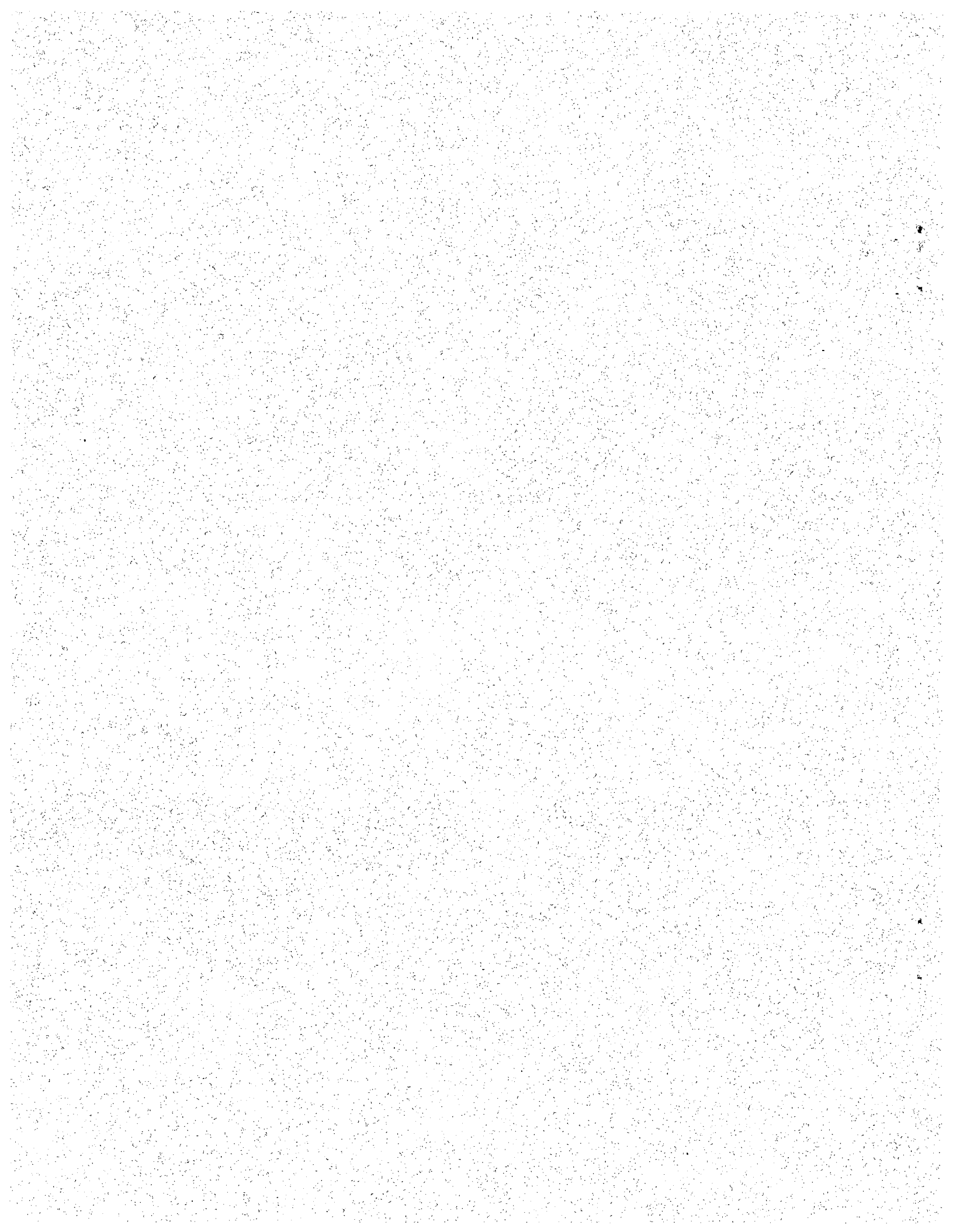


# **SS 200 PANEL**

## **SECTION ANALYSIS REPORT AND SPAN LOAD TABLES**

1300 40<sup>TH</sup> DENVER, CO 80205-3311

PH 303-294-0538 \*\*\* 800-574-1717 \*\*\* FAX 303-294-9407





# JOHN F. BUTTS & ASSOC., INC.

CONSULTING ENGINEERS  
2480 VANTAGE DRIVE COLORADO SPRINGS, CO 80919  
(719) 598-7666 FAX (719) 598-0258

April 22, 1999

New Tech Machinery Corporation  
1300 40<sup>th</sup> Street  
Denver, CO 80205-3311

Re: Panel Analysis Report  
New Tech SS150 Panel  
New Tech SS200 Panel  
New Tech SS210-A Panel  
New Tech SS550 Panel  
New Tech SS675 Panel  
JFBA Job No. 183-04

Gentlemen:

Per your request, we have completed an analysis of the above referenced panels. The panels, with the structural properties indicated in this report, is certified to meet or exceed the requirements of the following design specifications:

American Iron and Steel Institute, *Specifications for the Design of Cold-Formed Steel Structural Members*, 1996 edition.

The following documents are enclosed for your records:

Panel cross-section  
Panel analysis, pages 1 to 183  
Panel Span Load tables, pages S1 to S71

Panels widths greater than 14 inches exceed the AISI allowable ratios for the panel width element. The AISI specifications, Section B1.1(a) states:

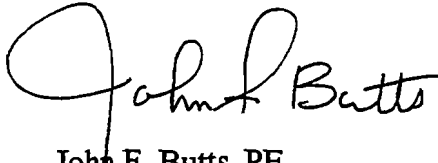
“...stiffened elements having w/t ratios larger than 500 can be used with adequate design strength to sustain the required loads; however; substantial deformations of such elements usually will invalidate the design equations of this specification.”

Before using the enclosed panel span tables, you will need to review the analysis reports for each panel. It is our opinion that the panels with w/t ratio elements exceeding 500 should be verified by testing before using the respective panel span tables.

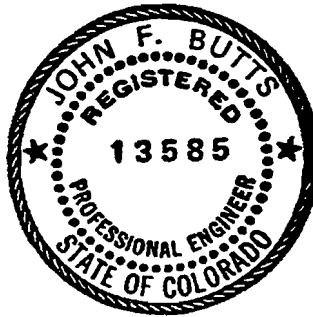
Please note that the panel analysis and Load Tables have been evaluated based on the assumption that the proper bearing, side laps, end laps, bracing, anchorage and structural supports are being utilized in the member's installation. We do not certify the installation method, attachment and supporting materials.

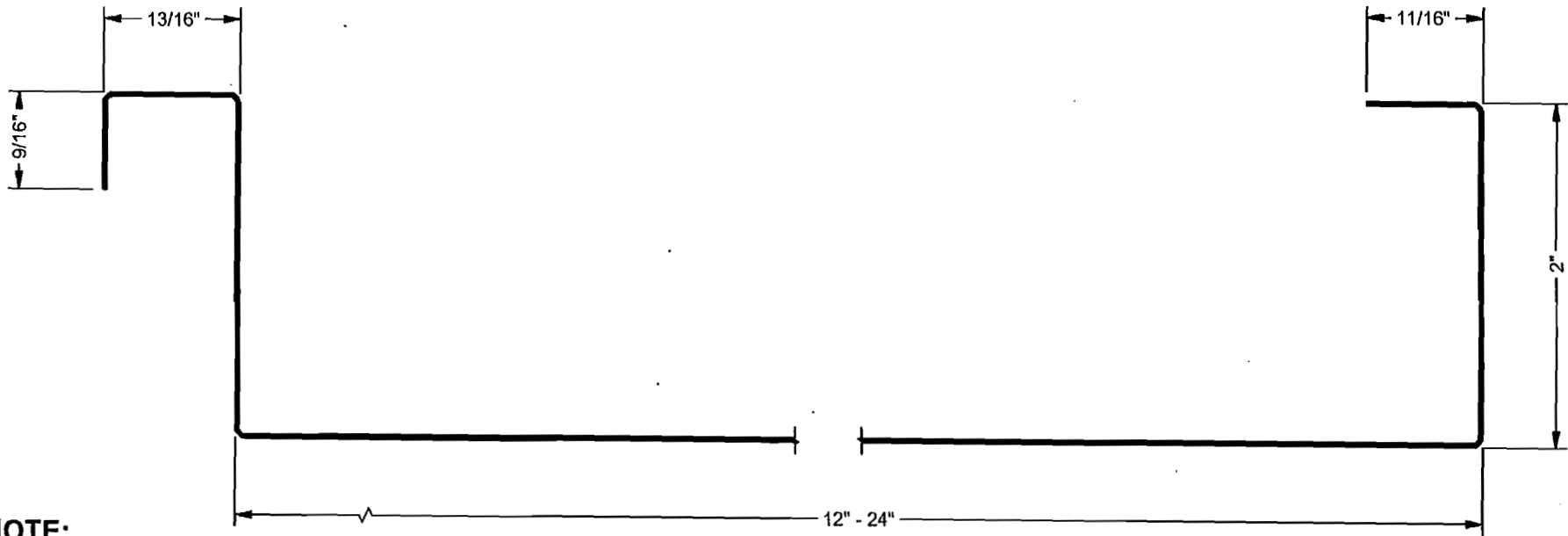
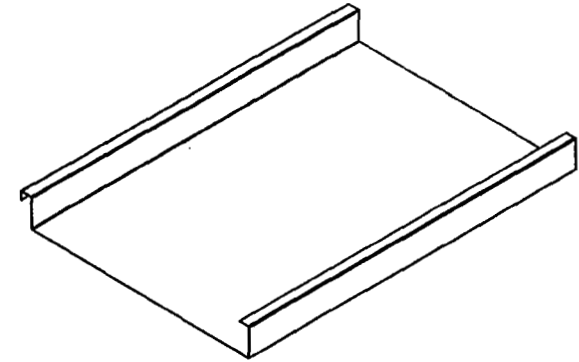
If you have any questions, please call or write the undersigned.

