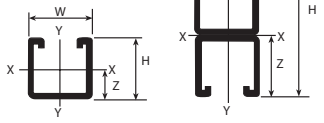
Design Data – Metal Framing Channel

TABLE 1
Properties for Design

Elements of Sections



Single Channels **Double Channels**

Nominal Thickness (inches)
12 ga = .105
14 ga = .075
16 ga = .060

Legend
I - Moment of inertia
S - Section Modulus
r - Radius of Gyration
Z - Nominal Axis
A - Area

SECTION MEMBER	WT. Lb/ft.	H in.	W in.	A in.²	X-X AXIS I in.⁴	S in.³	r in.	Z in.	Y-Y AXIS I in.⁴	S in.³	r in.
SINGLE CHANNEL											
A1200	1.90	1.625	1.625	.557	.192	.212	.587	.719	.237	.292	.652
B1200	1.28	.813	1.625	.381	.031	.063	.283	.331	.137	.168	.600
C1200	1.70	1.375	1.625	.500	.121	.155	.492	.595	.205	.252	.640
D1200	1.44	1.000	1.625	.424	.053	.092	.356	.403	.159	.196	.616
E1200	2.47	2.438	1.625	.726	.529	.399	.853	1.112	.335	.413	.679
H1200	3.05	3.250	1.625	.897	1.100	.635	1.107	1.507	.436	.536	.697
A1400	1.40	1.625	1.625	.401	.134	.146	.577	.707	.184	.226	.677
B1400	.97	.813	1.625	.280	.024	.051	.295	.338	.103	.127	.607
DOUBLE CHANNEL											
A1202	3.80	3.250	1.625	1.114	.948	.583	.992	1.625	.474	.584	.652
B1202	2.56	1.626	1.625	.762	.147	.181	.439	.813	.274	.337	.600
C1202	3.40	2.750	1.625	1.000	.595	.433	.772	1.375	.409	.504	.640
D1202	2.88	2.000	1.625	.847	.257	.257	.552	1.090	.319	.393	.616
E1202	4.94	4.876	1.625	1.450	2.854	1.171	1.402	2.438	.672	.827	.680
H1202	6.10	6.500	1.625	1.794	6.273	1.930	1.870	3.250	.871	1.072	.697
A1402	2.80	3.250	1.625	.801	.668	.411	.913	1.625	.367	.452	.677
B1402	1.94	1.626	1.625	.560	.112	.138	.447	.813	.206	.254	.607

TABLE 2
Maximum Pullout and Slip Loads for Steel Channel and Channel Nuts

Channel Nut Size / Thread	Channel All Series	Pull-Out Strength Lb	Pull-Out Strength kN	Slip Resistance Lb	Slip Resistance kN	Torque ft. Lb	Torque N-m
1/4 - 20	A1200	600	2.7	300	1.3	6	8
5/16 - 18	B1200	800	3.6	500	2.2	11	15
3/8 - 16	C1200	1000	4.4	800	3.6	19	25
1/2 - 14	D1200	2000	8.9	1500	6.7	50	70
5/8 - 11	E1200	2500	11.1	1500	6.7	100	135
3/4 - 10	H1200	2500	11.1	1700	7.6	125	170
1/4 - 20		600	2.7	300	1.3	6	8
5/16 - 18	A1400	800	3.6	400	1.8	11	15
3/8 - 16	B1400	1000	4.4	750	3.3	19	25
1/2 - 14		1400	6.2	1000	4.4	50	70
1/4 - 20		600	2.7	300	1.3	6	8
5/16 - 18	AR1600	800	3.6	400	1.8	11	15
3/8 - 16	BR1600	1000	4.4	750	3.3	19	25
1/2 - 14		1000	4.4	1000	4.4	50	70

For aluminum channel the pull out load is calculated by multiplying the appropriate data by 50%. For slip resistance multiply by 75%.

Maximum Pullout and Slip Loads for Fiber Glass Channel and Channel Nuts

Channel Nut Size / Thread	Channel All Series	Pull-Out Strength Lb	Pull-Out Strength kN	Slip Resistance Lb	Slip Resistance kN	Torque ft. Lb	Torque N-m
1/4 - 20	-	-	-	-	-	-	-
5/16 - 18	-	-	-	-	-	-	-
3/8 - 16	A1200	300	1.3	150	0.6	200	22.6
1/2 - 13	D1200	300	1.3	150	0.6	200	22.6