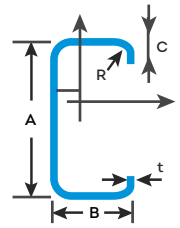
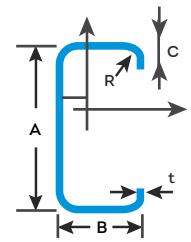
PERFIL EN C NEGRO



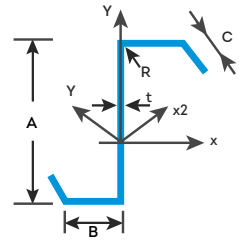
PROPIEDADES MECÁNICAS DE LA SECCIÓN COMPLETA - PERFIL ESTRUCTURAL C NEGRO																			
REFERENCIA PERFIL	ESPESOR (mm)	CALIBRE #	A (mm)	B (mm)	C (mm)	PESO (Kgf/m)	ÁREA (mm^2)	X CENT (mm)	Xo CORTE (mm)	ST VE-NANT J (mm^4)	WARPING Cw (mm^6)	J TORS (mm)	MOMENTO DE INERCIA		MÓDULO DE SECCIÓN		RADIO DE GIRO		
													Ix (mm^4)	Iy (mm^4)	Sx (mm^3)	Sy (mm^3)	rx (mm)	ry (mm)	ro (mm)
100 X 50 - 3.0 mm	3.0	11	100	50	15	5.06	620.52	17.047	-38.787	1861.60	411359072	58.615	958213	198665	19056	6029	39.185	17.893	57.966
100 X 50 - 2.5 mm	2.5	12	100	50	15	4.22	523.17	17.056	-39.400	1089.90	362593760	59.100	813385	171906	16268	5218	39.430	18.127	58.614
100 X 50 - 2.0 mm	2.0	14	100	50	15	3.38	423.40	17.064	-40.011	564.53	306571456	59.585	666448	142748	13329	4334	39.674	18.362	59.263
100 X 50 - 1.5 mm	1.5	16	100	50	15	2.53	321.19	17.073	-40.621	240.89	242810944	60.069	511822	111085	10236	3374	39.919	18.597	59.912
100 X 50 - 1.2 mm	1.2	18	100	50	15	2.03	258.70	17.077	-40.986	124.18	200633216	60.360	415282	90841	8306	2759	40.066	18.739	60.301
120 X 60 - 3.0 mm	3.0	11	120	60	15	6.12	740.52	19.609	-45.129	2221.60	946705E+08	70.769	1671544	335164	27859	8298	47.511	21.275	68.894
120 X 60 - 2.5 mm	2.5	12	120	60	15	5.10	623.17	19.620	-45.742	1298.30	827091008	71.241	1421339	288454	23689	7143	47.758	21.515	69.542
120 X 60 - 2.0 mm	2.0	14	120	60	15	4.08	503.40	19.630	-46.354	671.20	693275264	71.713	1160070	238253	19334	5902	48.005	21.755	70.189
120 X 60 - 1.5 mm	1.5	16	120	60	15	3.06	381.19	19.641	-46.965	285.90	544478592	72.186	887521	184436	14792	4570	48.252	21.996	70.837
120 X 60 - 1.2 mm	1.2	18	120	60	15	2.45	306.70	19.647	-47.331	147.22	447675296	72.469	718487	150357	11975	3726	48.401	22.141	71.226
150 X 50 - 3.0 mm	3.0	11	150	50	17	6.31	782.52	14.549	-34.450	2347.60	1.07760E+09	78.430	2536912	242032	33825	6827	56.938	17.587	68.834
150 X 50 - 2.5 mm	2.5	12	150	50	17	5.26	658.17	14.535	-35.022	1371.20	942218432	78.658	2154637	209069	28728	5895	57.216	17.823	69.411
150 X 50 - 2.0 mm	2.0	14	150	50	17	4.21	531.40	14.522	-35.594	708.50	790381824	78.889	1756495	173314	23420	4885	57.493	18.060	69.989
150 X 50 - 1.5 mm	1.5	16	150	50	17	3.16	402.19	14.509	-36.165	301.60	621178368	79.123	1342224	134651	17896	3794	57.769	18.297	70.569
150 X 50 - 1.2 mm	1.2	18	150	50	17	2.52	323.50	14.501	-36.507	155.30	510940352	79.265	1085811	110007	14477	3099	57.935	18.440	70.917
160 X 60 - 3.0 mm	3.0	11	160	60	20	7.16	890.52	18.479	-43.970	2671.60	2.19110E+09	84.968	3400208	418866	42503	10088	61.792	21.688	78.879
160 X 60 - 2.5 mm	2.5	12	160	60	20	5.97	748.17	18.472	-44.551	1558.70	1.90170E+09	85.299	2881149	359557	36014	8658	62.056	21.922	79.475