Sincerely,



John F. Butts, PE  
President





**NOTE:**  
MATERIAL USAGE: 5 13/16"

MATERIAL		LENGTH	FINISH	<b>NEW TECH MACHINERY CORP.</b>							
REVISION HISTORY	REV	ECN NO.	DATE	RELEASED BY	TOLERANCES	DRAWN BY	PART NAME			REVISION	
					.XX = ± .01	SAWYER	SS200 PANEL PROFILE				
					.XXX = ± .005	DATE					
					FRACTION = ± 1/32"	9/11/2002	CHECK BY	SIZE	A	SHEET	1 OF 1
					ANGLE = ± 1/2'		DATE	SCALE	NONE	PART NUMBER	SS200



John F. Butts & Associates, Inc.  
2480 Vantage Drive  
Colorado Springs, CO 80919  
(719) 598-7666

**PROFILE ANALYSIS & DESIGN**

Per AISI Cold-Formed Steel  
Design Manual, 1996 Edition

**New Tech SS200 Panel**

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FILE NAME: NT200

**DIMENSIONS**

Line # 1 Angle (R) = -90.000 deg	Line # 1 Angle (L) = 90.000 deg
Radius (R) = 0.040 in	Radius (L) = 0.040 in
Length (R) = 1.872 in	Length (L) = 1.872 in
Line # 2 Angle (R) = -90.000 deg	Line # 2 Angle (L) = -90.000 deg
Radius (R) = 0.040 in	Radius (L) = 0.040 in
Length (R) = 0.624 in	Length (L) = 0.685 in
Line # 3 Angle (R) = 0.000 deg	Line # 3 Angle (L) = -90.000 deg
Radius (R) = 0.000 in	Radius (L) = 0.040 in
Length (R) = 0.000 in	Length (L) = 0.669 in

Panel Bottom Width = 11.872 in  
Panel Overall Width = 12.000 in  
Panel Overall Height = 2.000 in

**SPECIAL CONDITIONS**

Seam Rotation : 90 deg.

Alloy: ASTM A653, G50  
Fy = 50.00 ksi  
Fv = 21.18 ksi

**QUALIFICATIONS PER AISI SPECIFICATIONS**

(a) Maximum w/t Ratio's Exceeded [SEC. B1.1(a)] | No  
(b) Maximum h/t Ratio's Exceeded [SEC. B1.2(a)] | No

**PROPERTIES FOR LOAD/SPAN TABLES**

Aweb = 0.098 in <sup>2</sup>	Sxp (per ft. of width) = 0.101 in <sup>3</sup>
Sxp = 0.101 in <sup>3</sup>	Sxn (per ft. of width) = 0.080 in <sup>3</sup>
Sxn = 0.080 in <sup>3</sup>	Ixp (per ft. of width) = 0.200 in <sup>4</sup>
Ixp = 0.200 in <sup>4</sup>	Ixn (per ft. of width) = 0.119 in <sup>4</sup>
Ixn = 0.119 in <sup>4</sup>	
Weight = 1.47 lb/lf	



**New Tech SS200 Panel**

Member - New Tech SS200 Panel								
Type	Name	Gage	Hgt (in)	Width (in)	Lip (in)	t (in)	Weight lb/ft	Coil Width (in)
Panel	PNL	24	2.000	12.000	0.000	0.0240	1.470	18.00
Gross Section Properties								
Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	Sx (in <sup>3</sup> )	Rx (in)	Ycg (in)	Iy (in <sup>4</sup> )	Sy (in <sup>3</sup> )	Ry (in)	Xcg (in)
0.432	0.233	0.152	0.735	0.461	8.773	1.361	4.506	6.446
Effective Properties								
Ix (in <sup>4</sup> )	Sx (in <sup>3</sup> )	Iy (in <sup>4</sup> )	Sy (in <sup>3</sup> )	Mnx (in-k)	Mny (in-k)	Vnx (kip)	End Bearing Pne (kip)	Pnei (k/in)
0.200	0.101	0.000	0.000	3.99	0.00	2.069	0.181	0.159
Torsional Properties								
Xo (in)	Ro (in)	Beta	Cw (in <sup>6</sup> )	Jv*1000 (in <sup>4</sup> )	Fy (ksi)	Fu (ksi)	E (ksi)	G (ksi)
-1.166	4.712	0.939	5.45	0.083	50	65	29500	11300

Shear, moment and bearing values shown are nominal values and must be modified by the appropriate factors of safety (ASD) or resistance factors (LRFD).

Factors of Safety (ASD)		Resistance Factors (LRFD)	
$\Omega$ (Compression)	= 1.80	$\phi$ (Compression)	= 0.85
$\Omega$ (Tension)	= 1.67	$\phi$ (Tension)	= 0.95
$\Omega$ (Web Crippling)	= 1.85	$\phi$ (Web Crippling)	= 0.75
$\Omega$ (Bending)	= 1.67	$\phi$ (Bending)	= 1.11
$\Omega$ (Shear)	= 1.67	$\phi$ (Shear)	= 0.90

New Tech SS200 Panel

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Moment of Inertia @ 90 degree Rotation

ELEMENT	L	Y	LY	LYY	Io
1	0.082	12.758	1.042	13.295	0.0000
2	1.872	12.777	23.919	305.607	0.0000
3	0.082	12.758	1.042	13.295	0.0000
4	0.624	12.413	7.746	96.148	0.0202
14	11.872	6.789	80.599	547.187	139.4410
21	0.082	0.820	0.067	0.055	0.0000
22	1.872	0.801	1.499	1.201	0.0000
23	0.082	0.782	0.064	0.050	0.0000
24	0.685	0.406	0.278	0.113	0.0268
25	0.075	0.031	0.002	0.000	0.0000
26	0.675	0.012	0.008	0.000	0.0000
	18.002		116.267	976.951	139.4881

Ix = 8.773 in<sup>4</sup>  
Ycg= 6.458 in

New Tech SS200 Panel

LOAD

ELEMENT VALUES FOR POSITIVE BENDING

ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.623	1.315	-0.819	-1.077	-0.0202
3	0.082	1.969	0.161	0.317	0.0000
4	0.317	1.988	0.630	1.252	0.0000
14	11.872	0.012	0.142	0.002	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.623	1.315	-0.819	-1.077	-0.0202
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.320	1.964	0.629	1.236	0.0000
	16.094		5.344	7.712	1.0532

Sx = 0.101 in<sup>3</sup>  
 Ix = 0.168 in<sup>4</sup>  
 Ycg = 0.332 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

DEFLECTION

ELEMENT VALUES FOR POSITIVE BENDING

ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.206	1.412	-0.291	-0.411	-0.0007
3	0.082	1.969	0.161	0.317	0.0000
4	0.437	1.988	0.870	1.729	0.0000
14	11.872	0.012	0.142	0.002	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.206	1.412	-0.291	-0.411	-0.0007
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.445	1.964	0.875	1.718	0.0000
	17.174		6.886	10.005	1.0920

Sx = 0.125 in<sup>3</sup>  
 Ix = 0.200 in<sup>4</sup>  
 Ycg = 0.401 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

LOAD

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ELEMENT VALUES FOR NEGATIVE BENDING					
ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.374	0.522	-0.195	-0.102	-0.0044
3	0.082	1.969	0.161	0.317	0.0000
4	0.624	1.988	1.241	2.466	0.0000
14	1.086	0.012	0.013	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.374	0.522	-0.195	-0.102	-0.0044
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.675	1.964	1.326	2.605	0.0000
	6.468		7.771	12.245	1.0848

---

Sx = 0.080 in<sup>3</sup>  
Ix = 0.096 in<sup>4</sup>  
Ycg = 1.201 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

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DEFLECTION

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ELEMENT VALUES FOR NEGATIVE BENDING

-----

ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
3	0.082	1.969	0.161	0.317	0.0000
4	0.624	1.988	1.241	2.466	0.0000
14	1.656	0.012	0.020	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.675	1.964	1.326	2.605	0.0000
	7.786		8.168	12.448	1.0935

Sx = 0.114 in<sup>3</sup>  
Ix = 0.119 in<sup>4</sup>  
Ycg = 1.049 in

Webs Fully Effective [SEC. B2.3(a)] | Yes

New Tech SS200 Panel

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MAXIMUM NOMINAL MOMENTS - [Section C3.1.1(a)]

Mnx [positive bending] = +5.029 k-in  
Mnx [negative bending] = -3.989 k-in

MAXIMUM ALLOWABLE REACTIONS - [Table C3.4-1]

N/t = 83.33  
k = 1.515  
C1 = 0.887  
C2 = 0.960  
C3 = 0.830  
C4 = 0.900  
C9 = 1.000  
C0 = 1.000 - Element 2, 22

