TOPSUPPORTS

Innovative Strength

Technical Data Sheet
Model: *TS2-18*

TopSupports is a galvanized steel channel designed to simplify installation and seismic bracing for multiple applications, such as ventilation, electricity, plumbing, refrigeration and fire security.

MATERIAL

Material : High quality of pre-galvanized steel, zinc **ASTM-G-90** under control of **ASTM-A653**. Yield strength is 33,000psi and E is $29(10^3)$ ksi.

Manufacturing method : Cold roll forming using a series of rolls according to **AISI-S100-16** and **CSA-S136-16**.

Thickness : 18 Gauge (0.049 in / 1.27 mm)

	Wt./Ft.	Aera of Section	X-X Axis			Y-Y Axis		
	Lbs	Sq. in.	I in4	S in3	r in	I in4	S in3	r in
TS2-18	0.680	0.203	0.012	0.024	0.246	0.131	0.122	0.803

	Wt./Ft.	Aera of Section	X-X Axis			Y-Y Axis		
	kg/m	mm2	I mm4	S mm3	r mm	I mm4	S mm3	r mm
TS2-18	1.012	130.89	5.107E+03	400.25	6.25	5.438E+04	1995.46	20.38

BEAM LOADS

Span	Allowable Uniform Load	Deflection	Uniform Load		
	18000psi		1/180	1/240	1/360
in	Lbs	in	Lbs	Lbs	Lbs
12	293	0.019	**	**	**
18	195	0.042	**	**	**
24	147	0.074	**	**	132
30	117	0.116	**	**	84
36	98	0.167	**	88	59
42	84	0.227	**	65	43
48	73	0.297	66	49	33
60	59	0.463	42	32	21
72	49	0.667	29	22	15
84	42	0.908	22	16	11
96	37	1.186	16	12	8
108	33	1.501	13	10	7
120	29	1.853	11	8	5
180	20	4.170	5	4	2
240	15	7.413	3	2	1

SIMPLE BEAM LOAD AND SUPPORTS CONDITIONS

	Load Factor	Deflection Factor
Uniform Load	1	1
Concentrated Load at Center	0.5	0.8

BEAM LOAD DATA

** Uniform beam capacity is lower than the 1/240 or 1/360 of beam capacity and is therefore the governing constraint

TS2-18

(.5238 REF.)
.219
R.031
R.050
.0625
.750
.049
.1560
.563
2.146

X-X Axis	Y-Y Axis
c in	c in
0.502	1.073
c mm	c mm
12.76	27.25
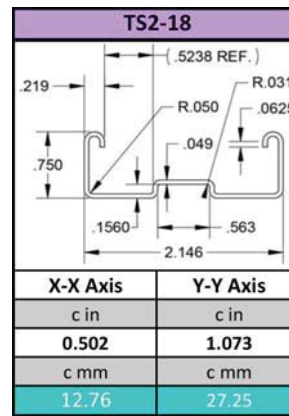
GENERAL NOTES

1. The beam capacies shown above include the weight of the strut beam. The beam weight must be subtracted from these capacities to arrive at the net beam capacity.

2. Allowable beam loads are based on a uniformly loaded, simply supported beam.

3. Beam capacity, the allowable stress is based on 18, 000 psi. Means a safety factor of 1,83.

4. The load charts shows beam capacity for strut without holes. For strut with hole, multiply by 0.9.

Galvanized steel G90 (18 or 22 gauge)

3 rows of pre-drilled holes

Rounded up borders

TS2-18: Ø 25/64" for 3/8" threaded rods

TS2-22: Ø 5/16" for 1/4" threaded rods

Ø 3/16" use self-tapping screws (#10x¾")
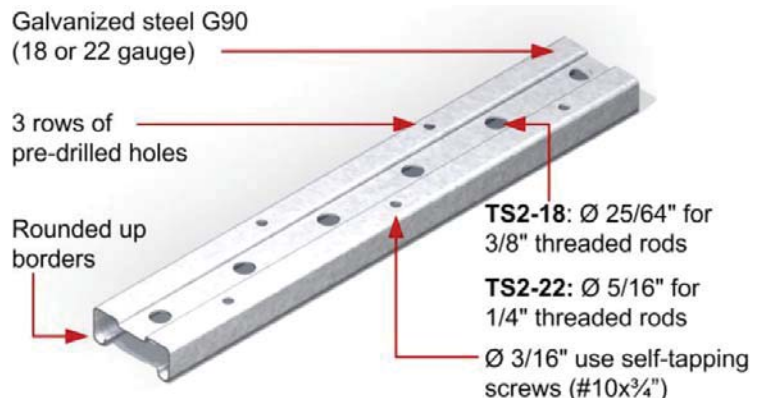
Technical Data Sheet
Model: *TS2-18B*

TopSupports is a galvanized steel channel designed to simplify installation and seismic bracing for multiple applications, such as ventilation, electricity, plumbing, refrigeration and fire security.

