NEGATIVE LOAD SPAN CHART FOR : PETERSEN BOX RIB SERIES BOX RIB 1 @ 12" X 0.032" ALUMINUM (W/ CLIP)						
Span, ft.	TWO EQUAL SPANS			THREE EQUAL SPANS		
	W (psf)	Re	Ri	W (psf)	Re	Ri
1.00	65.68	24.6	82.1	74.64	29.9	82.1
1.25	52.54	24.6	82.1	59.71	29.9	82.1
1.50	43.79	24.6	82.1	49.76	29.9	82.1
1.75	37.53	24.6	82.1	42.65	29.9	82.1
2.00	32.84	24.6	82.1	37.32	29.9	82.1
2.25	29.19	24.6	82.1	33.17	29.9	82.1
2.50	26.27	24.6	82.1	29.85	29.9	82.1
2.75	23.88	24.6	82.1	27.14	29.9	82.1
3.00	21.89	24.6	82.1	24.88	29.9	82.1
3.25	20.21	24.6	82.1	22.97	29.9	82.1
3.50	18.77	24.6	82.1	21.32	29.9	82.1
3.75	17.51	24.6	82.1	19.90	29.9	82.1
4.00	16.42	24.6	82.1	18.66	29.9	82.1

W = Allowable Uniform Wind Load, psf

Re = End Support Reaction, 82.1 #/ft. of panel

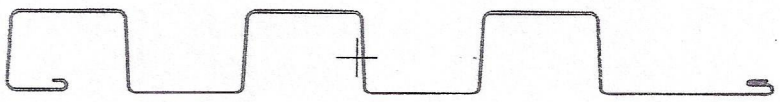
Ri = Intermediate Support Reaction, 82.1 #/ft. of panel

Deflection Limit = L/180

F_y = 5.28 ksi

I_{xx} = 0.2750 in^4

S_{xx} = 0.3305 in^3



BOX RIB-1 PANEL - 12" X 0.032" ALUM.
BOX RIB W/ CLIP
Rev. Date: 4/27/2020 10:14:51 AM
By: Thomas M. Shingler, PE
Printed: 4/27/2020 10:15:20 AM

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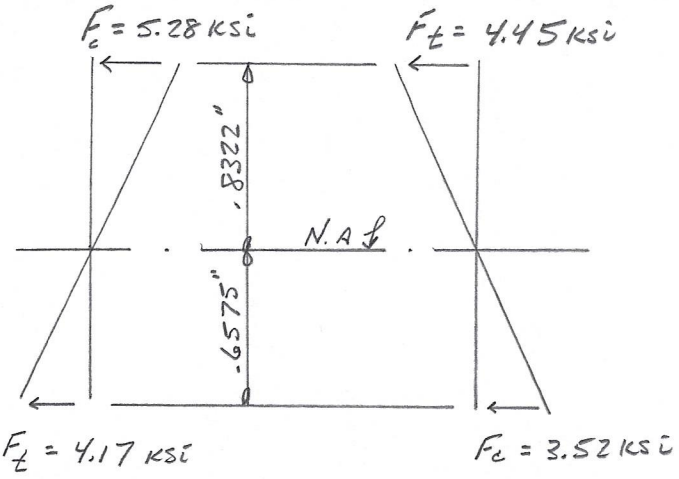