Pend =  $t^2 * k * C3 * C4 * C9 * C0 [217 - 0.28(h/t)] [0.71 + 0.015(N/t)]$   
h/t = 78.00 | Pe( 2) = 1 \* 0.249 kips = 0.249 kips  
h/t = 78.00 | Pe(22) = 1 \* 0.249 kips = 0.249 kips  
Pend = 0.499 kips

Pint =  $t^2 * k * C1 * C2 * C9 * C0 [538 - 0.74(h/t)] [0.75 + 0.011(N/t)]$   
h/t = 78.00 | Pi( 2) = 1 \* 0.595 kips = 0.595 kips  
h/t = 78.00 | Pi(22) = 1 \* 0.595 kips = 0.595 kips  
Pint = 1.189 kips

MAXIMUM NOMINAL SHEAR - [Section C3.2]

E = 29,500 ksi  
Fy = 50.00 ksi  
kv = 5.34 - for unreinforced webs  
 $0.960 * \text{Sqr}(Ekv/Fy) = 53.88$   
 $1.415 * \text{Sqr}(Ekv/Fy) = 79.42$

h/t = 78.00 | V( 2) = 1 \* 1.035 kips = 1.035 kips (Eq. C3.2-2)  
h/t = 78.00 | V(22) = 1 \* 1.035 kips = 1.035 kips (Eq. C3.2-2)

Vn = 2.069 kips

New Tech SS200 Panel

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Sheet Gauge = 0.0240 in, 24 gauge

PANEL ELEMENTS EXCEEDING AISI ALLOWABLE RATIOS

Element No. 14 :  $w/t > 250$  -Actual  $w/t = 495$

NOTE: AISI Specifications, Section B1.1(a) states ....

stiffened compression elements that have  $w/t$  ratios exceeding approximately 250 are likely to develop noticeable deformation at the full design strength, without affecting the ability of the member to develop the required strength.



John F. Butts & Associates, Inc.  
2480 Vantage Drive  
Colorado Springs, CO 80919  
(719) 598-7666

**PROFILE ANALYSIS & DESIGN**

Per AISI Cold-Formed Steel  
Design Manual, 1996 Edition

**New Tech SS200 Panel**

=====

FILE NAME: NT200

**DIMENSIONS**

Line # 1 Angle (R) = -90.000 deg	Line # 1 Angle (L) = 90.000 deg
Radius (R) = 0.040 in	Radius (L) = 0.040 in
Length (R) = 1.872 in	Length (L) = 1.872 in
Line # 2 Angle (R) = -90.000 deg	Line # 2 Angle (L) = -90.000 deg
Radius (R) = 0.040 in	Radius (L) = 0.040 in
Length (R) = 0.624 in	Length (L) = 0.685 in
Line # 3 Angle (R) = 0.000 deg	Line # 3 Angle (L) = -90.000 deg
Radius (R) = 0.000 in	Radius (L) = 0.040 in
Length (R) = 0.000 in	Length (L) = 0.669 in

Panel Bottom Width = 13.872 in  
Panel Overall Width = 14.000 in  
Panel Overall Height = 2.000 in

**SPECIAL CONDITIONS**

Seam Rotation : 90 deg.

Alloy: ASTM A653, G50  
    Fy = 50.00 ksi  
    Fv = 21.18 ksi

**QUALIFICATIONS PER AISI SPECIFICATIONS**

(a) Maximum w/t Ratio's Exceeded [SEC. B1.1(a)] | No  
(b) Maximum h/t Ratio's Exceeded [SEC. B1.2(a)] | No

**PROPERTIES FOR LOAD/SPAN TABLES**

Aweb = 0.098 in <sup>2</sup>	Sxp (per ft. of width) = 0.086 in <sup>3</sup>
Sxp = 0.100 in <sup>3</sup>	Sxn (per ft. of width) = 0.069 in <sup>3</sup>
Sxn = 0.080 in <sup>3</sup>	Ixp (per ft. of width) = 0.177 in <sup>4</sup>
Ixp = 0.206 in <sup>4</sup>	Ixn (per ft. of width) = 0.102 in <sup>4</sup>
Ixn = 0.120 in <sup>4</sup>	
Weight = 1.63 lb/lf	

**New Tech SS200 Panel**

Member - New Tech SS200 Panel								
Type	Name	Gage	Hgt (in)	Width (in)	Lip (in)	t (in)	Weight lb/ft	Coil Width (in)
Panel	PNL	24	2.000	14.000	0.000	0.0240	1.634	20.00
Gross Section Properties								
Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	Sx (in <sup>3</sup> )	Rx (in)	Ycg (in)	Iy (in <sup>4</sup> )	Sy (in <sup>3</sup> )	Ry (in)	Xcg (in)
0.480	0.242	0.153	0.710	0.416	12.697	1.707	5.143	7.439
Effective Properties								
Ix (in <sup>4</sup> )	Sx (in <sup>3</sup> )	Iy (in <sup>4</sup> )	Sy (in <sup>3</sup> )	Mnx (in-k)	Mny (in-k)	Vnx (kip)	End Bearing Pne (kip)	Pnei (k/in)
0.206	0.100	0.000	0.000	4.00	0.00	2.069	0.181	0.159
Torsional Properties								
Xo (in)	Ro (in)	Beta	Cw (in <sup>6</sup> )	Jv*1000 (in <sup>4</sup> )	Fy (ksi)	Fu (ksi)	E (ksi)	G (ksi)
-1.071	5.301	0.959	7.69	0.092	50	65	29500	11300

Shear, moment and bearing values shown are nominal values and must be modified by the appropriate factors of safety (ASD) or resistance factors (LRFD).

Factors of Safety (ASD)		Resistance Factors (LRFD)	
$\Omega$ (Compression)	= 1.80	$\phi$ (Compression)	= 0.85
$\Omega$ (Tension)	= 1.67	$\phi$ (Tension)	= 0.95
$\Omega$ (Web Crippling)	= 1.85	$\phi$ (Web Crippling)	= 0.75
$\Omega$ (Bending)	= 1.67	$\phi$ (Bending)	= 1.11
$\Omega$ (Shear)	= 1.67	$\phi$ (Shear)	= 0.90

New Tech SS200 Panel

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Moment of Inertia @ 90 degree Rotation

ELEMENT	L	Y	LY	LYY	Io
1	0.082	14.758	1.205	17.790	0.0000
2	1.872	14.777	27.663	408.769	0.0000
3	0.082	14.758	1.205	17.790	0.0000
4	0.624	14.413	8.994	129.626	0.0202
14	13.872	7.789	108.049	841.594	222.4518
21	0.082	0.820	0.067	0.055	0.0000
22	1.872	0.801	1.499	1.201	0.0000
23	0.082	0.782	0.064	0.050	0.0000
24	0.685	0.406	0.278	0.113	0.0268
25	0.075	0.031	0.002	0.000	0.0000
26	0.675	0.012	0.008	0.000	0.0000
	20.002		149.035	1416.990	222.4989

Ix = 12.697 in<sup>4</sup>  
Ycg= 7.451 in

New Tech SS200 Panel

LOAD

ELEMENT VALUES FOR POSITIVE BENDING					
ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.663	1.292	-0.857	-1.108	-0.0243
3	0.082	1.969	0.161	0.317	0.0000
4	0.317	1.988	0.630	1.252	0.0000
14	13.872	0.012	0.166	0.002	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.663	1.292	-0.857	-1.108	-0.0243
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.320	1.964	0.629	1.236	0.0000
	18.014		5.293	7.652	1.0449

Sx = 0.100 in<sup>3</sup>  
 Ix = 0.171 in<sup>4</sup>  
 Ycg = 0.294 in

Webs Fully Effective [SEC. B2.3(a)] No

New Tech SS200 Panel

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DEFLECTION

=====

ELEMENT VALUES FOR POSITIVE BENDING

ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.223	1.400	-0.312	-0.437	-0.0009
3	0.082	1.969	0.161	0.317	0.0000
4	0.439	1.988	0.873	1.735	0.0000
14	13.872	0.012	0.166	0.002	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.223	1.400	-0.312	-0.437	-0.0009
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.447	1.964	0.878	1.724	0.0000
	19.143		6.874	9.964	1.0916

Sx = 0.126 in<sup>3</sup>  
 Ix = 0.206 in<sup>4</sup>  
 Ycg = 0.359 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

LOAD

ELEMENT VALUES FOR NEGATIVE BENDING					
ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.373	0.521	-0.194	-0.101	-0.0043
3	0.082	1.969	0.161	0.317	0.0000
4	0.624	1.988	1.241	2.466	0.0000
14	1.089	0.012	0.013	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.373	0.521	-0.194	-0.101	-0.0043
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.675	1.964	1.326	2.605	0.0000
	6.473		7.772	12.246	1.0848

Sx = 0.080 in<sup>3</sup>  
 Ix = 0.096 in<sup>4</sup>  
 Ycg = 1.201 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

=====

DEFLECTION

-----

ELEMENT VALUES FOR NEGATIVE BENDING

-----

ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
3	0.082	1.969	0.161	0.317	0.0000
4	0.624	1.988	1.241	2.466	0.0000
14	1.664	0.012	0.020	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.675	1.964	1.326	2.605	0.0000
	7.794		8.168	12.448	1.0935