160 X 60 - 2.0 mm	2.0	14	160	60	20	4.77	603.40	18.465	-45.131	804.50	1.58380E+09	85.631	2343414	296234	29293	7132	62.319	22.157	80.071
160 X 60 - 1.5 mm	1.5	16	160	60	20	3.58	456.19	18.459	-45.711	342.10	1.23610E+09	85.965	1786715	228757	22334	5507	62.583	22.393	80.669
160 X 60 - 1.2 mm	1.2	18	160	60	20	2.86	366.70	18.455	-46.058	176.00	1.01260E+09	86.166	1443477	186220	18043	4482	62.740	22.535	81.028
220 X 80 - 3.0 mm	3.0	11	220	80	20	9.56	1190.50	22.540	-54.720	3571.60	8.72360E+09	118.590	8690372	943603	79003	16421	85.440	28.150	105.290
220 X 80 - 2.5 mm	2.5	12	220	80	20	7.97	998.17	22.530	-55.300	2079.50	7.49840E+09	118.850	7333024	804923	66664	14006	85.710	28.400	105.880
220 X 80 - 2.0 mm	2.0	14	220	80	20	6.37	803.40	22.520	-55.880	1071.20	6.18580E+09	119.120	5939783	659059	53998	11467	85.980	28.640	106.470
220 X 80 - 1.5 mm	1.5	16	220	80	20	4.78	606.19	22.520	-56.450	454.60	4.78280E+09	119.390	4510252	505823	41002	8800	86.260	28.890	107.060
220 X 80 - 1.2 mm	1.2	18	220	80	20	3.82	486.70	22.510	-56.800	233.60	3.89630E+09	119.550	3634953	410265	33045	7137	86.420	29.030	107.410
305 X 80 - 3.0 mm	3.0	11	305	80	25	11.73	1475.50	20.040	-50.510	4427.0	2.06740E+10	166.070	19389458	1141419	127144	19036	114.630	27.810	128.320
305 X 80 - 2.5 mm	2.5	12	305	80	25	9.77	1235.70	20.010	-51.050	2574.00	1.77050E+10	165.990	16323594	972436	107040	16210	114.940	28.050	128.850
305 X 80 - 2.0 mm	2.0	14	305	80	25	7.82	993.40	19.980	-51.590	1324.50	1.45530E+10	165.910	13192153	795229	86506	13249	115.240	28.290	129.390
305 X 80 - 1.5 mm	1.5	16	305	80	25	5.86	748.69	19.950	-52.130	561.50	1.12120E+10	165.840	9994609	609596	65538	10151	115.540	28.530	129.930
355 X 110 - 3.0 mm	3.0	11	355	110	25	14.25	1805.50	27.890	-70.210	5417.0	6.20550E+10	192.380	33554588	2613640	189040	31830	136.320	38.050	157.990
355 X 110 - 2.5 mm	2.5	12	355	110	25	11.87	1510.70	27.870	-70.770	3147.00	5.28310E+10	192.470	28195212	2215429	158846	26975	136.620	38.300	158.550
355 X 110 - 2.0 mm	2.0	14	355	110	25	9.50	1213.40	27.850	-71.330	1618.00	4.31720E+10	192.560	22743454	1802626	128132	21944	136.910	38.540	159.110

PERFIL EN C GALVANIZADO



PROPIEDADES MECÁNICAS DE LA SECCIÓN COMPLETA - PERFIL ESTRUCTURAL C GALVANIZADO																			
REFERENCIA PERFIL	ESPESOR (mm)	CALIBRE #	A (mm)	B (mm)	C (mm)	PESO (Kg/m)	ÁREA (mm^2)	X CENT (mm)	Xo CORTE (mm)	ST VE-NANT J (mm^4)	WARPING Cw (mm^6)	J TORS (mm)	MOMENTO DE INERCIA		MÓDULO DE SECCIÓN		RADIO DE GIRO		
													Ix (mm^4)	Iy (mm^4)	Sx (mm^3)	Sy (mm^3)	rx (mm)	ry (mm)	ro (mm)
100 X 50 - 1.9 mm	1.9	14	100	50	15	3.19	397.06	17.066	-40.17	462.82	290758176	59.711	626992	134760	12540	4092	39.738	18.423	59.432
100 X 50 - 1.5 mm	1.5	16	100	50	15	2.50	312.91	17.073	-40.67	222.33	237361520	60.108	499115	108440	9982.3	3293.4	39.938	18.616	59.964
100 X 50 - 1.2 mm	1.2	18	100	50	15	2.00	250.31	17.078	-41.035	112.27	194779648	60.399	402194	88070	8043.9	2675.1	40.085	18.758	60.353
