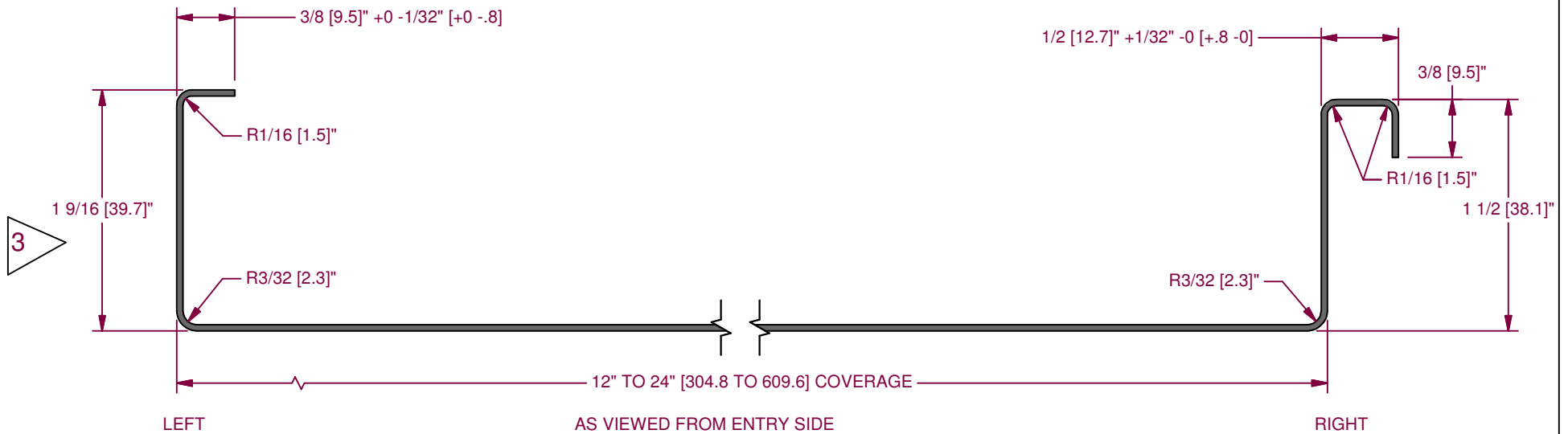
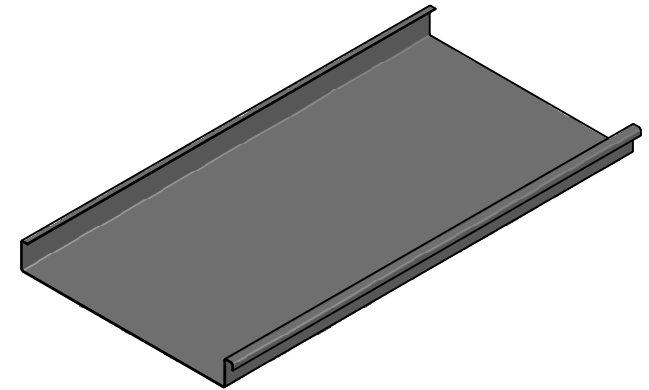
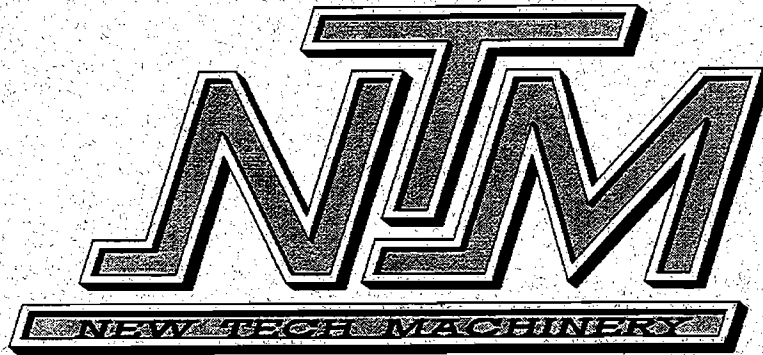




NOTES:
1. MATERIAL USAGE: APPROX. 4" [101.6]
2. DUAL DIMENSIONS: Inch [mm]

MATERIAL					PAINTED STEEL/PAINTED ALUMINUM/COPPER		FINISH		NONE				NEW TECH MACHINERY CORP.		
REVISION HISTORY	REV	ECR NO.	DATE	RELEASED BY	TOLERANCES		DRAWN BY		PART NAME						
	0	REDRAWN	01/17/2008	JD	.XX = ± .01		Jim		SS150 PANEL PROFILE						
	1	ADDED R DIM	07/02/2009	JD	.XXX = ± .005		DATE								
	2	ADDED TOL.	07/22/2011	JD	FRACTION = ± 1/32"		06/26/2002								
	3	LEG WAS 1"	05/02/2012	JD	ANGLE = ± 1/2°		CHECK BY		PART NUMBER		SHEET		REVISION		
							JD		SP5-150P		1 OF 1		3		
							DATE								
							01/17/2008								



SS 150 PANEL



**UL LISTED CONSTRUCTION NUMBERS
#554**

SECTION ANALYSIS REPORT AND SPAN LOAD TABLES

1300 40TH DENVER, CO 80205-3311

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

DESCRIPTION

PRODUCT COVERED:

This section of the Procedure covers coated steel roof panels which are identified by the manufacturer as "SS150".

The panels are roll-formed from No. 24 MSG minimum gauge coated steel to the configuration shown in ILL. 1. The panels may also have a paint finish over the coating.

SPECIFICATIONS OF FINISHED PRODUCT:

THICKNESS

The base metal thickness of the steel used in the fabrication of the panels shall be not less than 0.0225 in. (No. 24 MSG minimum gauge). This thickness shall not include the coating or any paint finish.

DIMENSIONS

The cross sectional dimensions of the finished panels shall be in accordance with the cross section shown in ILL. 1.

The panels are made in any convenient length.

STRENGTH

The strength records of the manufacturer of the steel shall be reviewed. The steel shall conform to ASTM A653 Grade 50 specifications or the minimum yield point shall be 50,000 psi.

*

DESCRIPTION

PRODUCT COVERED:

This section of the Procedure covers coated steel roof panels which are identified by the manufacturer as "SS150".

The panels are roll-formed from No. 24 MSG minimum gauge coated steel to the configuration shown in ILL. 1. The panels may also have a paint finish over the coating.

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The panels are made in any convenient length.

STRENGTH

The strength records of the manufacturer of the steel shall be reviewed. The steel shall conform to ASTM A653 Grade 50 specifications or the minimum yield point shall be 50,000 psi.

CLASSIFICATION INFORMATION:

The following information shall be included on all Classification Markings pertaining to products described in this section:

As To Uplift Resistance Only
Class 90
As Shown By Construction No. 554

MARKING INFORMATION:

In addition, the following information shall appear either on the product or package or on the Classification Marking:

Classified Company's name
Product identification (type designation)
and
Factory identification (if applicable).



**Underwriters
Laboratories Inc.®**

Northbrook Division
333 Pfingsten Road
Northbrook, IL 60062-2096 USA
www.ul.com
tel: 1 847 272 8800
fax: 1 847 272 8129
Customer service: 1 877 854 3577

NEW TECH MACHINERY CORP
MR G BATTISTELL
1300 40TH ST
DENVER CO 80205

RE: Project Number(s) - 03NK22866

Your most recent Certification is shown below. You may also view this information, or a portion of this information (depending on the product category), on UL's Online Certifications Directory at www.ul.com/database. Please review the text and contact the Conformity Assessment Services staff member who handled your project if revisions are required. For instructions on placing an order for this information in a 3 x 5-inch format, you may refer to the enclosed order form for UL Card Service.