Sx = 0.114 in<sup>3</sup>  
 Ix = 0.120 in<sup>4</sup>  
 Ycg = 1.048 in

Webs Fully Effective [SEC. B2.3(a)] | Yes

New Tech SS200 Panel

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MAXIMUM NOMINAL MOMENTS - [Section C3.1.1(a)]

Mnx [positive bending] = +5.023 k-in  
Mnx [negative bending] = -3.997 k-in

MAXIMUM ALLOWABLE REACTIONS - [Table C3.4-1]

N/t = 83.33  
k = 1.515  
C1 = 0.887  
C2 = 0.960  
C3 = 0.830  
C4 = 0.900  
C9 = 1.000  
C0 = 1.000 - Element 2, 22

Pend =  $t^2 * k * C3 * C4 * C9 * C0 [217 - 0.28(h/t)] [0.71 + 0.015(N/t)]$   
h/t = 78.00 | Pe( 2) = 1 \* 0.249 kips = 0.249 kips  
h/t = 78.00 | Pe(22) = 1 \* 0.249 kips = 0.249 kips  
Pend = 0.499 kips

Pint =  $t^2 * k * C1 * C2 * C9 * C0 [538 - 0.74(h/t)] [0.75 + 0.011(N/t)]$   
h/t = 78.00 | Pi( 2) = 1 \* 0.595 kips = 0.595 kips  
h/t = 78.00 | Pi(22) = 1 \* 0.595 kips = 0.595 kips  
Pint = 1.189 kips

MAXIMUM NOMINAL SHEAR - [Section C3.2]

E = 29,500 ksi  
Fy = 50.00 ksi  
kv = 5.34 - for unreinforced webs  
0.960 \* Sqr(Ekv/Fy) = 53.88  
1.415 \* Sqr(Ekv/Fy) = 79.42

h/t = 78.00 | V( 2) = 1 \* 1.035 kips = 1.035 kips (Eq. C3.2-2)  
h/t = 78.00 | V(22) = 1 \* 1.035 kips = 1.035 kips (Eq. C3.2-2)

Vn = 2.069 kips



New Tech SS200 Panel

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Sheet Gauge = 0.0240 in, 24 gauge

PANEL ELEMENTS EXCEEDING AISI ALLOWABLE RATIOS

Element No. 14 :  $w/t > 500$  -Actual  $w/t = 578$

NOTE: AISI Specifications, Section B1.1(a) states ....

stiffened elements having  $w/t$  ratios larger than 500 can be used with adequate design strength to sustain the required loads; however; substantial deformations of such elements usually will invalidate the design equations of this Specification.

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**PROFILE ANALYSIS & DESIGN**

Per AISI Cold-Formed Steel  
Design Manual, 1996 Edition

**New Tech SS200 Panel**

=====

FILE NAME: NT200

**DIMENSIONS**

Line # 1 Angle (R) = -90.000 deg	Line # 1 Angle (L) = 90.000 deg
Radius (R) = 0.040 in	Radius (L) = 0.040 in
Length (R) = 1.872 in	Length (L) = 1.872 in
Line # 2 Angle (R) = -90.000 deg	Line # 2 Angle (L) = -90.000 deg
Radius (R) = 0.040 in	Radius (L) = 0.040 in
Length (R) = 0.624 in	Length (L) = 0.685 in
Line # 3 Angle (R) = 0.000 deg	Line # 3 Angle (L) = -90.000 deg
Radius (R) = 0.000 in	Radius (L) = 0.040 in
Length (R) = 0.000 in	Length (L) = 0.669 in

Panel Bottom Width = 15.872 in  
Panel Overall Width = 16.000 in  
Panel Overall Height = 2.000 in

**SPECIAL CONDITIONS**

Seam Rotation : 90 deg.

Alloy: ASTM A653, G50  
    Fy = 50.00 ksi  
    Fv = 21.18 ksi

**QUALIFICATIONS PER AISI SPECIFICATIONS**

(a) Maximum w/t Ratio's Exceeded [SEC. B1.1(a)] | No  
(b) Maximum h/t Ratio's Exceeded [SEC. B1.2(a)] | No

**PROPERTIES FOR LOAD/SPAN TABLES**

Aweb= 0.098 in <sup>2</sup>	Sxp (per ft. of width) = 0.075 in <sup>3</sup>
Sxp = 0.100 in <sup>3</sup>	Sxn (per ft. of width) = 0.060 in <sup>3</sup>
Sxn = 0.080 in <sup>3</sup>	Ixp (per ft. of width) = 0.158 in <sup>4</sup>
Ixp = 0.210 in <sup>4</sup>	Ixn (per ft. of width) = 0.090 in <sup>4</sup>
Ixn = 0.120 in <sup>4</sup>	
Weight= 1.80 lb/lf	

New Tech SS200 Panel

Member - New Tech SS200 Panel								
Type	Name	Gage	Hgt (in)	Width (in)	Lip (in)	t (in)	Weight lb/ft	Coil Width (in)
Panel	PNL	24	2.000	16.000	0.000	0.0240	1.797	22.00
Gross Section Properties								
Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	Sx (in <sup>3</sup> )	Rx (in)	Ycg (in)	Iy (in <sup>4</sup> )	Sy (in <sup>3</sup> )	Ry (in)	Xcg (in)
0.528	0.249	0.154	0.687	0.379	17.581	2.085	5.770	8.433
Effective Properties								
Ix (in <sup>4</sup> )	Sx (in <sup>3</sup> )	Iy (in <sup>4</sup> )	Sy (in <sup>3</sup> )	Mnx (in-k)	Mny (in-k)	Vnx (kip)	End Bearing Pne (kip)	Pnei (k/in)
0.210	0.100	0.000	0.000	4.00	0.00	2.069	0.181	0.159
Torsional Properties								
Xo (in)	Ro (in)	Beta	Cw (in <sup>6</sup> )	Jv*1000 (in <sup>4</sup> )	Fy (ksi)	Fu (ksi)	E (ksi)	G (ksi)
-0.992	5.895	0.972	10.38	0.101	50	65	29500	11300

Shear, moment and bearing values shown are nominal values and must be modified by the appropriate factors of safety (ASD) or resistance factors (LRFD).

Factors of Safety (ASD)		Resistance Factors (LRFD)	
$\Omega$ (Compression)	= 1.80	$\phi$ (Compression)	= 0.85
$\Omega$ (Tension)	= 1.67	$\phi$ (Tension)	= 0.95
$\Omega$ (Web Crippling)	= 1.85	$\phi$ (Web Crippling)	= 0.75
$\Omega$ (Bending)	= 1.67	$\phi$ (Bending)	= 1.11
$\Omega$ (Shear)	= 1.67	$\phi$ (Shear)	= 0.90

New Tech SS200 Panel

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Moment of Inertia @ 90 degree Rotation

ELEMENT	L	Y	LY	LYY	Io
1	0.082	16.758	1.369	22.939	0.0000
2	1.872	16.777	31.407	526.907	0.0000
3	0.082	16.758	1.369	22.939	0.0000
4	0.624	16.413	10.242	168.097	0.0202
14	15.872	8.789	139.499	1226.057	333.2067
21	0.082	0.820	0.067	0.055	0.0000
22	1.872	0.801	1.499	1.201	0.0000
23	0.082	0.782	0.064	0.050	0.0000
24	0.685	0.406	0.278	0.113	0.0268
25	0.075	0.031	0.002	0.000	0.0000
26	0.675	0.012	0.008	0.000	0.0000
	22.002		185.804	1968.358	333.2539

Ix = 17.581 in4  
Ycg= 8.445 in

New Tech SS200 Panel

LOAD

ELEMENT VALUES FOR POSITIVE BENDING					
ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.693	1.276	-0.884	-1.127	-0.0277
3	0.082	1.969	0.161	0.317	0.0000
4	0.317	1.988	0.630	1.252	0.0000
14	15.872	0.012	0.190	0.002	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.693	1.276	-0.884	-1.127	-0.0277
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.320	1.964	0.629	1.236	0.0000
	19.954		5.263	7.612	1.0380

Sx = 0.100 in<sup>3</sup>  
 Ix = 0.174 in<sup>4</sup>  
 Ycg = 0.264 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

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DEFLECTION

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ELEMENT VALUES FOR POSITIVE BENDING

-----

ELEMENT	L	Y	LY	LYY	I <sub>o</sub>
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.255	1.379	-0.352	-0.485	-0.0014
3	0.082	1.969	0.161	0.317	0.0000
4	0.440	1.988	0.876	1.741	0.0000
14	15.872	0.012	0.190	0.002	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.255	1.379	-0.352	-0.485	-0.0014
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.448	1.964	0.881	1.730	0.0000
	21.082		6.825	9.880	1.0907

Sx = 0.125 in<sup>3</sup>  
 Ix = 0.210 in<sup>4</sup>  
 Ycg = 0.324 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

LOAD

ELEMENT VALUES FOR NEGATIVE BENDING

ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.373	0.521	-0.194	-0.101	-0.0043
3	0.082	1.969	0.161	0.317	0.0000
4	0.624	1.988	1.241	2.466	0.0000
14	1.091	0.012	0.013	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.373	0.521	-0.194	-0.101	-0.0043
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.675	1.964	1.326	2.605	0.0000
	6.476		7.772	12.246	1.0848