120 X 60 - 1.9 mm	1.9	14	120	60	15	3.86	471.86	19.633	-46.513	550	656061632	71.836	1090301	224614	18172	5564	48.069	21.818	70.357
120 X 60 - 1.5 mm	1.5	16	120	60	15	3.03	371.31	19.642	-47.014	263.8	531903904	72.224	865224	179970	14420	4459	48.272	22.016	70.889
120 X 60 - 1.2 mm	1.2	18	120	60	15	2.41	296.71	19.648	-47.38	133.08	434328480	72.507	695634	145709	11594	3611	48.42	22.161	71.277
150 X 50 - 1.9 mm	1.9	14	150	50	17	3.98	498.04	14.519	-35.742	580.5	748094912	78.95	1650346	163546	22005	4609	57.565	18.121	70.14
150 X 50 - 1.5 mm	1.5	16	150	50	17	3.12	391.75	14.508	-36.211	278.4	606866112	79.142	1308378	131428	17445	3703	57.791	18.316	70.615
150 X 50 - 1.2 mm	1.2	18	150	50	17	2.49	312.95	14.5	-36.553	140.37	495733280	79.285	1051174	106637	14016	3004	57.957	18.459	70.964
160 X 60 - 1.9 mm	1.9	14	160	60	20	4.52	565.36	18.464	-45.282	659	1.49630+09	85.718	2200507	279095	27506	6719	62.388	22.218	80.227
160 X 60 - 1.5 mm	1.5	16	160	60	20	3.54	444.31	18.458	-45.757	315.7	1.20690E+09	85.992	1741352	223176	21767	5372	62.604	22.412	80.717
160 X 60 - 1.2 mm	1.2	18	160	60	20	2.82	354.70	18.454	-46.105	159.1	981878976	86.193	1397185	180430	17465	4343	62.761	22.554	81.076
220 X 80 - 1.9 mm	1.9	14	220	80	20	6.03	752.36	22.52	-56.03	877	5.82980E+09	119.19	5571611	619934	50651	10786	86.06	28.71	106.62
220 X 80 - 1.5 mm	1.5	16	220	80	20	4.73	590.31	22.52	-56.5	419.4	4.66650E+09	119.41	4394310	493240	39948	8581	86.28	28.91	107.11
220 X 80 - 1.2 mm	1.2	18	220	80	20	3.77	470.70	22.51	-56.85	211.1	3.77550E+09	119.58	3517244	397316	31975	6911	86.44	29.05	107.46
305 X 80 - 1.9 mm	1.9	14	305	80	25	7.40	930.01	19.97	-51.73	1084	1.37020E+10	165.89	12367179	747785	81096	12457	115.32	28.36	129.53
305 X 80 - 1.5 mm	1.5	16	305	80	25	5.80	729.01	19.95	-52.17	518	1.09360E+10	165.83	9735936	594375	63842	9897	115.56	28.55	129.97
355 X 110 - 1.9 mm	1.9	14	355	110	25	8.99	1135.70	27.85	-71.47	1324	4.05890E+10	192.58	21310786	1692872	120061	20607	136.98	38.61	159.26

PERFIL EN Z NEGRO Y GALVANIZADO



PROPIEDADES MECÁNICAS DE LA SECCIÓN COMPLETA - PERFIL ESTRUCTURAL Z NEGRO																			
REFERENCIA PERFIL	ESPESOR (mm)	CALIBRE #	A (mm)	B (mm)	C (mm)	PESO (Kgf/m)	ÁREA (mm^2)	X CENT (mm)	Xo CORTE (mm)	ST VE-NANT J (mm^4)	WARPING Cw (mm^6)	J TORS (mm)	MOMENTO DE INERCIA		MÓDULO DE SECCION		RADIO DE GIRO		
													Ix (mm^4)	Iy (mm^4)	Sx (mm^3)	Sy (mm^3)	rx (mm)	ry (mm)	ro (mm)
160 X 60 - 3.0 mm	3.0	11	160	60	20	7.16	910.68	68.50	80.0	2732.00	4.49530E+09	60.0	3535379	817170	44192	11929	62.307	29.955	69.134
160 X 60 - 2.5 mm	2.5	12	160	60	20	5.97	763.51	68.75	80.0	1590.60	2.99680E+09	60.0	2986915	695757	37336	10120	62.547	30.187	69.450
160 X 60 - 2.0 mm	2.0	14	160	60	20	4.77	614.50	69.00	80.0	819.30	2.46610E+09	60.0	2422463	568624	30281	8241	62.787	30.419	69.768
