	271
27	17366	10947	7453	5382	4057	3160	2526	2061	1711	1441	1228	1057	919	805	709	629	561	503	435	376	326
28-1/2	19352	12133	8262	5966	4498	3504	2801	2286	1898	1598	1362	1174	1020	894	788	699	624	560	504	446	388
30	21397	13377	9109	6579	4960	3865	3090	2522	2094	1764	1504	1296	1126	987	871	773	690	619	557	504	457
31-1/2	23478	14678	9996	7220	5444	4242	3392	2769	2299	1937	1652	1423	1238	1085	957	850	759	681	614	555	504
33	25649	16037	10921	7889	5949	4636	3707	3026	2514	2118	1806	1557	1354	1187	1048	930	831	746	672	608	553

**Allowable Roof Construction Load ( $C_D = 1.25$ ) for EWS 20F-V12/AC and 20F-V13/AC in Dry-Service Conditions (lb/ft)**

Fb = 2,000 psi, Fv = 265 psi, E = 1,500,000 psi

6-3/4-INCH WIDTH		SPAN (ft)																			
Depth (in)	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
18	6045	4138	2986	2248	1749	1396	1138	943	792	635	510	415	341	283	236	198	167	142	120	102	87
19-1/2	7084	4821	3479	2620	2039	1628	1327	1100	925	787	655	534	440	365	306	258	218	186	158	136	116
21	8158	5552	4007	3019	2350	1876	1530	1269	1067	908	781	672	555	462	387	327	278	237	203	175	151
22-1/2	9303	6332	4571	3444	2681	2142	1746	1449	1219	1038	893	775	678	573	482	408	347	297	256	221	191
24	10519	7160	5169	3895	3033	2423	1977	1640	1380	1176	1012	878	769	677	590	501	427	366	316	273	237
25-1/2	11805	8037	5803	4373	3406	2722	2220	1843	1551	1321	1138	988	865	762	676	603	518	445	384	333	290
27	13162	8961	6471	4877	3799	3036	2477	2056	1731	1475	1270	1104	967	852	756	674	604	533	461	401	349
28-1/2	14588	9933	7173	5407	4212	3367	2748	2281	1921	1637	1410	1225	1073	947	840	750	672	605	547	477	416
30	16084	10952	7909	5963	4646	3714	3031	2517	2120	1807	1557	1353	1186	1046	928	829	743	669	605	549	491
31-1/2	17648	12018	8680	6545	5099	4077	3328	2764	2328	1985	1710	1487	1303	1150	1021	911	818	737	666	605	551
33	19281	13131	9485	7152	5573	4456	3638	3021	2545	2171	1871	1627	1426	1258	1118	998	895	807	730	663	604
34-1/2	20983	14290	10323	7785	6066	4851	3961	3290	2772	2364	2038	1772	1554	1372	1218	1088	977	880	797	724	660
36	22753	15496	11194	8443	6580	5262	4297	3569	3008	2566	2212	1924	1687	1489	1323	1182	1061	957	866	787	718
37-1/2	24590	16748	12100	9126	7113	5689	4646	3859	3253	2775	2393	2081	1825	1612	1432	1280	1149	1036	939	853	778
39	26494	18046	13038	9834	7665	6131	5007	4160	3507	2992	2580	2245	1969	1739	1545	1381	1240	1119	1014	921	840

8-3/4-INCH WIDTH		SPAN (ft)																			
Depth (in)	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
24	9043	6528	4919	3830	3060	2495	2070	1742	1484	1277	1108	970	854	757	649	554	475	409	354	307	268
25-1/2	10150	7328	5523	4301	3436	2803	2326	1958	1668	1435	1247	1091	962	853	760	671	577	498	432	376	328
27	11317	8171	6159	4797	3833	3128	2596	2185	1862	1603	1393	1219	1075	953	850	762	686	598	519	453	396
28-1/2	12544	9058	6829	5319	4251	3469	2880	2425	2066	1780	1546	1354	1194	1060	945	847	763	689	618	540	473
30	13831	9989	7531	5866	4689	3827	3177	2676	2281	1965	1708	1496	1319	1171	1045	937	844	763	692	630	558
31-1/2	15178	10962	8265	6439	5148	4202	3489	2939	2506	2159	1877	1644	1451	1288	1149	1031	929	840	762	694	634
33	16583	11978	9032	7037	5627	4593	3814	3213	2740	2361	2053	1799	1588	1410	1259	1129	1018	921	836	761	696
34-1/2	18048	13037	9831	7661	6125	5001	4154	3500	2985	2572	2237	1961	1731	1537	1373	1232	1110	1005	913	832	760
36	19571	14138	10662	8309	6644	5425	4506	3797	3239	2792	2428	2129	1879	1669	1491	1338	1207	1092	992	905	827
37-1/2	21152	15281	11525	8982	7183	5866	4873	4107	3503	3020	2627	2303	2034	1807	1614	1449	1307	1183	1075	981	897
39	22792	16466	12419	9680	7742	6323	5253	4427	3777	3257	2833	2485	2194	1950	1742	1565	1411	1278	1162	1059	969
40-1/2	24489	17693	13345	10402	8320	6795	5646	4759	4061	3502	3047	2672	2360	2098	1875	1684	1519	1376	1251	1141	1044
42	26244	18962	14303	11149	8919	7285	6053	5103	4354	3755	3268	2867	2532	2251	2012	1807	1631	1477	1343	1226	1122
43-1/2	28056	20272	15292	11921	9536	7790	6473	5458	4658	4017	3496	3067	2710	2409	2154	1935	1746	1582	1439	1313	1202
45	29926	21624	16313	12717	10174	8311	6907	5824	4971	4287	3732	3274	2893	2572	2300	2066	1865	1690	1538	1404	1285

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 beam weight (assumed 35 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.