Sx = 0.080 in<sup>3</sup>  
 Ix = 0.096 in<sup>4</sup>  
 Ycg = 1.200 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

DEFLECTION

ELEMENT VALUES FOR NEGATIVE BENDING					
ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
3	0.082	1.969	0.161	0.317	0.0000
4	0.624	1.988	1.241	2.466	0.0000
14	1.673	0.012	0.020	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.675	1.964	1.326	2.605	0.0000
	7.804		8.168	12.448	1.0935

Sx = 0.114 in<sup>3</sup>  
Ix = 0.120 in<sup>4</sup>  
Ycg = 1.047 in

Webs Fully Effective [SEC. B2.3(a)] | Yes



New Tech SS200 Panel

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MAXIMUM NOMINAL MOMENTS - [Section C3.1.1(a)]

Mnx [positive bending] = +5.019 k-in  
Mnx [negative bending] = -4.002 k-in

MAXIMUM ALLOWABLE REACTIONS - [Table C3.4-1]

N/t = 83.33  
k = 1.515  
C1 = 0.887  
C2 = 0.960  
C3 = 0.830  
C4 = 0.900  
C9 = 1.000  
C0 = 1.000 - Element 2, 22

Pend =  $t^2 * k * C3 * C4 * C9 * C0 [217 - 0.28(h/t)] [0.71 + 0.015(N/t)]$   
h/t = 78.00 | Pe( 2) = 1 \* 0.249 kips = 0.249 kips  
h/t = 78.00 | Pe(22) = 1 \* 0.249 kips = 0.249 kips  
Pend = 0.499 kips

Pint =  $t^2 * k * C1 * C2 * C9 * C0 [538 - 0.74(h/t)] [0.75 + 0.011(N/t)]$   
h/t = 78.00 | Pi( 2) = 1 \* 0.595 kips = 0.595 kips  
h/t = 78.00 | Pi(22) = 1 \* 0.595 kips = 0.595 kips  
Pint = 1.189 kips

MAXIMUM NOMINAL SHEAR - [Section C3.2]

E = 29,500 ksi  
Fy = 50.00 ksi  
kv = 5.34 - for unreinforced webs  
0.960 \* Sqr(Ekv/Fy) = 53.88  
1.415 \* Sqr(Ekv/Fy) = 79.42

h/t = 78.00 | V( 2) = 1 \* 1.035 kips = 1.035 kips (Eq. C3.2-2)  
h/t = 78.00 | V(22) = 1 \* 1.035 kips = 1.035 kips (Eq. C3.2-2)

Vn = 2.069 kips

New Tech SS200 Panel

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Sheet Gauge = 0.0240 in, 24 gauge

PANEL ELEMENTS EXCEEDING AISI ALLOWABLE RATIOS

Element No. 14 :  $w/t > 500$  -Actual  $w/t = 661$

NOTE: AISI Specifications, Section B1.1(a) states ....

stiffened elements having  $w/t$  ratios larger than 500 can be used with adequate design strength to sustain the required loads; however; substantial deformations of such elements usually will invalidate the design equations of this Specification.

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**PROFILE ANALYSIS & DESIGN**

Per AISI Cold-Formed Steel  
Design Manual, 1996 Edition

**New Tech SS200 Panel**

=====

FILE NAME: NT200

**DIMENSIONS**

Line # 1 Angle (R) = -90.000 deg	Line # 1 Angle (L) = 90.000 deg
Radius (R) = 0.040 in	Radius (L) = 0.040 in
Length (R) = 1.872 in	Length (L) = 1.872 in
Line # 2 Angle (R) = -90.000 deg	Line # 2 Angle (L) = -90.000 deg
Radius (R) = 0.040 in	Radius (L) = 0.040 in
Length (R) = 0.624 in	Length (L) = 0.685 in
Line # 3 Angle (R) = 0.000 deg	Line # 3 Angle (L) = -90.000 deg
Radius (R) = 0.000 in	Radius (L) = 0.040 in
Length (R) = 0.000 in	Length (L) = 0.669 in

Panel Bottom Width = 17.872 in  
Panel Overall Width = 18.000 in  
Panel Overall Height = 2.000 in

**SPECIAL CONDITIONS**

Seam Rotation : 90 deg.

Alloy: ASTM A653, G50  
Fy = 50.00 ksi  
Fv = 21.18 ksi

**QUALIFICATIONS PER AISI SPECIFICATIONS**

(a) Maximum w/t Ratio's Exceeded [SEC. B1.1(a)] | No  
(b) Maximum h/t Ratio's Exceeded [SEC. B1.2(a)] | No

**PROPERTIES FOR LOAD/SPAN TABLES**

Aweb= 0.098 in2	
Sxp = 0.100 in3	Sxp (per ft. of width) = 0.067 in3
Sxn = 0.080 in3	Sxn (per ft. of width) = 0.053 in3
Ixp = 0.214 in4	Ixp (per ft. of width) = 0.142 in4
Ixn = 0.120 in4	Ixn (per ft. of width) = 0.080 in4
Weight= 1.96 lb/lf	

**New Tech SS200 Panel**

Member - New Tech SS200 Panel								
Type	Name	Gage	Hgt (in)	Width (in)	Lip (in)	t (in)	Weight lb/ft	Coil Width (in)
Panel	PNL	24	2.000	18.000	0.000	0.0240	1.960	24.00
Gross Section Properties								
Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	Sx (in <sup>3</sup> )	Rx (in)	Ycg (in)	Iy (in <sup>4</sup> )	Sy (in <sup>3</sup> )	Ry (in)	Xcg (in)
0.576	0.255	0.154	0.666	0.348	23.521	2.495	6.390	9.428
Effective Properties								
Ix (in <sup>4</sup> )	Sx (in <sup>3</sup> )	Iy (in <sup>4</sup> )	Sy (in <sup>3</sup> )	Mnx (in-k)	Mny (in-k)	Vnx (kip)	End Bearing Pne (kip)    Pnei (k/in)	
0.214	0.100	0.000	0.000	4.01	0.00	2.069	0.181	0.159
Torsional Properties								
Xo (in)	Ro (in)	Beta	Cw (in <sup>6</sup> )	Jv*1000 (in <sup>4</sup> )	Fy (ksi)	Fu (ksi)	E (ksi)	G (ksi)
-0.923	6.491	0.980	13.52	0.111	50	65	29500	11300

Shear, moment and bearing values shown are nominal values and must be modified by the appropriate factors of safety (ASD) or resistance factors (LRFD).

Factors of Safety (ASD)		Resistance Factors (LRFD)	
$\Omega$ (Compression)	= 1.80	$\phi$ (Compression)	= 0.85
$\Omega$ (Tension)	= 1.67	$\phi$ (Tension)	= 0.95
$\Omega$ (Web Crippling)	= 1.85	$\phi$ (Web Crippling)	= 0.75
$\Omega$ (Bending)	= 1.67	$\phi$ (Bending)	= 1.11
$\Omega$ (Shear)	= 1.67	$\phi$ (Shear)	= 0.90

New Tech SS200 Panel

=====

Moment of Inertia @ 90 degree Rotation

ELEMENT	L	Y	LY	LYY	Io
1	0.082	18.758	1.532	28.741	0.0000
2	1.872	18.777	35.151	660.022	0.0000
3	0.082	18.758	1.532	28.741	0.0000
4	0.624	18.413	11.490	211.560	0.0202
14	17.872	9.789	174.949	1712.576	475.7055
21	0.082	0.820	0.067	0.055	0.0000
22	1.872	0.801	1.499	1.201	0.0000
23	0.082	0.782	0.064	0.050	0.0000
24	0.685	0.406	0.278	0.113	0.0268
25	0.075	0.031	0.002	0.000	0.0000
26	0.675	0.012	0.008	0.000	0.0000
	24.002		226.573	2643.059	475.7527

Ix = 23.521 in<sup>4</sup>  
Ycg= 9.440 in

New Tech SS200 Panel

LOAD

ELEMENT VALUES FOR POSITIVE BENDING

ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.717	1.262	-0.905	-1.142	-0.0307
3	0.082	1.969	0.161	0.317	0.0000
4	0.317	1.988	0.630	1.252	0.0000
14	17.872	0.012	0.214	0.003	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.717	1.262	-0.905	-1.142	-0.0307
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.320	1.964	0.629	1.236	0.0000
	21.906		5.245	7.584	1.0320

Sx = 0.100 in<sup>3</sup>  
 Ix = 0.177 in<sup>4</sup>  
 Ycg = 0.239 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

DEFLECTION

ELEMENT VALUES FOR POSITIVE BENDING

ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.282	1.362	-0.384	-0.523	-0.0019
3	0.082	1.969	0.161	0.317	0.0000
4	0.441	1.988	0.877	1.744	0.0000
14	17.872	0.012	0.214	0.003	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.282	1.362	-0.384	-0.523	-0.0019
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.449	1.964	0.882	1.733	0.0000
	23.030		6.787	9.810	1.0897