160 X 60 - 1.5 mm	1.5	16	160	60	20	3.58	463.64	69.25	80.0	347.70	1.90210E+09	60.0	1841786	435630	23022	6291	63.027	30.653	70.086
160 X 60 - 1.2 mm	1.2	18	160	60	20	2.86	372.24	69.40	80.0	178.70	1.54740E+09	60.0	1485492	352959	18569	5086	63.172	30.793	70.277
220 X 80 - 3.0 mm	3.0	11	220	80	20	9.56	1210.70	88.50	110.0	3632.00	1.36780E+10	60.0	8943624	1691311	81306	19111	85.949	37.376	93.724
220 X 80 - 2.5 mm	2.5	12	220	80	20	7.97	1013.50	88.75	110.0	2111.00	1.16500E+10	60.0	7529888	1433572	68454	16153	86.195	37.610	94.043
220 X 80 - 2.0 mm	2.0	14	220	80	20	6.37	814.50	89.00	110.00	1086.00	9.52460E+09	60.0	6085846	1166428	55326	13106	86.440	37.843	94.361
220 X 80 - 1.5 mm	1.5	16	220	80	20	4.78	613.64	89.25	110.0	460.20	7.29930E+09	60.0	4611166	889685	41920	9968	86.686	38.077	94.680
220 X 80 - 1.2 mm	1.2	18	220	80	20	3.82	492.24	89.40	110.0	236.30	5.91520E+09	60.0	3711514	718958	33741	8042	86.833	38.218	94.872
305 X 80 - 3.0 mm	3.0	11	305	80	25	11.73	1495.70	91.00	152.5	4487.00	3.26290E+10	60.0	19889894	1926243	130426	21168	115.317	35.887	120.772
305 X 80 - 2.5 mm	2.5	12	305	80	25	9.77	1251.00	91.25	152.5	2606.00	2.77230E+10	60.0	16712433	1631367	109590	17878	115.582	36.112	121.092
305 X 80 - 2.0 mm	2.0	14	305	80	25	7.82	1004.50	91.50	152.5	1339.00	2.26110E+10	60.0	13480558	1326289	88397	14495	115.845	36.337	121.411
305 X 80 - 1.5 mm	1.5	16	305	80	25	5.86	756.14	91.75	152.5	567.00	1.72870E+10	60.0	10193818	1010816	66845	11017	116.109	36.562	121.730

PROPIEDADES MECÁNICAS DE LA SECCIÓN COMPLETA - PERFIL ESTRUCTURAL Z GALVANIZADO																			
REFERENCIA PERFIL	ESPESOR (mm)	CALIBRE #	A (mm)	B (mm)	C (mm)	PESO (Kgf/m)	ÁREA (mm^2)	X CENT (mm)	Xo CORTE (mm)	ST VENANT J (mm^4)	WARPING Cw (mm^6)	J TORS (mm)	MOMENTO DE INERCIA		MÓDULO DE SECCIÓN		RADIO DE GIRO		
													Ix (mm^4)	Iy (mm^4)	Sx (mm^3)	Sy (mm^3)	rx (mm)	ry (mm)	ro (mm)
160 X 60 - 1.9 mm	1.9	14	160	60	20	4.52	575.46	69.07	80.0	670.80	2.32270E+09	60.0	2273057	534615	28413	7741	62.849	30.480	69.850
160 X 60 - 1.5 mm	1.5	16	160	60	20	3.54	451.50	69.27	80.0	320.80	1.85550E+09	60.0	1794623	424733	22433	6132	63.046	30.671	70.111
160 X 60 - 1.2 mm	1.2	18	160	60	20	2.82	360.01	69.42	80.0	161.50	1.49910E+09	60.0	1437536	341770	17969	4923	63.191	30.811	70.302
220 X 80 - 1.9 mm	1.9	14	220	80	20	6.03	762.46	89.06	110.0	889.00	8.95570E+09	60.0	5705390	1095405	51867	12300	86.504	37.903	94.443
220 X 80 - 1.5 mm	1.5	16	220	80	20	4.73	597.50	89.27	110.0	424.50	7.11690E+09	60.0	4491858	867127	40835	9714	86.705	38.095	94.705
220 X 80 - 1.2 mm	1.2	18	220	80	20	3.77	476.01	89.42	110.0	213.50	5.72780E+09	60.0	3590715	695927	32643	7783	86.653	38.236	94.897
305 X 80 - 1.9 mm	1.9	14	305	80	25	7.40	940.11	91.56	152.5	1096.00	2.12470E+10	60.0	12631301	1245275	82828	13601	115.914	36.395	121.493
305 X 80 - 1.5 mm	1.5	16	305	80	25	5.80	736.20	91.77	152.5	523.00	1.68520E+10	60.0	9928500	985124	65105	10735	116.130	36.580	121.755