TJPV
Metal Roof Deck Panels

November 21, 2003

NEW TECH MACHINERY CORP
1300 40TH ST, DENVER CO 80205

R14692

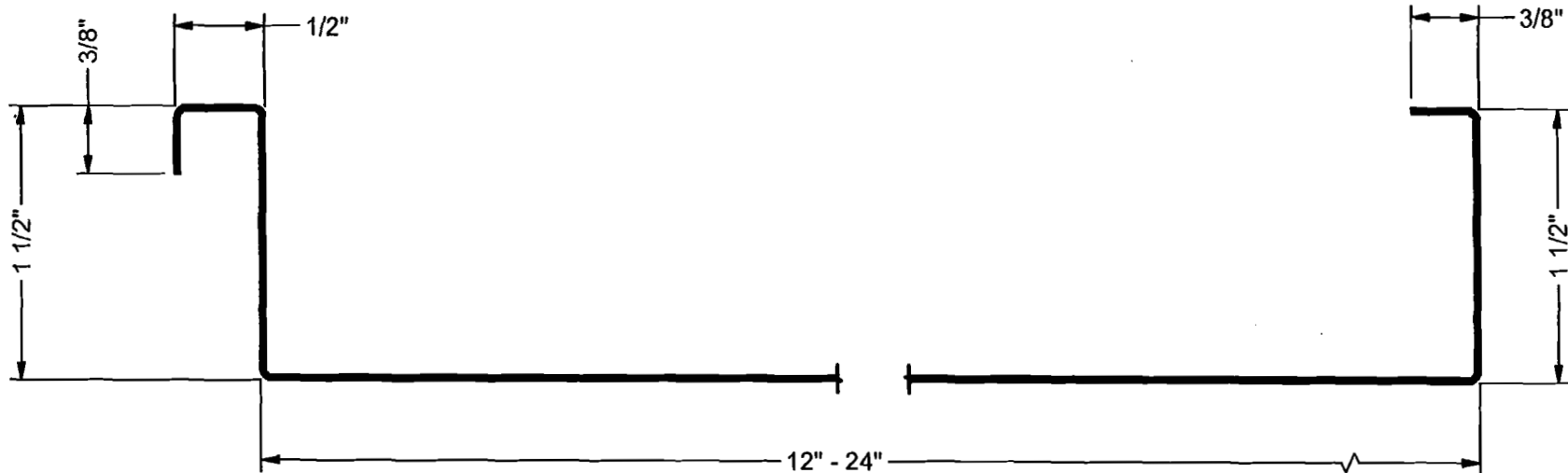
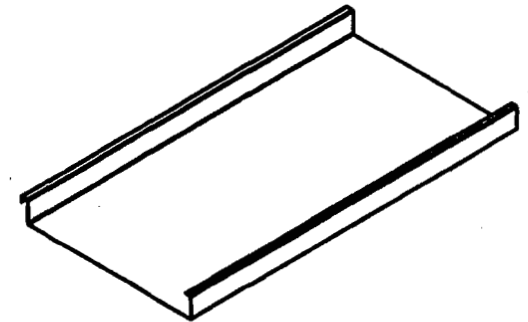
Coated steel panels, field - formed.

Underwriters Laboratories Inc. Metal Roof Deck Panels, Fabricated, installed and used in the following roof deck constructions with corresponding panel identifications:

- Coated steel panels identified as "Snap Panel 550" for use in Construction No. 373.
- Coated steel panels identified as "Panel 210A" for use in Construction Nos. 90, 176, 180, 238, 238A.
- Coated steel or aluminum panels identified as "Snap Panel 675" for use in Construction Nos 254, 255, 261, 303.
- Coated steel panels identified as "SS675" for use in Construction Nos. 343, 508 and 508A.
- Coated steel panels identified as "SS450" for use in Construction No. 370.
- Coated steel panels identified as "SS150" for use in Construction No. 554.
- Coated steel panels identified as "SS100" for use in Construction No. 575.
- Coated steel panels identified as "FF100" for use in Construction No. 529.

See Roof Deck Construction for description of construction numbers.

LOOK FOR LISTING MARK ON PRODUCT



NOTE:
MATERIAL USAGE: 4"

MATERIAL				LENGTH	FINISH	NEW TECH MACHINERY CORP.			
REVISION HISTORY	REV	ECN NO.	DATE	RELEASED BY	TOLERANCES	DRAWN BY	PART NAME		
					.XX = $\pm .01$	Jim			
					.XXX = $\pm .005$	DATE	SS150 PANEL PROFILE		
					FRACTION = $\pm 1/32$ "	6/26/2002			
					ANGLE = $\pm 1/2^\circ$	CHECK BY	SIZE	SHEET	REVISION
						DATE	SCALE	PART NUMBER	
							A	1 OF 1	0
							NONE	SS150	



Online Certifications Directory

TGKX.554 Roof Deck Constructions

[Page Bottom](#)

[Questions?](#)

[Previous Page](#)

Roof Deck Constructions

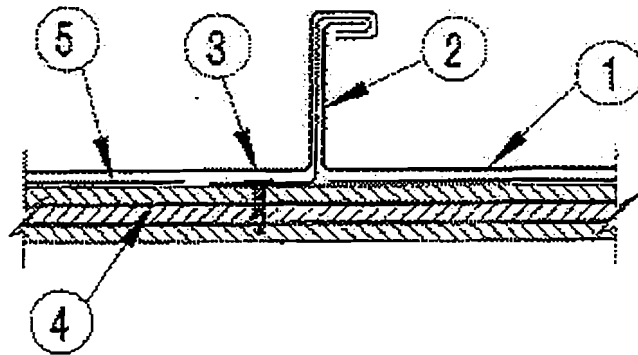
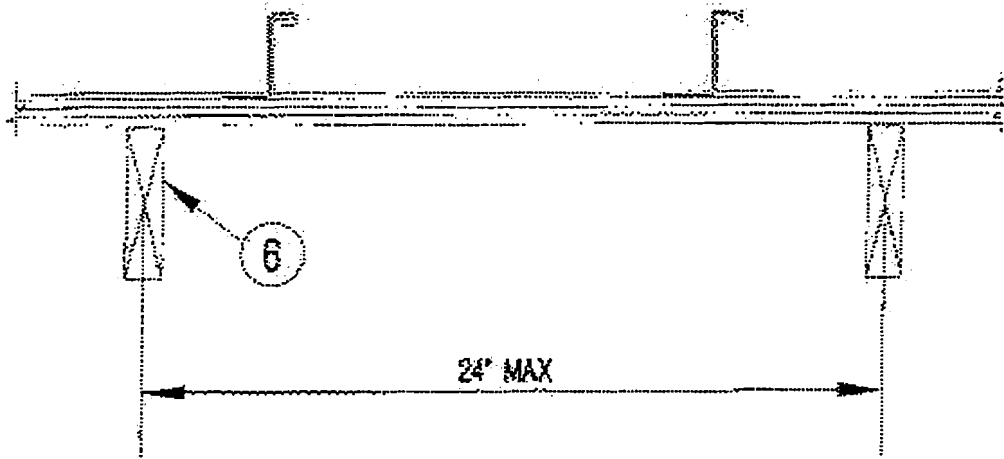
Guide Information