$b/t_{(Top)} = \frac{2}{0.032}$

$b/t_{(Top)} = 62.5$

$F_{c(Top)} = \frac{330}{62.5}$

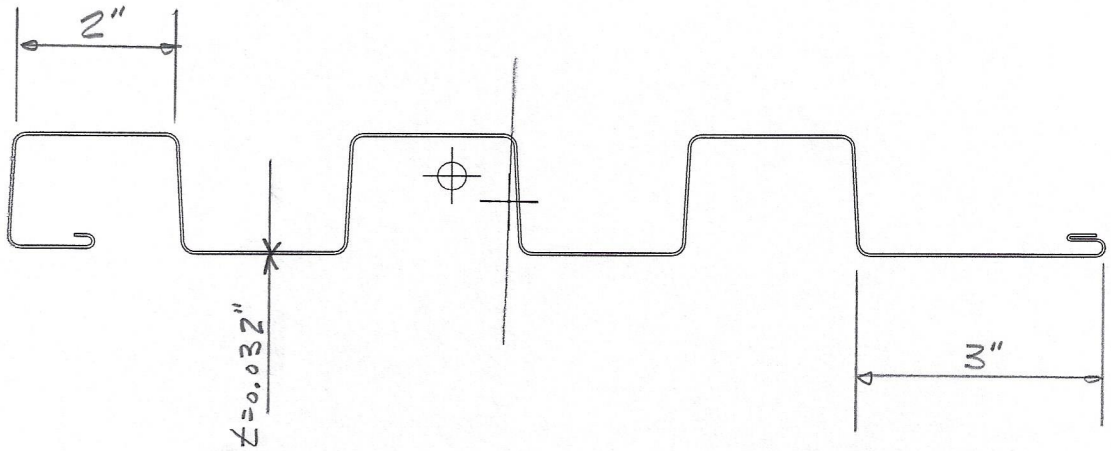
$F_{c(Top)} = 5.28$ ksi

$b/t_{(Bot)} = \frac{3}{0.032}$

$b/t_{(Bot)} = 93.75$

$F_{c(Bot)} = \frac{330}{93.75}$

$F_{c(Bot)} = 3.52$ ksi



$F_{c(Top)} = 5.28$ ksi $\qquad F_{t(Top)} = 4.17$ ksi

$F_{c(Bot)} = 3.52$ ksi $\qquad F_{t(Bot)} = 4.45$ ksi

BOX RIB-1 PANEL - 12" X 0.032" ALUM.
BOX RIB W/ CLIP
Rev. Date: 4/27/2020 10:14:51 AM
By: Thomas M. Shingler, PE
Printed: 4/27/2020 10:15:21 AM

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Section Inputs

Material: A653 SS Grade 40
Apply cold work of forming strength increase.
No inelastic reserve strength increase.

Modulus of Elasticity, E	29500 ksi
Yield Strength, Fy	40 ksi
Tensile Strength, Fu	55 ksi
Torsion Constant Override, J	0 in^4
Warping Constant Override, Cw	0 in^6

Part 1, Thickness 0.032 in
Placement of Part from Origin:

X to center of gravity	0 in
Y to center of gravity	0 in

Outside dimensions, Open shape

	Length (in)	Angle (deg)	Radius (in)	Web	k Coef.	Hole Size (in)	Distance (in)
1	0.2500	0.000	0.12500	None	0.000	0.0000	0.1250
2	0.1840	-90.000	0.06000	None	0.000	0.0000	0.0840
3	0.1000	-180.000	0.06000	None	0.000	0.0000	0.0500
4	0.9670	-180.000	0.12500	None	0.000	0.0000	0.4835
5	1.4300	87.000	0.12500	None	0.000	0.0000	0.7150
6	2.0000	0.000	0.12500	None	0.000	0.0000	1.0000
7	1.4900	-87.000	0.12500	Single	0.000	0.0000	0.7450
8	2.0000	0.000	0.12500	None	0.000	0.0000	1.0000
9	1.4900	87.000	0.12500	Single	0.000	0.0000	0.7450
10	2.0000	0.000	0.12500	None	0.000	0.0000	1.0000
11	1.4900	-87.000	0.12500	Single	0.000	0.0000	0.7450
12	2.0000	0.000	0.12500	None	0.000	0.0000	1.0000
13	1.4900	87.000	0.12500	Single	0.000	0.0000	0.7450
14	2.0000	0.000	0.12500	None	0.000	0.0000	1.0000
15	1.4900	-87.000	0.12500	Single	0.000	0.0000	0.7450
16	3.0000	0.000	0.12500	None	0.000	0.0000	1.5000
17	0.2280	90.000	0.07550	None	0.000	0.0000	0.1140
18	0.4600	180.000	0.07550	None	0.000	0.0000	0.2300
19	0.0880	90.000	0.01200	None	0.000	0.0000	0.0360
20	0.0440	0.000	0.01200	None	0.000	0.0000	0.0180
21	0.3100	0.000	0.01875	None	0.000	0.0000	0.1550