Sx = 0.125 in<sup>3</sup>  
 Ix = 0.214 in<sup>4</sup>  
 Ycg = 0.295 in

Webs Fully Effective [SEC. B2.3(a)] | No

New Tech SS200 Panel

LOAD

ELEMENT VALUES FOR NEGATIVE BENDING					
ELEMENT	L	Y	LY	LYY	I <sub>o</sub>
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
2a	-0.372	0.520	-0.194	-0.101	-0.0043
3	0.082	1.969	0.161	0.317	0.0000
4	0.624	1.988	1.241	2.466	0.0000
14	1.093	0.012	0.013	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
22a	-0.372	0.520	-0.194	-0.101	-0.0043
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.675	1.964	1.326	2.605	0.0000
	6.480		7.774	12.247	1.0849

Sx = 0.080 in<sup>3</sup>  
 Ix = 0.096 in<sup>4</sup>  
 Ycg = 1.200 in

Webs Fully Effective [SEC. B2.3(a)] | No



New Tech SS200 Panel

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DEFLECTION

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ELEMENT VALUES FOR NEGATIVE BENDING

ELEMENT	L	Y	LY	LYY	Io
1	0.082	0.031	0.003	0.000	0.0000
2	1.872	1.000	1.872	1.872	0.5467
3	0.082	1.969	0.161	0.317	0.0000
4	0.624	1.988	1.241	2.466	0.0000
14	1.678	0.012	0.020	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.872	1.000	1.872	1.872	0.5467
23	0.082	1.969	0.161	0.317	0.0000
24	0.685	1.988	1.362	2.707	0.0000
25	0.075	1.969	0.148	0.292	0.0000
26	0.675	1.964	1.326	2.605	0.0000
	7.808		8.168	12.448	1.0935

Sx = 0.115 in<sup>3</sup>  
Ix = 0.120 in<sup>4</sup>  
Ycg = 1.046 in

Webs Fully Effective [SEC. B2.3(a)] | Yes

New Tech SS200 Panel

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MAXIMUM NOMINAL MOMENTS - [Section C3.1.1(a)]

Mnx [positive bending] = +5.017 k-in  
Mnx [negative bending] = -4.006 k-in

MAXIMUM ALLOWABLE REACTIONS - [Table C3.4-1]

N/t = 83.33  
k = 1.515  
C1 = 0.887  
C2 = 0.960  
C3 = 0.830  
C4 = 0.900  
C9 = 1.000  
C0 = 1.000 - Element 2, 22

Pend =  $t^2 * k * C3 * C4 * C9 * C0 [217 - 0.28(h/t)] [0.71 + 0.015(N/t)]$   
h/t = 78.00 | Pe( 2) = 1 \* 0.249 kips = 0.249 kips  
h/t = 78.00 | Pe(22) = 1 \* 0.249 kips = 0.249 kips  
Pend = 0.499 kips

Pint =  $t^2 * k * C1 * C2 * C9 * C0 [538 - 0.74(h/t)] [0.75 + 0.011(N/t)]$   
h/t = 78.00 | Pi( 2) = 1 \* 0.595 kips = 0.595 kips  
h/t = 78.00 | Pi(22) = 1 \* 0.595 kips = 0.595 kips  
Pint = 1.189 kips

MAXIMUM NOMINAL SHEAR - [Section C3.2]

E = 29,500 ksi  
Fy = 50.00 ksi  
kv = 5.34 - for unreinforced webs  
0.960 \* Sqr(Ekv/Fy) = 53.88  
1.415 \* Sqr(Ekv/Fy) = 79.42

h/t = 78.00 | V( 2) = 1 \* 1.035 kips = 1.035 kips (Eq. C3.2-2)  
h/t = 78.00 | V(22) = 1 \* 1.035 kips = 1.035 kips (Eq. C3.2-2)

Vn = 2.069 kips

New Tech SS200 Panel

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Sheet Gauge = 0.0240 in, 24 gauge

PANEL ELEMENTS EXCEEDING AISI ALLOWABLE RATIOS

Element No. 14 :  $w/t > 500$  -Actual  $w/t = 745$

NOTE: AISI Specifications, Section B1.1(a) states ....

stiffened elements having  $w/t$  ratios larger than 500 can be used with adequate design strength to sustain the required loads; however; substantial deformations of such elements usually will invalidate the design equations of this Specification.





New Tech SS200 Panel

Width | 12.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)

SPAN	DEFLECTION	SPAN LENGTH (Feet)								
		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00
1	L/180	268	238	214	195	175	149	129	112	98
	L/240	268	238	214	195	175	149	129	112	98
	L/360	268	238	214	195	175	149	129	112	98
2	L/180	336	290	238	198	175	149	129	112	98
	L/240	336	290	238	198	175	149	129	112	98
	L/360	336	290	238	198	175	149	129	112	98
3	L/180	336	298	268	228	194	166	144	126	111
	L/240	336	298	268	228	194	166	144	126	111
	L/360	336	298	268	228	194	166	144	126	111

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
Modulus of Elasticity (E) = 29,500 ksi

- Allowable uniform loads are determined per the following:
  - Allowable Shear Stress (Fv) [AISI C3.2]
  - Combined Bending and Shear [AISI C3.3]
  - Combined Bending & Web Crippling [AISI C3.5]

- Factors of Safety used to determine uniform loads:
  - $\Omega$  (Bending) = 1.67
  - $\Omega$  (Shear) = 1.67
  - $\Omega$  (Web Crippling) = 1.85

4. Allowance has been made for member Dead Weight.

5. Minimum panel support bearing length = 2.00 in

- Concentrated load = 150 lb at mid-span, load width = 4 in
  - Simple Span : Max. Span = 7.192 ft (L/180)
  - Two Span : Max. Span = 8.732 ft (L/180)
  - Three Span +: Max. Span = 9.418 ft (L/180)

**New Tech SS200 Panel**

Width | 12.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN	DEFLECTION	SPAN LENGTH (Feet)								
		4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25
1	L/180	87	77	69	62	56	51	47	43	39
	L/240	87	77	69	62	56	51	47	43	39
	L/360	87	77	69	62	56	51	46	40	36
2	L/180	87	77	69	62	56	51	47	43	39
	L/240	87	77	69	62	56	51	47	43	39
	L/360	87	77	69	62	56	51	47	43	39
3	L/180	98	88	79	71	65	59	54	49	45
	L/240	98	88	79	71	65	59	54	49	45
	L/360	98	88	79	71	65	59	54	49	45

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
Modulus of Elasticity (E) = 29,500 ksi

- Allowable uniform loads are determined per the following:
  - Allowable Shear Stress (Fv) [AISI C3.2]
  - Combined Bending and Shear [AISI C3.3]
  - Combined Bending & Web Crippling [AISI C3.5]

- Factors of Safety used to determine uniform loads:
  - $\Omega$  (Bending) = 1.67
  - $\Omega$  (Shear) = 1.67
  - $\Omega$  (Web Crippling) = 1.85

4. Allowance has been made for member Dead Weight.

5. Minimum panel support bearing length = 2.00 in

- Concentrated load = 150 lb at mid-span, load width = 4 in
  - Simple Span : Max. Span = 7.192 ft (L/180)
  - Two Span : Max. Span = 8.732 ft (L/180)
  - Three Span +: Max. Span = 9.418 ft (L/180)

New Tech SS200 Panel

Width | 12.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

		ALLOWABLE STRENGTH DESIGN (ASD)								
		Wind Load Factor = 1.0								
		ALLOWABLE UNIFORM LOAD (PSF)								
SPAN	DEFLECTION	SPAN LENGTH (Feet)								
		6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50
1	L/180	36	33	31	29	27	25	23	22	21
	L/240	36	33	31	29	27	25	23	22	21
	L/360	32	28	25	23	21	19	17	16	14
2	L/180	36	33	31	29	27	25	23	22	21
	L/240	36	33	31	29	27	25	23	22	21
	L/360	36	33	31	29	27	25	23	22	20
3	L/180	42	39	36	34	31	29	27	26	24
	L/240	42	39	36	34	31	29	27	26	24
	L/360	42	39	36	34	31	29	27	26	24

1. Formula's used in Load Tables for FLEXURE and DEFLECTION are:

One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
 Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
 Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
 Modulus of Elasticity (E) = 29,500 ksi

2. Allowable uniform loads are determined per the following:

- a) Allowable Shear Stress (Fv) [AISI C3.2]
- b) Combined Bending and Shear [AISI C3.3]
- c) Combined Bending & Web Crippling [AISI C3.5]

3. Factors of Safety used to determine uniform loads:

$\Omega$  (Bending) = 1.67  
 $\Omega$  (Shear) = 1.67  
 $\Omega$  (Web Crippling) = 1.85

4. Allowance has been made for member Dead Weight.

5. Minimum panel support bearing length = 2.00 in

6. Concentrated load = 150 lb at mid-span, load width = 4 in

Simple Span : Max. Span = 7.192 ft (L/180)  
 Two Span : Max. Span = 8.732 ft (L/180)  
 Three Span +: Max. Span = 9.418 ft (L/180)



New Tech SS200 Panel

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Width	12.00 in
Alloy	ASTM A653, G50 (Fy= 50 ksi)
Gauge	24 (0.024 in)
Seam Rotation	: 90 deg.