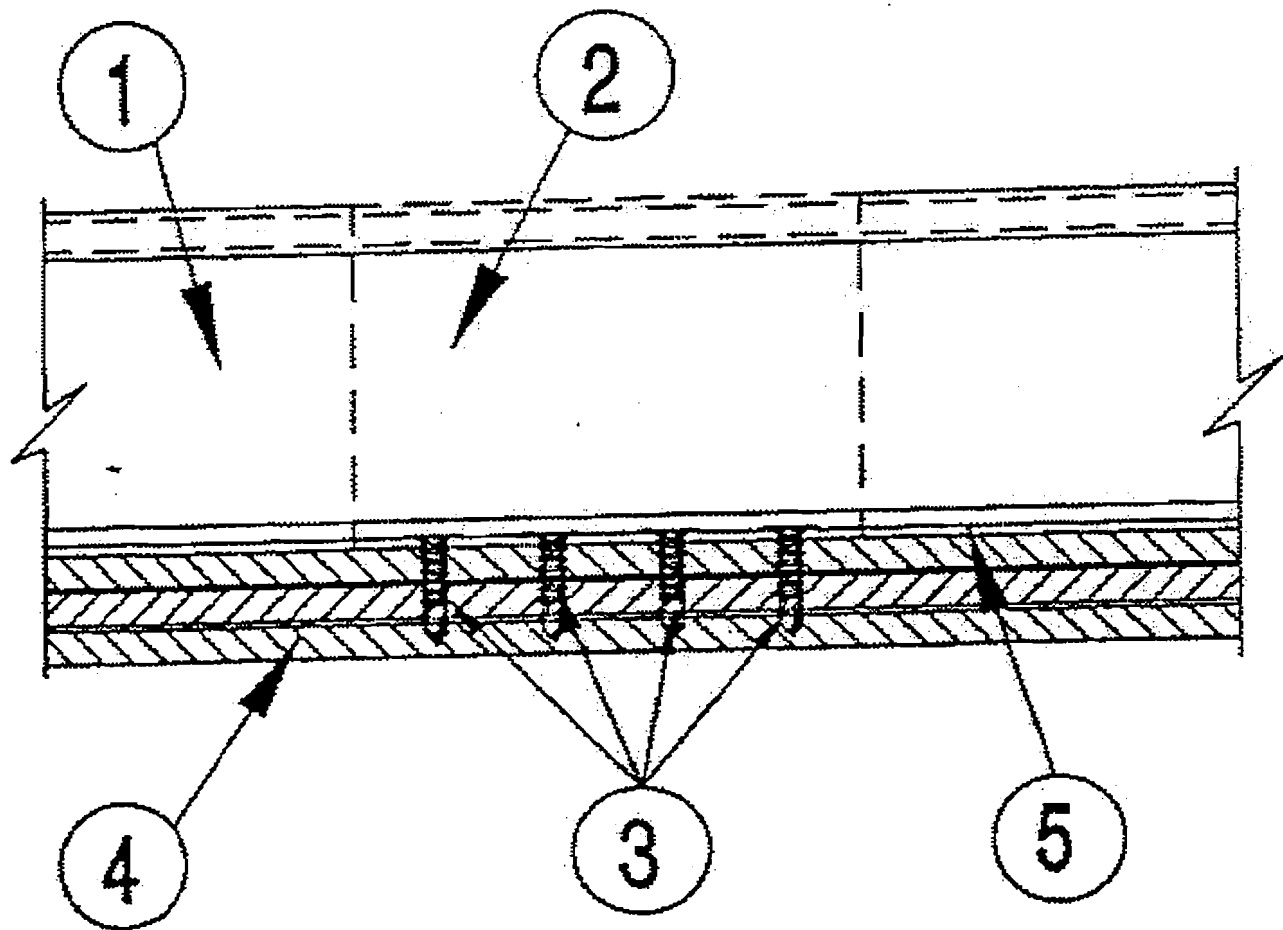
Construction No. 554

January 09, 2003

Uplift — Class 90

Fire Not Investigated





1. **Metal Roof Deck Panels*** — No. 24 MSG min thick coated steel. Max width 16 in., with 1-1/2 in. high ribs. Panels continuous over three or more clips with no end laps.

DISTINCTIVE ROOFING SYSTEMS L L C — " LOCK-SEAM"

ENGLERT INC — "Series 1300"

METAL WORX SYSTEMS INC — "SS1500"

NEW TECH MACHINERY CORP — "SS150"

ZIMMERMAN METALS INC — "SS-1500"

METAL PANEL SYSTEMS INC — "Sure-Lock Panel"

2. Roof Deck Fasteners* — (Panel Clips) - One-piece assembly, 1 in. wide, 1-5/8 in. high. Min thickness 0.0225 (No. 24 MSG). Clips spaced 48 in. OC. Four fasteners per clip.

ENGLERT INC — "Series 1300"

3. Fasteners (Screws) — Fasteners used to attach the plywood (Item 4) to the joists to be No. 7-6 coarse thread, No. 1 Phillips drive, bugle-head, coated steel wood screws. Panel clip (Item 2) to plywood fasteners to be No. 10-12 by 1 in. long, No. 2 Phillips drive, wafer head plated steel wood screws.

4. Plywood Decking — Plywood decking to be nominal 1/2 in. (15/32 in. actual) thick APA Rated sheathing. The grade of the plywood to be B-C.

5. Underlayment — One layer of 30 lb. felt, fastened to the plywood deck (Item 4) per manufacturer's instructions. Sides overlapped min 2 in., end laps per manufacturer's instructions.

6. Joists — Spaced a maximum of 24 in. OC. Graded dimension lumber, No. 2 or better.

*Bearing the UL Classification Mark

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[Questions?](#)

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[UL Listed and Classified
Products](#)

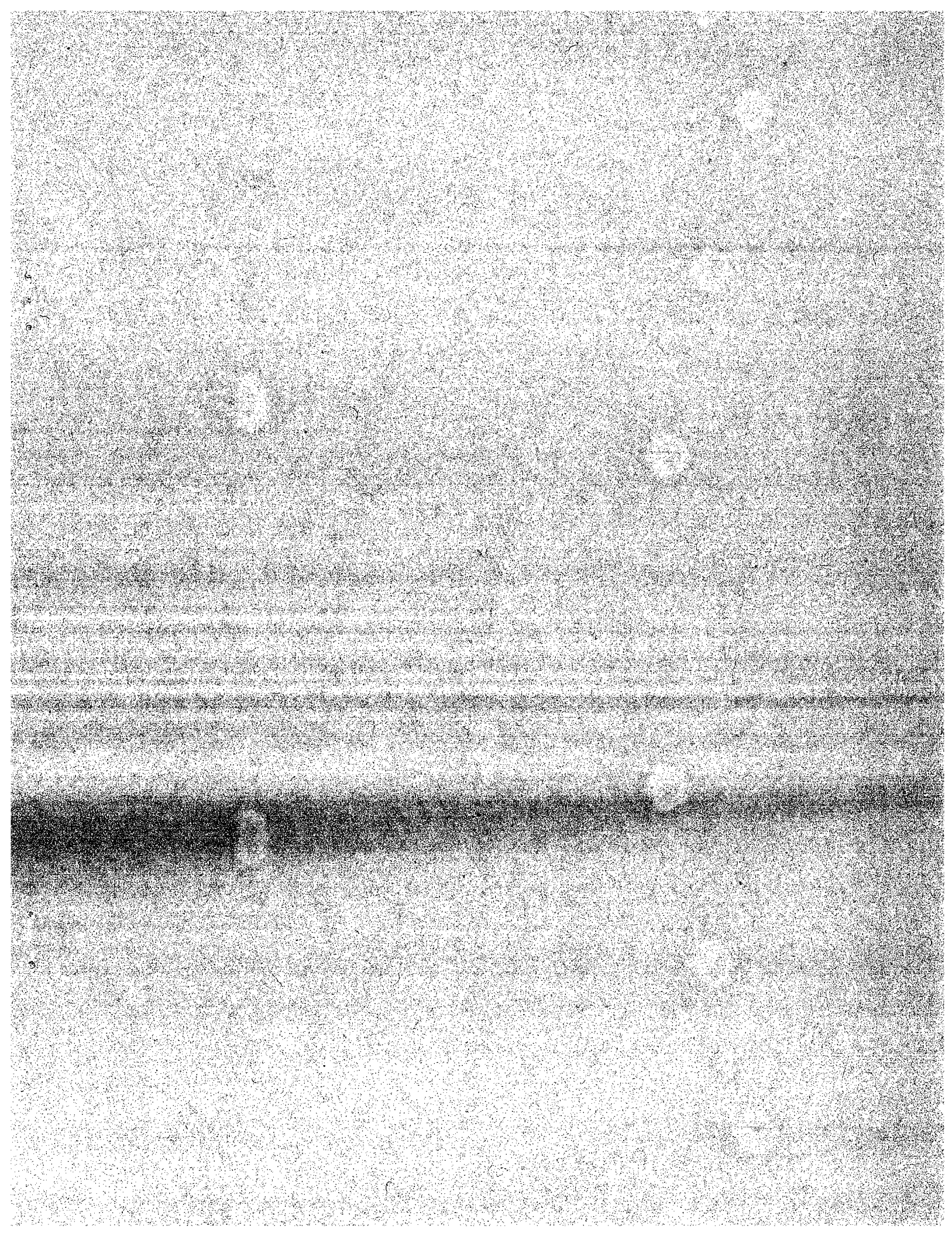
[UL Recognized
Components](#)

