

Elements of Selection

1101 - 1142

Figure Number	X-X Axis								Y-Y Axis					
	Area of Section		Moment Of Inertia		Section Modulus		Radius of Gyration		Moment Of Inertia		Section Modulus		Radius of Gyration	
	in. ²	cm ²	in. ⁴	cm ⁴	in. ³	cm ³	in.	cm	in. ⁴	cm ⁴	in. ³	cm ³	in.	cm
1101	0.417	(2.690)	0.149	(6.204)	0.166	(2.720)	0.597	(1.516)	0.183	(7.619)	0.225	(3.687)	0.662	(1.681)
1101A	0.834	(5.381)	0.741	(30.852)	0.456	(7.472)	0.942	(2.393)	0.366	(15.238)	0.45	(7.374)	0.662	(1.681)

Modules of Elasticity: 29,500,000 PSI (203,395.3mPa)

Beam & Column Loads

Figure Number	Beam Span or Unbraced Column Height		Maximum Column Load		Uniform Load		Deflection		Uniform Load @ 1/240 Span	
			Lbs.	kN	Lbs.	kN	In.	mm	Lbs.	kN
1101	12	(304.80)	6441	(28.65)	1750	(7.78)	.01	(0.25)	1750	(7.78)
1101A			13212	(58.77)	1750*	(7.78)	.01	(0.25)	1750*	(7.78)
1101	24	(609.60)	5874	(26.13)	1379	(6.13)	.06	(1.52)	1379	(6.13)
1101A			12993	(57.80)	1750*	(7.78)	.01	(0.25)	1750*	(7.78)
1101	36	(914.40)	5038	(22.41)	919	(4.09)	.13	(3.30)	919	(4.09)
1101A			12627	(56.17)	1750*	(7.78)	.05	(1.27)	1750*	(7.78)
1101	48	(1219.20)	4043	(17.98)	689	(3.06)	.23	(5.84)	607	(2.70)
1101A			12115	(53.89)	1750*	(7.78)	.12	(3.05)	1750*	(7.78)
1101	60	(1524.00)	3008	(13.38)	551	(2.45)	.36	(9.14)	389	(1.73)
1101A			11456	(50.96)	1518	(6.75)	.20	(5.08)	1518	(6.75)
1101	72	(1828.80)	2324	(10.34)	460	(2.05)	.51	(12.95)	270	(1.20)
1101A			10651	(47.38)	1265	(5.63)	.28	(7.11)	1265	(5.63)
1101	84	(2133.60)	1898	(8.44)	394	(1.75)	.70	(17.78)	198	(0.88)
1101A			9700	(43.15)	1084	(4.82)	.38	(9.65)	990	(4.40)
1101	96	(2438.40)	1608	(7.15)	345	(1.53)	.91	(23.11)	152	(0.68)
1101A			8602	(38.26)	949	(4.22)	.50	(12.70)	758	(3.37)
1101	108	(2743.20)	1397	(6.21)	306	(1.36)	1.15	(29.21)	120	(0.53)
1101A			7358	(32.73)	843	(3.75)	.63	(16.00)	599	(2.66)
1101	120	(3048.00)	1263	(5.62)	276	(1.23)	1.42	(36.07)	97	(0.43)
1101A			6024	(26.80)	759	(3.38)	.78	(19.81)	485	(2.16)
1101	144	(3657.60)	--	--	230	(1.02)	2.03	(51.56)	70	(0.31)
1101A			--	--	640	(2.85)	1.14	(28.96)	340	(1.51)
1101	168	(4267.20)	--	--	200	(0.89)	2.81	(71.37)	50	(0.22)
1101A			--	--	550	(2.45)	1.55	(39.37)	250	(1.11)
1101	192	(4876.80)	--	--	170	(0.76)	3.56	(90.42)	40	(0.18)
1101A			--	--	480	(2.14)	2.02	(51.31)	190	(0.85)
1101	216	(5486.40)	--	--	150	(0.67)	4.48	(113.79)	30	(0.13)
1101A			--	--	420	(1.87)	2.52	(64.01)	150	(0.67)
1101	240	(6096.00)	--	--	140	(0.62)	5.73	(145.54)	--	--
1101A			--	--	380	(1.69)	3.13	(79.50)	120	(0.53)

Beam Loads: Loads listed are uniformly distributed, for loads concentrated at center of span multiply uniform load by .5 and multiply the deflection by .8. When deflection is not a factor use stress of 25,000 PSI (172.37 mPa). When deflection is a factor use deflection of 1/240 Span. *Failure determined by weld shear.

Column Loads: Column loadings are for allowable axial loads for the unsupported heights listed and include a K value of .80. If eccentric, loads should be reduced according to standard practice.

Unless otherwise specified, all dimensions on drawings and in charts are in inches and dimensions shown in parentheses are in millimeters.

For Fabricated Channels, reduce beam load values as follows:

1111 & 1112 15%
 1121 & 1122 10%
 1131 & 1132 30%
 1141 & 1142 5%

TECHNICAL DATA

SPOT WELDING

Resistance welding of back to back strut channel is accomplished by way of an AC powered press type spot welder. This equipment produces a series of spot welds from 2-1/2" (63.5) to 3" (76.2) apart continuously down the length of the channel. Consistency is maintained by the use of a highly sophisticated constant current weld control. This processor is capable of maintaining weld sequence, duration and current control along with other variables. Any deviations in the programmed parameters will issue forth an alarm or shut down fault, which is then investigated. Weld quality is tested every 300-350 welds through the use of a destructive test method.

Through the use of modern technology, destructive and non-destructive testing, the quality of strut can be maintained. Spot weld strut is fabricated in accordance with the R.W.M.A. guidelines for resistance welding.