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		ALLOWABLE STRENGTH DESIGN (ASD)								
		Wind Load Factor = 1.0								
		ALLOWABLE UNIFORM LOAD (PSF)								
SPAN	DEFLECTION	SPAN LENGTH (Feet)								
		8.75	9.00	9.25	9.50	9.75	10.00	10.25	10.50	10.75
1	L/180	19	18	17	16	15	14	14	13	12
	L/240	19	18	17	15	14	13	12	11	11
	L/360	13	12	11	10	9	9	8	8	7
2	L/180	19	18	17	16	15	14	14	13	12
	L/240	19	18	17	16	15	14	14	13	12
	L/360	18	17	16	14	13	12	11	11	10
3	L/180	23	21	20	19	18	17	16	15	15
	L/240	23	21	20	19	18	17	16	15	15
	L/360	23	21	20	19	18	16	15	14	13

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- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
 One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
 Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
 Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
 Modulus of Elasticity (E) = 29,500 ksi
- Allowable uniform loads are determined per the following:
  - Allowable Shear Stress (Fv) [AISI C3.2]
  - Combined Bending and Shear [AISI C3.3]
  - Combined Bending & Web Crippling [AISI C3.5]
- Factors of Safety used to determine uniform loads:
  - $\Omega$  (Bending) = 1.67
  - $\Omega$  (Shear) = 1.67
  - $\Omega$  (Web Crippling) = 1.85
- Allowance has been made for member Dead Weight.
- Minimum panel support bearing length = 2.00 in
- Concentrated load = 150 lb at mid-span, load width = 4 in
  - Simple Span : Max. Span = 7.192 ft (L/180)
  - Two Span : Max. Span = 8.732 ft (L/180)
  - Three Span +: Max. Span = 9.418 ft (L/180)

New Tech SS200 Panel

Width | 14.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN DEFLECTION		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00
1	L/180	230	204	183	167	151	128	110	96	84
	L/240	230	204	183	167	151	128	110	96	84
	L/360	230	204	183	167	151	128	110	96	84
2	L/180	287	249	204	170	151	128	110	96	84
	L/240	287	249	204	170	151	128	110	96	84
	L/360	287	249	204	170	151	128	110	96	84
3	L/180	287	255	230	196	166	142	123	108	95
	L/240	287	255	230	196	166	142	123	108	95
	L/360	287	255	230	196	166	142	123	108	95

1. Formula's used in Load Tables for FLEXURE and DEFLECTION are:

One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
Modulus of Elasticity (E) = 29,500 ksi

2. Allowable uniform loads are determined per the following:

- a) Allowable Shear Stress (Fv) [AISI C3.2]
- b) Combined Bending and Shear [AISI C3.3]
- c) Combined Bending & Web Crippling [AISI C3.5]

3. Factors of Safety used to determine uniform loads:

$\Omega$  (Bending) = 1.67  
 $\Omega$  (Shear) = 1.67  
 $\Omega$  (Web Crippling) = 1.85

4. Allowance has been made for member Dead Weight.

5. Minimum panel support bearing length = 2.00 in

6. Concentrated load = 150 lb at mid-span, load width = 4 in

Simple Span : Max. Span = 7.184 ft (L/180)  
Two Span : Max. Span = 8.721 ft (L/180)  
Three Span +: Max. Span = 9.406 ft (L/180)

New Tech SS200 Panel

Width | 14.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN DEFLECTION		4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25
1	L/180	74	66	59	53	48	44	40	37	34
	L/240	74	66	59	53	48	44	40	37	34
	L/360	74	66	59	53	48	44	40	36	32
2	L/180	74	66	59	53	48	44	40	37	34
	L/240	74	66	59	53	48	44	40	37	34
	L/360	74	66	59	53	48	44	40	37	34
3	L/180	84	75	68	61	55	50	46	42	39
	L/240	84	75	68	61	55	50	46	42	39
	L/360	84	75	68	61	55	50	46	42	39

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
Modulus of Elasticity (E) = 29,500 ksi
- Allowable uniform loads are determined per the following:
  - Allowable Shear Stress (Fv) [AISI C3.2]
  - Combined Bending and Shear [AISI C3.3]
  - Combined Bending & Web Crippling [AISI C3.5]
- Factors of Safety used to determine uniform loads:
  - $\Omega$  (Bending) = 1.67
  - $\Omega$  (Shear) = 1.67
  - $\Omega$  (Web Crippling) = 1.85
- Allowance has been made for member Dead Weight.
- Minimum panel support bearing length = 2.00 in
- Concentrated load = 150 lb at mid-span, load width = 4 in
  - Simple Span : Max. Span = 7.184 ft (L/180)
  - Two Span : Max. Span = 8.721 ft (L/180)
  - Three Span +: Max. Span = 9.406 ft (L/180)

New Tech SS200 Panel

Width | 14.00 in  
 Alloy | ASTM A653, G50 (Fy= 50 ksi)  
 Gauge | 24 (0.024 in)  
 Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
 Wind Load Factor = 1.0  
 ALLOWABLE UNIFORM LOAD (PSF)  
 SPAN LENGTH (Feet)

SPAN DEFLECTION		6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50
1	L/180	31	29	27	25	23	21	20	19	18
	L/240	31	29	27	25	23	21	20	19	18
	L/360	28	25	23	20	18	17	15	14	13
2	L/180	31	29	27	25	23	21	20	19	18
	L/240	31	29	27	25	23	21	20	19	18
	L/360	31	29	27	25	23	21	20	19	18
3	L/180	36	33	31	29	27	25	23	22	21
	L/240	36	33	31	29	27	25	23	22	21
	L/360	36	33	31	29	27	25	23	22	21

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
 One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
 Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
 Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
 Modulus of Elasticity (E) = 29,500 ksi

- Allowable uniform loads are determined per the following:
  - Allowable Shear Stress (Fv) [AISI C3.2]
  - Combined Bending and Shear [AISI C3.3]
  - Combined Bending & Web Crippling [AISI C3.5]

- Factors of Safety used to determine uniform loads:
  - $\Omega$  (Bending) = 1.67
  - $\Omega$  (Shear) = 1.67
  - $\Omega$  (Web Crippling) = 1.85

4. Allowance has been made for member Dead Weight.

5. Minimum panel support bearing length = 2.00 in

- Concentrated load = 150 lb at mid-span, load width = 4 in
  - Simple Span : Max. Span = 7.184 ft (L/180)
  - Two Span : Max. Span = 8.721 ft (L/180)
  - Three Span +: Max. Span = 9.406 ft (L/180)

New Tech SS200 Panel

Width | 14.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN	DEFLECTION	8.75	9.00	9.25	9.50	9.75	10.00	10.25	10.50	10.75
1	L/180	16	15	15	14	13	12	12	11	10
	L/240	16	15	15	14	12	12	11	10	9
	L/360	12	11	10	9	8	8	7	7	6
2	L/180	16	15	15	14	13	12	12	11	10
	L/240	16	15	15	14	13	12	12	11	10
	L/360	16	15	14	13	12	11	10	9	9
3	L/180	19	18	17	16	15	14	14	13	12
	L/240	19	18	17	16	15	14	14	13	12
	L/360	19	18	17	16	15	14	14	13	12

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
Modulus of Elasticity (E) = 29,500 ksi

- Allowable uniform loads are determined per the following:
  - Allowable Shear Stress (Fv) [AISI C3.2]
  - Combined Bending and Shear [AISI C3.3]
  - Combined Bending & Web Crippling [AISI C3.5]

- Factors of Safety used to determine uniform loads:
  - $\Omega$  (Bending) = 1.67
  - $\Omega$  (Shear) = 1.67
  - $\Omega$  (Web Crippling) = 1.85.

4. Allowance has been made for member Dead Weight.

5. Minimum panel support bearing length = 2.00 in

- Concentrated load = 150 lb at mid-span, load width = 4 in
  - Simple Span : Max. Span = 7.184 ft (L/180)
  - Two Span : Max. Span = 8.721 ft (L/180)
  - Three Span +: Max. Span = 9.406 ft (L/180)

New Tech SS200 Panel

Width | 16.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN	DEFLECTION	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00
1	L/180	201	178	160	146	132	112	96	84	74
	L/240	201	178	160	146	132	112	96	84	74
	L/360	201	178	160	146	132	112	96	84	74
2	L/180	251	218	179	149	132	112	96	84	74
	L/240	251	218	179	149	132	112	96	84	74
	L/360	251	218	179	149	132	112	96	84	74
3	L/180	251	223	201	172	145	125	108	94	83
	L/240	251	223	201	172	145	125	108	94	83
	L/360	251	223	201	172	145	125	108	94	83

1. Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
 One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
 Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
 Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
 Modulus of Elasticity (E) = 29,500 ksi

2. Allowable uniform loads are determined per the following:  
 a) Allowable Shear Stress (Fv) [AISI C3.2]  
 b) Combined Bending and Shear [AISI C3.3]  
 c) Combined Bending & Web Crippling [AISI C3.5]

3. Factors of Safety used to determine uniform loads:  
 $\Omega$  (Bending) = 1.67  
 $\Omega$  (Shear) = 1.67  
 $\Omega$  (Web Crippling) = 1.85

4. Allowance has been made for member Dead Weight.

5. Minimum panel support bearing length = 2.00 in

6. Concentrated load = 150 lb at mid-span, load width = 4 in  
 Simple Span : Max. Span = 7.179 ft (L/180)  
 Two Span : Max. Span = 8.715 ft (L/180)  
 Three Span +: Max. Span = 9.152 ft (L/180)