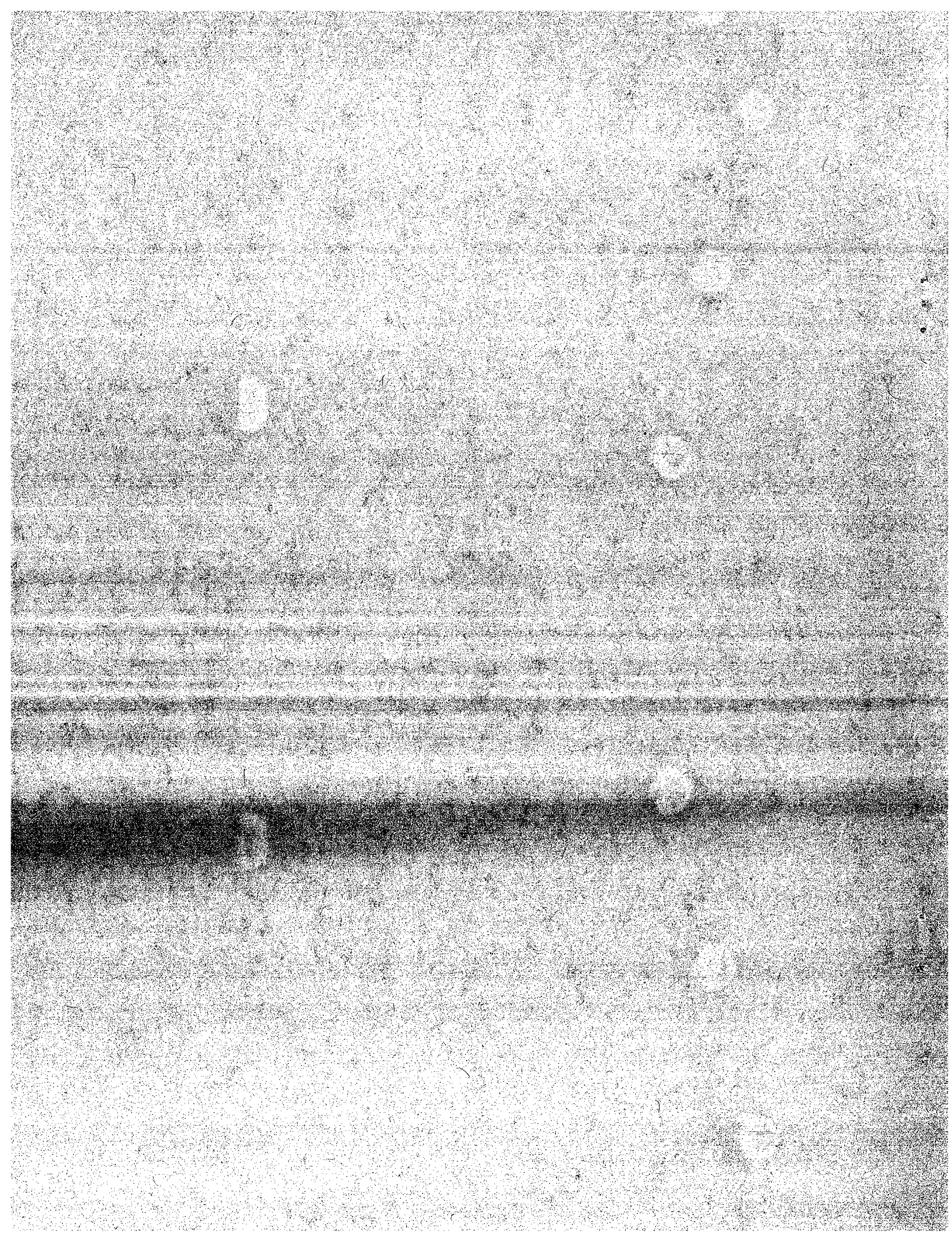
[Products Certified for
Canada](#)

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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 40th 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:

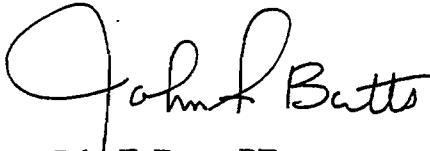
"...stiffened elements having w/t ratios larger than 500 can be used with adequate design strength to sustain the required loads; however; substantial deformations of such elements usually will invalidate the design equations of this specification."

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.

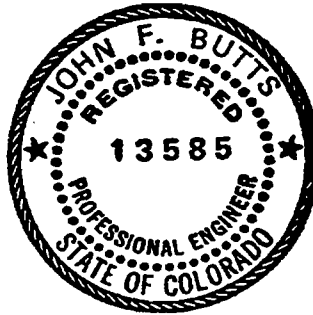
Please note that the panel analysis and Load Tables have been evaluated based on the assumption that the proper bearing, side laps, end laps, bracing, anchorage and structural supports are being utilized in the member's installation. We do not certify the installation method, attachment and supporting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