MATERIAL

Material :   High quality of pre-galvanized steel, zinc *ASTM-G-90* under control of *ASTM-A653*. Yield strength is 33,000psi and E is $29(10^3)$ ksi.
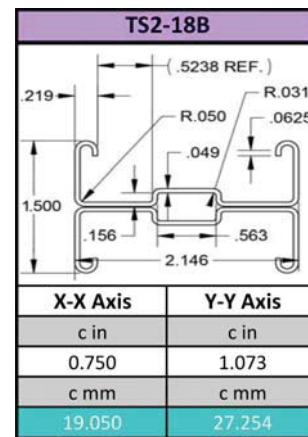
Manufacturing method :   Cold roll forming using a series of rolls according to *AISI-S100-16* and *CSA-S136-16*.

Thickness :   18 Gauge (0.049 in / 1.27 mm)

	Wt./Ft.	Aera of Section	X-X Axis			Y-Y Axis		
	Lbs	Sq. in.	I in4	S in3	r in	I in4	S in3	r in
TS2-18B	1.372	0.406	0.049	0.066	0.349	0.261	0.244	0.803

	Wt./Ft.	Aera of Section	X-X Axis			Y-Y Axis		
	kg/m	mm2	I mm4	S mm3	r mm	I mm4	S mm3	r mm
TS2-18B	2.042	261.780	2.057E+04	1079.922	8.865	1.088E+05	3990.930	20.384

TS2-18B

(.5238 REF.)
R.031
.219
R.050 .0625
.049
1.500
.156   .563
2.146

X-X Axis	Y-Y Axis
c in	c in
0.750	1.073
c mm	c mm
19.050	27.254

BEAM AND COLUMN LOADS

Span	Allowable Uniform Load	Deflection	Uniform Load			Max Load of Column loaded @ C.G.			
	18000		1/180	1/240	1/360	K=0.65	K=0.8	K=1	K=1.2
in	Lbs	in	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs	Lbs
12	791	0.01	**	**	**	5755	5598	5356	5088
18	527	0.03	**	**	**	5388	5088	4658	4222
24	395	0.05	**	**	**	4947	4512	3939	3410
30	316	0.08	**	**	**	4476	3939	3287	2733
36	264	0.11	**	**	236	4009	3410	2733	2200
42	226	0.15	**	**	173	3569	2942	2280	1788
48	198	0.20	**	**	133	3168	2541	1913	1470
60	158	0.31	**	127	85	2495	1913	1381	***
72	132	0.45	118	88	59	1981	1470	***	***
84	113	0.61	87	65	43	1593	1154	***	***
96	99	0.79	66	50	33	1299	***	***	***
108	88	1.01	52	39	26	***	***	***	***
120	79	1.24	42	32	21	***	***	***	***
180	53	2.79	19	14	9	***	***	***	***
240	40	4.97	11	8	5	***	***	***	***

SIMPLE BEAM LOAD AND SUPPORTS CONDITIONS			COLUMN LOAD DATA	BEAM LOAD DATA
	Load Factor	Deflection Factor	*** Ratio KL/r is greater than 200.	** Uniform beam capacity is lower than the 1/240 or 1/360 of beam capacity and is therefore the governing constraint
Uniform Load	1	1		
Concentrated Load at Center	0.5	0.8		

GENERAL NOTES

1. The beam capacies shown above include the weight of the strut beam. The beam weight must be subtracted from these capacities to arrive at the net beam capacity.

2. Allowable beam loads are based on a uniformly loaded, simply supported beam.

3. Beam capacity, the allowable stress is based on 18, 000 psi. Means a safety factor of 1,83.

4. Column capacity, the allowable stress is based on 15, 000 psi. That's mean a safety factor of 2,20.

5. The load charts shows beam capacity for strut without holes. For strut with hole, multiply by 0.9.

1. The capacity of a colone is based on several factors. One of them is the method of fixing the extrimities which results in the factor K

Type of fastening at the ends:

Fixed rotation, fixed translation

Free rotation, fixed translation

Fixed rotation, free translation

K=0.65   K=0.8   K=1   K=1.2

Screws must be inserted straight (use self-tapping metal screws #10x¾")

Screw heads must be flush

Little or no gap between TopSupports

3" (76mm) Max.

Install screws as lateral pairs (face to face)

12" (305mm) Max.