Full Section Properties

Area	0.74005 in^2	Wt.	0.0025162 k/ft	Width	23.127 in
Ix	0.275 in^4	rx	0.6096 in	Ixy	-0.405 in^4
Sx(t)	0.3305 in^3	y(t)	0.8322 in	α	88.060 deg
Sx(b)	0.4183 in^3	y(b)	0.6575 in		
Zx	0.4133 in^3	Height	1.4896 in		
Iy	12.207 in^4	ry	4.0614 in	x_o	-0.6946 in
Sy(l)	2.0093 in^3	x(l)	6.0753 in	y_o	0.3161 in
Sy(r)	1.6905 in^3	x(r)	7.2212 in	jx	0.8469 in
Zy	2.5967 in^3	Width	13.2965 in	jy	-2.8597 in

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I_1	12.221 in^4	r_1	4.0637 in	Cw	4.5123 in^6
I_2	0.261 in^4	r_2	0.5942 in	J	0.0002526 in^4
Ic	12.482 in^4	rc	4.1069 in		
I_o	12.913 in^4	r_o	4.1772 in		

DESIGN INPUT DATA FOR BOX RIB 1 X 0.032" ALUM. W/ CLIP

PRODUCT PROPERTIES :

E = 10100. KSI

I = .2750 IN4/FT S = .3305 IN3/FT

DESIGN PARAMETERS :

DEFLECTION = L/ 180.

ALLOW. BENDING STRESS (PSI)	=	5280.0
ALLOW. END SUPPORT REACTION (#/FT)	=	82.1
ALLOW. INTERMEDIATE SUPPORT REACTION (#/FT)	=	82.1

LOAD-SPAN TABLE FOR BOX RIB 1 X 0.032" ALUM. W/ CLIP

DEFLECION = L/ 180.

SPAN	SIMPLE SPAN		TWO EQUAL SPAN			THREE EQUAL SPAN		
(FT)	W(PSF)	RE	W(PSF)	RE	RI	W(PSF)	RE	RI
1.00	164.20	82.1	65.68	24.6	82.1	74.64	29.9	82.1
1.25	131.36	82.1	52.54	24.6	82.1	59.71	29.9	82.1
1.50	109.47	82.1	43.79	24.6	82.1	49.76	29.9	82.1
1.75	93.83	82.1	37.53	24.6	82.1	42.65	29.9	82.1
2.00	82.10	82.1	32.84	24.6	82.1	37.32	29.9	82.1
2.25	72.98	82.1	29.19	24.6	82.1	33.17	29.9	82.1
2.50	65.68	82.1	26.27	24.6	82.1	29.85	29.9	82.1
2.75	59.71	82.1	23.88	24.6	82.1	27.14	29.9	82.1
3.00	54.73	82.1	21.89	24.6	82.1	24.88	29.9	82.1
3.25	50.52	82.1	20.21	24.6	82.1	22.97	29.9	82.1
3.50	46.91	82.1	18.77	24.6	82.1	21.32	29.9	82.1
3.75	43.79	82.1	17.51	24.6	82.1	19.90	29.9	82.1
4.00	41.05	82.1	16.42	24.6	82.1	18.66	29.9	82.1

W = ALLOWABLE UNIFORM LOAD
RE = END SOPPORT REACTION AT ALLOW. LOAD (#/FT)
RI = INTERMEDIATE SUPPORT REACTION AT ALLOW. LOAD (#/FT)