

Allowable Wind Force at Mid-height, F_a (lbs) & Allowable Axial Force, P_a (lbs) - Group II and II-L Posts

Post Size	Wt	F _y	Fence Height, H (ft)																		
	plf	ksi	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Cold Formed C Channels - ASTM F1043 - Group II & II-L - Strong Axis Bending - No Lateral Bracing																					
12 Ga C1-7/8"	1.9	50	F _a	443	286	192	131	95	72	57	-	-	-	-	-	-	-	-	-	-	
			P _a	3,279	2,323	1,694*	1,176*	864*	662*	523*	-	-	-	-	-	-	-	-	-	-	-
11 Ga C1-7/8"	2.4	50	F _a	509	337	235	167	122	92	73	-	-	-	-	-	-	-	-	-	-	
			P _a	4,174	2,911	1,876*	1,303*	957*	733*	579*	-	-	-	-	-	-	-	-	-	-	-
11 Ga C2-1/4"	2.8	50	F _a	707	464	319	222	160	121	95	-	-	-	-	-	-	-	-	-	-	
			P _a	5,737	4,016	2,620*	1,819*	1,337*	1,023*	808*	-	-	-	-	-	-	-	-	-	-	-
10 Ga C3-1/4"	4.5	60	F _a	2,232	1,472	1,003	686	477	351	270	214	174	144	121	104	-	-	-	-	-	
			P _a	12,720	8,310	6,171	4,918	4,085	3,479*	2,933*	2,376*	1,963*	1,650*	1,406*	1,212*	-	-	-	-	-	-
9 Ga C3-1/4"	5.4	60	F _a	2,531	1,691	1,179	835	594	441	341	271	221	184	156	133	-	-	-	-	-	
			P _a	15,433	10,363	7,826	6,284	5,220	4,161*	3,288*	2,663*	2,201*	1,849*	1,576*	1,359*	-	-	-	-	-	-
Cold Formed C Channels - ASTM F1043 - Group II & II-L - Weak Axis / Weak Direction Bending - No Lateral Bracing																					
12 Ga C1-7/8"	1.9	50	F _a	255	169	121	90	70	56	46	-	-	-	-	-	-	-	-	-	-	
			P _a	3,279	2,323	1,694*	1,176*	864*	662*	523*	-	-	-	-	-	-	-	-	-	-	-
11 Ga C1-7/8"	2.4	50	F _a	307	212	157	121	96	80	63	-	-	-	-	-	-	-	-	-	-	
			P _a	4,174	2,911	1,876*	1,303*	957*	733*	579*	-	-	-	-	-	-	-	-	-	-	-
11 Ga C2-1/4"	2.8	50	F _a	422	285	208	158	124	99	82	-	-	-	-	-	-	-	-	-	-	
			P _a	5,737	4,016	2,620*	1,819*	1,337*	1,023*	808*	-	-	-	-	-	-	-	-	-	-	-
10 Ga C3-1/4"	4.5	60	F _a	1,226	757	487	338	253	199	163	136	116	101	88	78	-	-	-	-	-	
			P _a	12,720	8,310	6,171	4,918	4,085	3,479*	2,933*	2,376*	1,963*	1,650*	1,406*	1,212*	-	-	-	-	-	-
9 Ga C3-1/4"	5.4	60	F _a	1,413	911	627	451	342	272	224	188	161	139	122	108	-	-	-	-	-	
			P _a	15,433	10,363	7,826	6,284	5,220	4,161*	3,288*	2,663*	2,201*	1,849*	1,576*	1,359*	-	-	-	-	-	-
Cold Formed C Channels - ASTM F1043 - Group II & II-L - Strong Axis Bending - Top Rail Bracing																					
12 Ga C1-7/8"	1.9	50	F _a	518	366	275	215	172	140	115	95	79	-	-	-	-	-	-	-	-	
			P _a	3,279	2,323	1,739	1,342*	1,061*	855*	701*	584*	492*	-	-	-	-	-	-	-	-	-
11 Ga C1-7/8"	2.4	50	F _a	584	417	317	250	203	168	140	118	100	-	-	-	-	-	-	-	-	
			P _a	4,174	2,911	2,133	1,615*	1,257*	1,001*	814*	673*	565*	-	-	-	-	-	-	-	-	-
11 Ga C2-1/4"	2.8	50	F _a	806	573	433	340	274	225	187	156	131	110	94	-	-	-	-	-	-	
			P _a	5,737	4,016	3,014	2,345	1,867*	1,515*	1,249*	1,045*	885*	758*	656*	-	-	-	-	-	-	-
10 Ga C3-1/4"	4.5	60	F _a	2,404	1,751	1,317	1,026	818	662	540	444	365	302	255	218	189	165	145	129	115	104
			P _a	12,720	8,310	6,171	4,918	4,085	3,479	3,010	2,633	2,322*	2,060*	1,838*	1,648*	1,484*	1,342*	1,218*	1,109*	1,014*	930*
9 Ga C3-1/4"	5.4	60	F _a	2,707	1,987	1,507	1,186	956	785	651	545	459	387	327	280	243	213	188	167	149	134