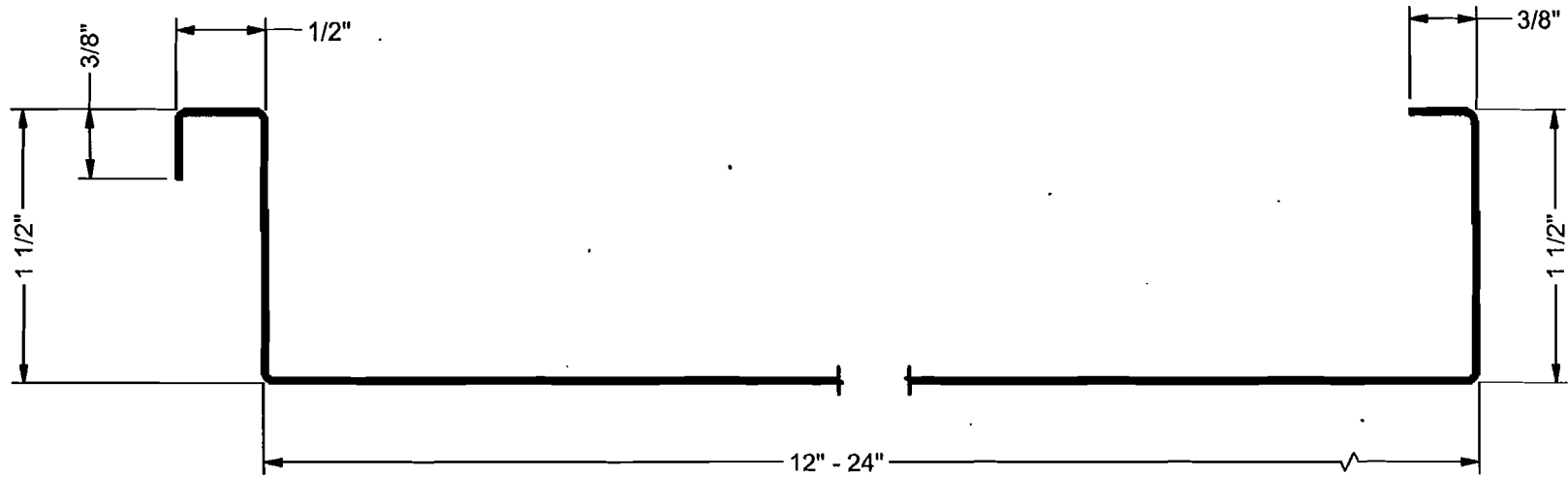
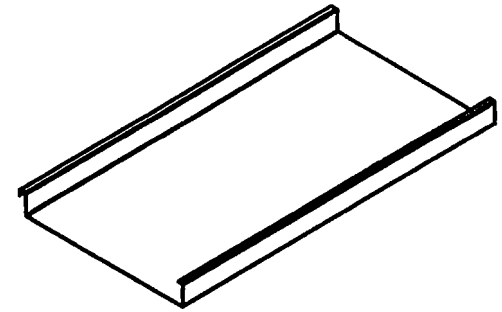
If you have any questions, please call or write the undersigned.

Sincerely,

A handwritten signature in cursive script that reads "John F. Butts".

John F. Butts, PE
President





NOTE:
MATERIAL USAGE: 4"

MATERIAL			LENGTH		FINISH		NEW TECH MACHINERY CORP.				
REVISION HISTORY	REV	ECN NO.	DATE	RELEASED BY		TOLERANCES		DRAWN BY	PART NAME		
						.XX = ± .01		Jim	SS150 PANEL PROFILE		
						.XXX = ± .005		DATE	6/26/2002		
						FRACTION = ± 1/32"		CHECK BY	SIZE	A	SHEET 1 OF 1
						ANGLE = ± 1/2°		DATE	SCALE	NONE	PART NUMBER SS150
											REVISION 0

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 SS150 Panel

=====

FILE NAME: NT150

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) = 1.372 in	Length (L) = 1.372 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) = 0.311 in	Length (L) = 0.372 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) = 0.291 in

Panel Bottom Width = 11.872 in
Panel Overall Width = 12.000 in
Panel Overall Height = 1.500 in

SPECIAL CONDITIONS

Seam Rotation : 90 deg.

Alloy: ASTM A653, G50
Fy = 50.00 ksi
Fv = 28.08 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 = 0.074 in ²	
Sxp = 0.060 in ³	Sxp (per ft. of width) = 0.060 in ³
Sxn = 0.056 in ³	Sxn (per ft. of width) = 0.056 in ³
Ixp = 0.087 in ⁴	Ixp (per ft. of width) = 0.087 in ⁴
Ixn = 0.047 in ⁴	Ixn (per ft. of width) = 0.047 in ⁴
Weight = 1.31 lb/lf	

New Tech SS150 Panel

Member - New Tech SS150 Panel								
Type	Name	Gage	Hgt (in)	Width (in)	Lip (in)	t (in)	Weight lb/ft	Coil Width (in)
Panel	PNL	24	1.500	12.000	0.000	0.0240	1.307	16.00
Gross Section Properties								
Area (in ²)	Ix (in ⁴)	Sx (in ³)	Rx (in)	Ycg (in)	Iy (in ⁴)	Sy (in ³)	Ry (in)	Xcg (in)
0.384	0.087	0.070	0.477	0.251	6.944	1.106	4.253	6.281
Effective Properties								
Ix (in ⁴)	Sx (in ³)	Iy (in ⁴)	Sy (in ³)	Mnx (in-k)	Mny (in-k)	Vnx (kip)	End Bearing Pne (kip)	Pnei (k/in)
0.087	0.060	0.000	0.000	2.79	0.00	2.069	0.186	0.164
Torsional Properties								
Xo (in)	Ro (in)	Beta	Cw (in ⁶)	Jv*1000 (in ⁴)	Fy (ksi)	Fu (ksi)	E (ksi)	G (ksi)
-0.664	4.331	0.976	2.10	0.074	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)

Ω (Compression) = 1.80
 Ω (Tension) = 1.67
 Ω (Web Crippling) = 1.85
 Ω (Bending) = 1.67
 Ω (Shear) = 1.67

Resistance Factors (LRFD)

ϕ (Compression) = 0.85
 ϕ (Tension) = 0.95
 ϕ (Web Crippling) = 0.75
 ϕ (Bending) = 1.11
 ϕ (Shear) = 0.90

New Tech SS150 Panel

Moment of Inertia @ 90 degree Rotation

ELEMENT	L	Y	LY	LYY	Io
1	0.082	12.445	1.017	12.651	0.0000
2	1.372	12.464	17.101	213.142	0.0000
3	0.082	12.445	1.017	12.651	0.0000
4	0.311	12.257	3.812	46.719	0.0025
14	11.872	6.476	76.883	497.895	139.4410
21	0.082	0.507	0.041	0.021	0.0000
22	1.372	0.488	0.670	0.327	0.0000
23	0.082	0.469	0.038	0.018	0.0000
24	0.372	0.250	0.093	0.023	0.0043
25	0.075	0.031	0.002	0.000	0.0000
26	0.297	0.012	0.004	0.000	0.0000
	15.998		100.677	783.447	139.4479

Ix = 6.944 in4
Ycg= 6.293 in

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
2a	-0.290	0.994	-0.288	-0.286	-0.0020
3	0.082	1.469	0.120	0.176	0.0000
4	0.270	1.488	0.402	0.598	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	1.372	0.750	1.029	0.772	0.2152
22a	-0.290	0.994	-0.288	-0.286	-0.0020
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.266	1.464	0.389	0.569	0.0000
	15.346		3.324	3.479	0.4265

Sx = 0.060 in³
Ix = 0.076 in⁴
Ycg = 0.217 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	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	1.372	0.750	1.029	0.772	0.2152
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	15.998		4.008	4.210	0.4305

Sx = 0.070 in³
Ix = 0.087 in⁴
Ycg = 0.251 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	0.0000
14	1.096	0.012	0.013	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.372	0.750	1.029	0.772	0.2152
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	5.223		3.878	4.209	0.4305

Sx = 0.056 in³
Ix = 0.042 in⁴
Ycg = 0.743 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	0.0000
14	1.507	0.012	0.018	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.372	0.750	1.029	0.772	0.2152
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	5.634		3.883	4.209	0.4305