**New Tech.SS200 Panel**

Width | 16.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN DEFLECTION										
		4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25
1	L/180	65	58	52	47	42	38	35	32	29
	L/240	65	58	52	47	42	38	35	32	29
	L/360	65	58	52	47	42	38	35	32	28
2	L/180	65	58	52	47	42	38	35	32	29
	L/240	65	58	52	47	42	38	35	32	29
	L/360	65	58	52	47	42	38	35	32	29
3	L/180	74	66	59	53	48	44	40	37	34
	L/240	74	66	59	53	48	44	40	37	34
	L/360	74	66	59	53	48	44	40	37	34

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
 One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
 Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
 Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
 Modulus of Elasticity (E) = 29,500 ksi
- Allowable uniform loads are determined per the following:
  - Allowable Shear Stress (Fv) [AISI C3.2]
  - Combined Bending and Shear [AISI C3.3]
  - Combined Bending & Web Crippling [AISI C3.5]
- Factors of Safety used to determine uniform loads:
  - $\Omega$  (Bending) = 1.67
  - $\Omega$  (Shear) = 1.67
  - $\Omega$  (Web Crippling) = 1.85
- Allowance has been made for member Dead Weight.
- Minimum panel support bearing length = 2.00 in
- Concentrated load = 150 lb at mid-span, load width = 4 in
  - Simple Span : Max. Span = 7.179 ft (L/180)
  - Two Span : Max. Span = 8.715 ft (L/180)
  - Three Span +: Max. Span = 9.152 ft (L/180)

New Tech SS200 Panel

Width | 16.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN DEFLECTION		6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50
1	L/180	27	25	23	21	20	19	17	16	15
	L/240	27	25	23	21	20	19	17	16	15
	L/360	25	22	20	18	16	15	13	12	11
2	L/180	27	25	23	21	20	19	17	16	15
	L/240	27	25	23	21	20	19	17	16	15
	L/360	27	25	23	21	20	19	17	16	15
3	L/180	31	29	27	25	23	22	20	19	18
	L/240	31	29	27	25	23	22	20	19	18
	L/360	31	29	27	25	23	22	20	19	18

1. Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
 One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
 Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
 Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
 Modulus of Elasticity (E) = 29,500 ksi

2. Allowable uniform loads are determined per the following:  
 a) Allowable Shear Stress (Fv) [AISI C3.2]  
 b) Combined Bending and Shear [AISI C3.3]  
 c) Combined Bending & Web Crippling [AISI C3.5]

3. Factors of Safety used to determine uniform loads:  
 $\Omega$  (Bending) = 1.67  
 $\Omega$  (Shear) = 1.67  
 $\Omega$  (Web Crippling) = 1.85

4. Allowance has been made for member Dead Weight.

5. Minimum panel support bearing length = 2.00 in

6. Concentrated load = 150 lb at mid-span, load width = 4 in  
 Simple Span : Max. Span = 7.179 ft (L/180)  
 Two Span : Max. Span = 8.715 ft (L/180)  
 Three Span +: Max. Span = 9.152 ft (L/180)



New Tech SS200 Panel

Width | 16.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN DEFLECTION		8.75	9.00	9.25	9.50	9.75	10.00	10.25	10.50	10.75
1	L/180	14	13	13	12	11	11	10	10	9
	L/240	14	13	13	12	11	10	10	9	8
	L/360	10	9	9	8	7	7	6	6	6
2	L/180	14	13	13	12	11	11	10	10	9
	L/240	14	13	13	12	11	11	10	10	9
	L/360	14	13	12	11	11	10	9	8	8
3	L/180	17	16	15	14	13	13	12	11	11
	L/240	17	16	15	14	13	13	12	11	11
	L/360	17	16	15	14	13	13	12	11	10

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
Modulus of Elasticity (E) = 29,500 ksi
- Allowable uniform loads are determined per the following:
  - Allowable Shear Stress (Fv) [AISI C3.2]
  - Combined Bending and Shear [AISI C3.3]
  - Combined Bending & Web Crippling [AISI C3.5]
- Factors of Safety used to determine uniform loads:
  - $\Omega$  (Bending) = 1.67
  - $\Omega$  (Shear) = 1.67
  - $\Omega$  (Web Crippling) = 1.85
- Allowance has been made for member Dead Weight.
- Minimum panel support bearing length = 2.00 in
- Concentrated load = 150 lb at mid-span, load width = 4 in
  - Simple Span : Max. Span = 7.179 ft (L/180)
  - Two Span : Max. Span = 8.715 ft (L/180)
  - Three Span +: Max. Span = 9.152 ft (L/180)

New Tech SS200 Panel

Width | 18.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN	DEFLECTION	ALLOWABLE UNIFORM LOAD (PSF)								
		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00
1	L/180	178	158	142	129	117	100	86	75	65
	L/240	178	158	142	129	117	100	86	75	65
	L/360	178	158	142	129	117	100	86	75	65
2	L/180	223	194	159	132	117	100	86	75	65
	L/240	223	194	159	132	117	100	86	75	65
	L/360	223	194	159	132	117	100	86	75	65
3	L/180	223	198	178	153	129	111	96	84	74
	L/240	223	198	178	153	129	111	96	84	74
	L/360	223	198	178	153	129	111	96	84	74

1. Formula's used in Load Tables for FLEXURE and DEFLECTION are:

One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
Modulus of Elasticity (E) = 29,500 ksi

2. Allowable uniform loads are determined per the following:

- a) Allowable Shear Stress (Fv) [AISI C3.2]
- b) Combined Bending and Shear [AISI C3.3]
- c) Combined Bending & Web Crippling [AISI C3.5]

3. Factors of Safety used to determine uniform loads:

$\Omega$  (Bending) = 1.67  
 $\Omega$  (Shear) = 1.67  
 $\Omega$  (Web Crippling) = 1.85

4. Allowance has been made for member Dead Weight.

5. Minimum panel support bearing length = 2.00 in

6. Concentrated load = 150 lb at mid-span, load width = 4 in

Simple Span : Max. Span = 7.175 ft (L/180)  
Two Span : Max. Span = 8.489 ft (L/180)  
Three Span +: Max. Span = 8.697 ft (L/180)

New Tech SS200 Panel

Width | 18.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN DEFLECTION		4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25
1	L/180	58	51	46	41	37	34	31	28	26
	L/240	58	51	46	41	37	34	31	28	26
	L/360	58	51	46	41	37	34	31	28	25
2	L/180	58	51	46	41	37	34	31	28	26
	L/240	58	51	46	41	37	34	31	28	26
	L/360	58	51	46	41	37	34	31	28	26
3	L/180	66	58	53	47	43	39	36	33	30
	L/240	66	58	53	47	43	39	36	33	30
	L/360	66	58	53	47	43	39	36	33	30

1. Formula's used in Load Tables for FLEXURE and DEFLECTION are:

One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
Two Span -  $M_p = .125wl^2$ ,  $M_n = .096wl^2$ ,  $x = .0092wl^4/EI$   
Three Span -  $M_p = .080wl^2$ ,  $M_n = .107wl^2$ ,  $x = .0069wl^4/EI$   
Modulus of Elasticity (E) = 29,500 ksi

2. Allowable uniform loads are determined per the following:

- a) Allowable Shear Stress (Fv) [AISI C3.2]
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$\Omega$  (Bending) = 1.67  
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5. Minimum panel support bearing length = 2.00 in

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Simple Span : Max. Span = 7.175 ft (L/180)  
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New Tech SS200 Panel

Width | 18.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN	DEFLECTION	SPAN LENGTH (Feet)								
		6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50
1	L/180	24	22	20	19	18	16	15	14	13
	L/240	24	22	20	19	18	16	15	14	13
	L/360	23	20	18	16	15	13	12	11	10
2	L/180	24	22	20	19	18	16	15	14	13
	L/240	24	22	20	19	18	16	15	14	13
	L/360	24	22	20	19	18	16	15	14	13
3	L/180	28	26	24	22	21	19	18	17	16
	L/240	28	26	24	22	21	19	18	17	16
	L/360	28	26	24	22	21	19	18	17	16

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
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New Tech SS200 Panel

Width | 18.00 in  
Alloy | ASTM A653, G50 (Fy= 50 ksi)  
Gauge | 24 (0.024 in)  
Seam Rotation : 90 deg.

ALLOWABLE STRENGTH DESIGN (ASD)  
Wind Load Factor = 1.0  
ALLOWABLE UNIFORM LOAD (PSF)  
SPAN LENGTH (Feet)

SPAN DEFLECTION		8.75	9.00	9.25	9.50	9.75	10.00	10.25	10.50	10.75
1	L/180	13	12	11	11	10	9	9	8	8
	L/240	13	12	11	11	10	9	9	8	8
	L/360	9	9	8	7	7	6	6	5	5
2	L/180	13	12	11	11	10	9	9	8	8
	L/240	13	12	11	11	10	9	9	8	8
	L/360	13	12	11	10	10	9	8	8	7
3	L/180	15	14	13	12	12	11	10	10	9
	L/240	15	14	13	12	12	11	10	10	9
	L/360	15	14	13	12	12	11	10	10	9

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:  
One Span -  $M_p = .125wl^2$ ,  $M_n = .125wl^2$ ,  $x = .0130wl^4/EI$   
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