			P _a	15,433	10,363	7,826	6,284	5,220	4,424	3,800	3,296	2,880*	2,534*	2,243*	1,996*	1,785*	1,605*	1,449*	1,313*	1,195*	1,092*
Cold Formed C Channels - ASTM F1043 - Group II & II-L - Weak Axis / Weak Direction Bending - Top Rail Bracing																					
12 Ga C1-7/8"	1.9	50	F _a	269	186	140	111	91	77	65	-	-	-	-	-	-	-	-	-	-	
			P _a	3,780	2,647	1,694*	1,176*	864*	662*	523*	-	-	-	-	-	-	-	-	-	-	-
11 Ga C1-7/8"	2.4	50	F _a	322	230	177	143	119	101	88	-	-	-	-	-	-	-	-	-	-	
			P _a	5,050	2,932	1,876*	1,303*	957*	733*	579*	-	-	-	-	-	-	-	-	-	-	-
11 Ga C2-1/4"	2.8	50	F _a	438	305	231	184	151	128	110	-	-	-	-	-	-	-	-	-	-	
			P _a	6,508	4,094	2,620*	1,819*	1,337*	1,023*	808*	-	-	-	-	-	-	-	-	-	-	-
10 Ga C3-1/4"	4.5	60	F _a	1,253	792	531	375	286	229	190	162	141	124	111	100	-	-	-	-	-	
			P _a	13,321	8,847	6,719	5,511	4,739	3,713*	2,933*	2,376*	1,963*	1,650*	1,406*	1,212*	-	-	-	-	-	-
9 Ga C3-1/4"	5.4	60	F _a	1,444	951	675	506	395	321	269	231	202	179	160	144	-	-	-	-	-	
			P _a	16,284	11,194	8,730	7,297	5,435	4,161*	3,288*	2,663*	2,201*	1,849*	1,576*	1,359*	-	-	-	-	-	-
Cold Formed C Channels - ASTM F1043 - Group II & II-L - Strong Axis Bending - Mid Rail Bracing w/ or w/o Top Rail Bracing																					
12 Ga X1-7/8"	1.9	50	F _a	-	-	313	254	212	180	155	135	119	-	-	-	-	-	-	-	-	
			P _a	-	-	1,739	1,342*	1,061*	855*	701*	584*	492*	-	-	-	-	-	-	-	-	-
11 Ga C1-7/8"	2.4	50	F _a	-	-	352	288	241	206	179	157	139	-	-	-	-	-	-	-	-	
			P _a	-	-	2,133	1,615*	1,257*	1,001*	814*	673*	565*	-	-	-	-	-	-	-	-	-
11 Ga C2-1/4"	2.8	50	F _a	-	-	484	394	329	280	243	212	188	167	150	-	-	-	-	-	-	
			P _a	-	-	3,014	2,345	1,867*	1,515*	1,249*	1,045*	885*	758*	656*	-	-	-	-	-	-	-
10 Ga C3-1/4"	4.5	60	F _a	-	-	1,443	1,181	981	832	715	622	547	483	430	385	345	311	280	253	229	207
			P _a	-	-	6,171	4,918	4,085	3,479	3,010	2,633	2,322*	2,060*	1,838*	1,648*	1,484*	1,342*	1,218*	1,109*	1,014*	930*
9 Ga C3-1/4"	5.4	60	F _a	-	-	1,624	1,345	1,123	956	827	724	639	569	510	459	415	377	343	313	286	262
			P _a	-	-	7,826	6,284	5,220	4,424	3,800	3,296	2,880*	2,534*	2,243*	1,996*	1,785*	1,605*	1,449*	1,313*	1,195*	1,092*
Cold Formed C Channels - ASTM F1043 - Group II & II-L - Weak Axis / Weak Direction Bending - Mid Rail Bracing w/ or w/o Top Rail Bracing																					
12 Ga X1-7/8"	1.9	50	F _a	-	-	146	118	99	84	74	-	-	-	-	-	-	-	-	-	-	
			P _a	-	-	1,694*	1,176*	864*	662*	523*	-	-	-	-	-	-	-	-	-	-	-
11 Ga C1-7/8"	2.4	50	F _a	-	-	183	150	127	110	96	-	-	-	-	-	-	-	-	-	-	
			P _a	-	-	1,876*	1,303*	957*	733*	579*	-	-	-	-	-	-	-	-	-	-	-
11 Ga C2-1/4"	2.8	50	F _a	-	-	237	191	160	137	120	-	-	-	-	-	-	-	-	-	-	
			P _a	-	-	2,620*	1,819*	1,337*	1,023*	808*	-	-	-	-	-	-	-	-	-	-	-
10 Ga C3-1/4"	4.5	60	F _a	-	-	541	386	296	238	199	171	150	133	120	109	-	-	-	-	-	
			P _a	-	-	6,719	5,511	4,739	3,713*	2,933*	2,376*	1,963*	1,650*	1,406*	1,212*	-	-	-	-	-	-
9 Ga C3-1/4"	5.4	60	F _a	-	-	687	520	411	337	285	247	218	195	176	161	-	-	-	-	-	
			P _a	-	-	8,730	7,297	5,435	4,161*	3,288*	2,663*	2,201*	1,849*	1,576*	1,359*	-	-	-	-	-	-

Notes: (*) Keep p_w / P_a and p_i / P_a ≤ 0.2 as KH / r exceeds 200 (-) KH / r exceeds 400 or Not Applicable

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