Sx = 0.058 in³
Ix = 0.047 in⁴
Ycg= 0.689 in

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

=====

New Tech SS150 Panel

=====

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

Mnx [positive bending] = +2.978 k-in
Mnx [negative bending] = -2.787 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 = 57.17 | $Pe(2) = 1 * 0.257 \text{ kips} = 0.257 \text{ kips}$
h/t = 57.17 | $Pe(22) = 1 * 0.257 \text{ kips} = 0.257 \text{ kips}$
Pend = 0.514 kips

Pint = $t^2 * k * C1 * C2 * C9 * C0 [538 - 0.74(h/t)] [0.75 + 0.011(N/t)]$
h/t = 57.17 | $Pi(2) = 1 * 0.614 \text{ kips} = 0.614 \text{ kips}$
h/t = 57.17 | $Pi(22) = 1 * 0.614 \text{ kips} = 0.614 \text{ kips}$
Pint = 1.228 kips

MAXIMUM NOMINAL SHEAR - [Section C3.2]

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

h/t = 57.17 | $V(2) = 1 * 1.035 \text{ kips} = 1.035 \text{ kips}$ (Eq. C3.2-2)
h/t = 57.17 | $V(22) = 1 * 1.035 \text{ kips} = 1.035 \text{ kips}$ (Eq. C3.2-2)

Vn = 2.069 kips

New Tech SS150 Panel

=====

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 SS150 Panel

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FILE NAME: NT150

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) = 1.372 in	Length (L) = 1.372 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) = 0.311 in	Length (L) = 0.372 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) = 0.291 in

Panel Bottom Width = 13.872 in
Panel Overall Width = 14.000 in
Panel Overall Height = 1.500 in

SPECIAL CONDITIONS

Seam Rotation : 90 deg.

Alloy: ASTM A653, G50
Fy = 50.00 ksi
Fv = 28.08 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 = 0.074 in ²	Sxp (per ft. of width) = 0.051 in ³
Sxp = 0.059 in ³	Sxn (per ft. of width) = 0.048 in ³
Sxn = 0.056 in ³	Ixp (per ft. of width) = 0.076 in ⁴
Ixp = 0.089 in ⁴	Ixn (per ft. of width) = 0.040 in ⁴
Ixn = 0.047 in ⁴	
Weight = 1.47 lb/lf	

New Tech SS150 Panel

Member - New Tech SS150 Panel								
Type	Name	Gage	Hgt (in)	Width (in)	Lip (in)	t (in)	Weight lb/ft	Coil Width (in)
Panel	PNL	24	1.500	14.000	0.000	0.0240	1.470	18.00
Gross Section Properties								
Area (in ²)	Ix (in ⁴)	Sx (in ³)	Rx (in)	Ycg (in)	Iy (in ⁴)	Sy (in ³)	Ry (in)	Xcg (in)
0.432	0.090	0.070	0.456	0.224	10.229	1.406	4.866	7.277
Effective Properties								
Ix (in ⁴)	Sx (in ³)	Iy (in ⁴)	Sy (in ³)	Mnx (in-k)	Mny (in-k)	Vnx (kip)	End Bearing Pne (kip)	Pnei (k/in)
0.089	0.059	0.000	0.000	2.79	0.00	2.069	0.186	0.164
Torsional Properties								
Xo (in)	Ro (in)	Beta	Cw (in ⁶)	Jv*1000 (in ⁴)	Fy (ksi)	Fu (ksi)	E (ksi)	G (ksi)
-0.603	4.925	0.985	2.97	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)	
Ω (Compression)	= 1.80	ϕ (Compression)	= 0.85
Ω (Tension)	= 1.67	ϕ (Tension)	= 0.95
Ω (Web Crippling)	= 1.85	ϕ (Web Crippling)	= 0.75
Ω (Bending)	= 1.67	ϕ (Bending)	= 1.11
Ω (Shear)	= 1.67	ϕ (Shear)	= 0.90

New Tech SS150 Panel

Moment of Inertia @ 90 degree Rotation

ELEMENT	L	Y	LY	LYY	Io
1	0.082	14.445	1.180	17.044	0.0000
2	1.372	14.464	19.845	287.032	0.0000
3	0.082	14.445	1.180	17.044	0.0000
4	0.311	14.257	4.434	63.210	0.0025
14	13.872	7.476	103.707	775.314	222.4518
21	0.082	0.507	0.041	0.021	0.0000
22	1.372	0.488	0.670	0.327	0.0000
23	0.082	0.469	0.038	0.018	0.0000
24	0.372	0.250	0.093	0.023	0.0043
25	0.075	0.031	0.002	0.000	0.0000
26	0.297	0.012	0.004	0.000	0.0000
	17.998		131.193	1160.033	222.4587

Ix = 10.229 in⁴
Ycg= 7.289 in

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
2a	-0.315	0.979	-0.308	-0.302	-0.0026
3	0.082	1.469	0.120	0.176	0.0000
4	0.270	1.488	0.402	0.598	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	1.372	0.750	1.029	0.772	0.2152
22a	-0.315	0.979	-0.308	-0.302	-0.0026
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.266	1.464	0.389	0.569	0.0000
	17.296		3.308	3.448	0.4253

Sx = 0.059 in³
Ix = 0.078 in⁴
Ycg = 0.191 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
2a	-0.026	1.043	-0.027	-0.028	-0.0000
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	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	1.372	0.750	1.029	0.772	0.2152
22a	-0.026	1.043	-0.027	-0.028	-0.0000
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	17.946		3.978	4.154	0.4305

Sx = 0.070 in³
Ix = 0.089 in⁴
Ycg = 0.222 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	0.0000
14	1.101	0.012	0.013	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.372	0.750	1.029	0.772	0.2152
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	5.227		3.879	4.209	0.4305

Sx = 0.056 in³

Ix = 0.042 in⁴

Ycg= 0.742 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	0.0000
14	1.517	0.012	0.018	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.372	0.750	1.029	0.772	0.2152
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	5.643		3.884	4.209	0.4305

Sx = 0.058 in³
Ix = 0.047 in⁴
Ycg= 0.688 in

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

New Tech SS150 Panel

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

Mnx [positive bending] = +2.971 k-in
Mnx [negative bending] = -2.788 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 = $t^2 \cdot k \cdot C3 \cdot C4 \cdot C9 \cdot C0 [217 - 0.28(h/t)] [0.71 + 0.015(N/t)]$
h/t = 57.17 | Pe(2) = 1 * 0.257 kips = 0.257 kips
h/t = 57.17 | Pe(22) = 1 * 0.257 kips = 0.257 kips
Pend = 0.514 kips

Pint = $t^2 \cdot k \cdot C1 \cdot C2 \cdot C9 \cdot C0 [538 - 0.74(h/t)] [0.75 + 0.011(N/t)]$
h/t = 57.17 | Pi(2) = 1 * 0.614 kips = 0.614 kips
h/t = 57.17 | Pi(22) = 1 * 0.614 kips = 0.614 kips
Pint = 1.228 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 = 57.17 | V(2) = 1 * 1.035 kips = 1.035 kips (Eq. C3.2-2)
h/t = 57.17 | V(22) = 1 * 1.035 kips = 1.035 kips (Eq. C3.2-2)

Vn = 2.069 kips

New Tech SS150 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 SS150 Panel

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FILE NAME: NT150

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) = 1.372 in	Length (L) = 1.372 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) = 0.311 in	Length (L) = 0.372 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) = 0.291 in

Panel Bottom Width = 15.872 in
Panel Overall Width = 16.000 in
Panel Overall Height = 1.500 in

SPECIAL CONDITIONS

Seam Rotation : 90 deg.

Alloy: ASTM A653, G50
Fy = 50.00 ksi
Fv = 28.08 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 = 0.074 in ²	Sxp (per ft. of width) = 0.044 in ³
Sxp = 0.059 in ³	Sxn (per ft. of width) = 0.042 in ³
Sxn = 0.056 in ³	Ixp (per ft. of width) = 0.068 in ⁴
Ixp = 0.090 in ⁴	Ixn (per ft. of width) = 0.035 in ⁴
Ixn = 0.047 in ⁴	
Weight = 1.63 lb/lf	

New Tech SS150 Panel

Member - New Tech SS150 Panel								
Type	Name	Gage	Hgt (in)	Width (in)	Lip (in)	t (in)	Weight lb/ft	Coil Width (in)
Panel	PNL	24	1.500	16.000	0.000	0.0240	1.633	20.00
Gross Section Properties								
Area (in ²)	Ix (in ⁴)	Sx (in ³)	Rx (in)	Ycg (in)	Iy (in ⁴)	Sy (in ³)	Ry (in)	Xcg (in)
0.480	0.092	0.071	0.437	0.203	14.377	1.738	5.473	8.274
Effective Properties								
Ix (in ⁴)	Sx (in ³)	Iy (in ⁴)	Sy (in ³)	Mnx (in-k)	Mny (in-k)	Vnx (kip)	End Bearing Pne (kip)	Pnei (k/in)
0.090	0.059	0.000	0.000	2.79	0.00	2.069	0.186	0.164
Torsional Properties								
Xo (in)	Ro (in)	Beta	Cw (in ⁶)	Jv*1000 (in ⁴)	Fy (ksi)	Fu (ksi)	E (ksi)	G (ksi)
-0.553	5.518	0.990	4.01	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)	
Ω (Compression)	= 1.80	ϕ (Compression)	= 0.85
Ω (Tension)	= 1.67	ϕ (Tension)	= 0.95
Ω (Web Crippling)	= 1.85	ϕ (Web Crippling)	= 0.75
Ω (Bending)	= 1.67	ϕ (Bending)	= 1.11
Ω (Shear)	= 1.67	ϕ (Shear)	= 0.90

New Tech SS150 Panel

Moment of Inertia @ 90 degree Rotation

ELEMENT	L	Y	LY	LYY	Io
1	0.082	16.445	1.343	22.090	0.0000
2	1.372	16.464	22.589	371.899	0.0000
3	0.082	16.445	1.343	22.090	0.0000
4	0.311	16.256	5.056	82.189	0.0025
14	15.872	8.476	134.531	1140.285	333.2067
21	0.082	0.507	0.041	0.021	0.0000
22	1.372	0.488	0.670	0.327	0.0000
23	0.082	0.469	0.038	0.018	0.0000
24	0.372	0.250	0.093	0.023	0.0043
25	0.075	0.031	0.002	0.000	0.0000
26	0.297	0.012	0.004	0.000	0.0000
	19.998		165.710	1638.942	333.2137

Ix = 14.377 in⁴
Ycg= 8.286 in

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
2a	-0.335	0.967	-0.324	-0.313	-0.0031
3	0.082	1.469	0.120	0.176	0.0000
4	0.270	1.488	0.402	0.598	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	1.372	0.750	1.029	0.772	0.2152
22a	-0.335	0.967	-0.324	-0.313	-0.0031
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.266	1.464	0.389	0.569	0.0000
	19.256		3.300	3.425	0.4243

Sx = 0.059 in³
Ix = 0.079 in⁴
Ycg = 0.171 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
2a	-0.045	1.030	-0.046	-0.048	-0.0000
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	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	1.372	0.750	1.029	0.772	0.2152
22a	-0.045	1.030	-0.046	-0.048	-0.0000
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	19.908		3.963	4.115	0.4305

Sx = 0.069 in³
Ix = 0.090 in⁴
Ycg= 0.199 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	0.0000
14	1.104	0.012	0.013	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.372	0.750	1.029	0.772	0.2152
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	5.231		3.879	4.209	0.4305

Sx = 0.056 in³
Ix = 0.042 in⁴
Ycg = 0.741 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	0.0000
14	1.524	0.012	0.018	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.372	0.750	1.029	0.772	0.2152
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	5.651		3.884	4.209	0.4305

Sx = 0.058 in³
Ix = 0.047 in⁴
Ycg = 0.687 in

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

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New Tech SS150 Panel

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

Mnx [positive bending] = +2.966 k-in
Mnx [negative bending] = -2.789 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 = $t^2 \cdot k \cdot C3 \cdot C4 \cdot C9 \cdot C0 [217 - 0.28(h/t)] [0.71 + 0.015(N/t)]$
h/t = 57.17 | Pe(2) = 1 * 0.257 kips = 0.257 kips
h/t = 57.17 | Pe(22) = 1 * 0.257 kips = 0.257 kips
Pend = 0.514 kips

Pint = $t^2 \cdot k \cdot C1 \cdot C2 \cdot C9 \cdot C0 [538 - 0.74(h/t)] [0.75 + 0.011(N/t)]$
h/t = 57.17 | Pi(2) = 1 * 0.614 kips = 0.614 kips
h/t = 57.17 | Pi(22) = 1 * 0.614 kips = 0.614 kips
Pint = 1.228 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 = 57.17 | V(2) = 1 * 1.035 kips = 1.035 kips (Eq. C3.2-2)
h/t = 57.17 | V(22) = 1 * 1.035 kips = 1.035 kips (Eq. C3.2-2)

Vn = 2.069 kips

New Tech SS150 Panel

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 SS150 Panel

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FILE NAME: NT150

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) = 1.372 in	Length (L) = 1.372 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) = 0.311 in	Length (L) = 0.372 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) = 0.291 in

Panel Bottom Width = 17.872 in
Panel Overall Width = 18.000 in
Panel Overall Height = 1.500 in

SPECIAL CONDITIONS

Seam Rotation : 90 deg.

Alloy: ASTM A653, G50
Fy = 50.00 ksi
Fv = 28.08 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 = 0.074 in ²	Sxp (per ft. of width) = 0.039 in ³
Sxp = 0.059 in ³	Sxn (per ft. of width) = 0.037 in ³
Sxn = 0.056 in ³	Ixp (per ft. of width) = 0.061 in ⁴
Ixp = 0.091 in ⁴	Ixn (per ft. of width) = 0.032 in ⁴
Ixn = 0.047 in ⁴	
Weight = 1.80 lb/lf	

New Tech SS150 Panel

Member - New Tech SS150 Panel								
Type	Name	Gage	Hgt (in)	Width (in)	Lip (in)	t (in)	Weight lb/ft	Coil Width (in)
Panel	PNL	24	1.500	18.000	0.000	0.0240	1.797	22.00
Gross Section Properties								
Area (in ²)	Ix (in ⁴)	Sx (in ³)	Rx (in)	Ycg (in)	Iy (in ⁴)	Sy (in ³)	Ry (in)	Xcg (in)
0.528	0.093	0.071	0.420	0.185	19.486	2.102	6.075	9.272
Effective Properties								
Ix (in ⁴)	Sx (in ³)	Iy (in ⁴)	Sy (in ³)	Mnx (in-k)	Mny (in-k)	Vnx (kip)	End Bearing Pne (kip) Pnei (k/in)	
0.091	0.059	0.000	0.000	2.79	0.00	2.069	0.186	0.164
Torsional Properties								
Xo (in)	Ro (in)	Beta	Cw (in ⁶)	Jv*1000 (in ⁴)	Fy (ksi)	Fu (ksi)	E (ksi)	G (ksi)
-0.511	6.111	0.993	5.22	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)	
Ω (Compression)	= 1.80	ϕ (Compression)	= 0.85
Ω (Tension)	= 1.67	ϕ (Tension)	= 0.95
Ω (Web Crippling)	= 1.85	ϕ (Web Crippling)	= 0.75
Ω (Bending)	= 1.67	ϕ (Bending)	= 1.11
Ω (Shear)	= 1.67	ϕ (Shear)	= 0.90

New Tech SS150 Panel

Moment of Inertia @ 90 degree Rotation

ELEMENT	L	Y	LY	LYY	Io
1	0.082	18.445	1.507	27.790	0.0000
2	1.372	18.464	25.333	467.741	0.0000
3	0.082	18.445	1.507	27.790	0.0000
4	0.311	18.256	5.678	103.656	0.0025
14	17.872	9.476	169.355	1604.809	475.7055
21	0.082	0.507	0.041	0.021	0.0000
22	1.372	0.488	0.670	0.327	0.0000
23	0.082	0.469	0.038	0.018	0.0000
24	0.372	0.250	0.093	0.023	0.0043
25	0.075	0.031	0.002	0.000	0.0000
26	0.297	0.012	0.004	0.000	0.0000
	21.998		204.227	2232.175	475.7125

Ix = 19.486 in⁴
Ycg= 9.284 in

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
2a	-0.352	0.958	-0.337	-0.323	-0.0036
3	0.082	1.469	0.120	0.176	0.0000
4	0.270	1.488	0.402	0.598	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	1.372	0.750	1.029	0.772	0.2152
22a	-0.352	0.958	-0.337	-0.323	-0.0036
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.266	1.464	0.389	0.569	0.0000
	21.222		3.298	3.407	0.4233

Sx = 0.059 in³
Ix = 0.080 in⁴
Ycg = 0.155 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
2a	-0.063	1.019	-0.064	-0.065	-0.0000
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	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	1.372	0.750	1.029	0.772	0.2152
22a	-0.063	1.019	-0.064	-0.065	-0.0000
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	21.872		3.951	4.080	0.4305

Sx = 0.069 in³
Ix = 0.091 in⁴
Ycg = 0.181 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	0.0000
14	1.106	0.012	0.013	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.372	0.750	1.029	0.772	0.2152
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	5.233		3.879	4.209	0.4305

Sx = 0.056 in³
Ix = 0.042 in⁴
Ycg= 0.741 in

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

New Tech SS150 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	1.372	0.750	1.029	0.772	0.2152
3	0.082	1.469	0.120	0.176	0.0000
4	0.311	1.488	0.463	0.689	0.0000
14	1.528	0.012	0.018	0.000	0.0000
21	0.082	0.031	0.003	0.000	0.0000
22	1.372	0.750	1.029	0.772	0.2152
23	0.082	1.469	0.120	0.176	0.0000
24	0.372	1.488	0.554	0.824	0.0000
25	0.075	1.469	0.111	0.163	0.0000
26	0.297	1.464	0.435	0.637	0.0000
	5.655		3.884	4.209	0.4305

Sx = 0.058 in³
Ix = 0.047 in⁴
Ycg = 0.687 in

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

New Tech SS150 Panel

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

Mnx [positive bending] = +2.961 k-in
Mnx [negative bending] = -2.790 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 = 57.17 | Pe(2) = 1 * 0.257 kips = 0.257 kips
h/t = 57.17 | Pe(22) = 1 * 0.257 kips = 0.257 kips
Pend = 0.514 kips

Pint = $t^2 * k * C1 * C2 * C9 * C0 [538 - 0.74(h/t)] [0.75 + 0.011(N/t)]$
h/t = 57.17 | Pi(2) = 1 * 0.614 kips = 0.614 kips
h/t = 57.17 | Pi(22) = 1 * 0.614 kips = 0.614 kips
Pint = 1.228 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 = 57.17 | V(2) = 1 * 1.035 kips = 1.035 kips (Eq. C3.2-2)
h/t = 57.17 | V(22) = 1 * 1.035 kips = 1.035 kips (Eq. C3.2-2)

Vn = 2.069 kips

New Tech SS150 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 SS150 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	276	218	177	146	122	104	90	78	68
	L/240	276	218	177	146	122	104	90	78	68
	L/360	276	218	177	146	122	104	89	72	60
2	L/180	276	218	177	146	122	104	90	78	68
	L/240	276	218	177	146	122	104	90	78	68
	L/360	276	218	177	146	122	104	90	78	68
3	L/180	304	243	198	164	139	119	102	89	78
	L/240	304	243	198	164	139	119	102	89	78
	L/360	304	243	198	164	139	119	102	89	78

- 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:
 - Ω (Bending) = 1.67
 - Ω (Shear) = 1.67
 - Ω (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 = 4.463 ft (L/180)
 - Two Span : Max. Span = 5.375 ft (L/180)
 - Three Span : Max. Span = 5.781 ft (L/180)

New Tech SS150 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										
		4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25
1	L/180	60	54	48	43	39	35	32	30	27
	L/240	60	54	48	43	39	34	30	26	23
	L/360	50	42	36	31	26	23	20	18	16
2	L/180	60	54	48	43	39	35	32	30	27
	L/240	60	54	48	43	39	35	32	30	27
	L/360	60	54	48	43	37	32	28	25	22
3	L/180	69	62	56	50	45	41	38	34	32
	L/240	69	62	56	50	45	41	38	34	32
	L/360	69	62	56	50	45	41	38	33	29

- 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:
a) Allowable Shear Stress (Fv) [AISI C3.2]
b) Combined Bending and Shear [AISI C3.3]
c) Combined Bending & Web Crippling [AISI C3.5]
- Factors of Safety used to determine uniform loads:
 Ω (Bending) = 1.67
 Ω (Shear) = 1.67
 Ω (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 = 4.463 ft (L/180)
Two Span : Max. Span = 5.375 ft (L/180)
Three Span +: Max. Span = 5.781 ft (L/180)

New Tech SS150 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	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50
1	L/180	25	23	21	20	18	16	15	14	12
	L/240	21	19	17	15	14	12	11	10	9
	L/360	14	12	11	10	9	8	7	7	6
2	L/180	25	23	21	20	18	17	16	15	14
	L/240	25	23	21	20	18	17	16	14	13
	L/360	20	18	16	14	13	12	11	10	9
3	L/180	29	27	25	23	22	20	19	18	17
	L/240	29	27	25	23	22	20	19	18	17
	L/360	26	23	21	19	17	15	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:
 - Ω (Bending) = 1.67
 - Ω (Shear) = 1.67
 - Ω (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 = 4.463 ft (L/180)
 - Two Span : Max. Span = 5.375 ft (L/180)
 - Three Span : Max. Span = 5.781 ft (L/180)

New Tech SS150 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	237	187	151	125	105	89	77	67	58
	L/240	237	187	151	125	105	89	77	67	58
	L/360	237	187	151	125	105	89	77	63	52
2	L/180	237	187	151	125	105	89	77	67	58
	L/240	237	187	151	125	105	89	77	67	58
	L/360	237	187	151	125	105	89	77	67	58
3	L/180	260	208	170	141	119	102	88	76	67
	L/240	260	208	170	141	119	102	88	76	67
	L/360	260	208	170	141	119	102	88	76	67

- 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:
a) Allowable Shear Stress (Fv) [AISI C3.2]
b) Combined Bending and Shear [AISI C3.3]
c) Combined Bending & Web Crippling [AISI C3.5]
- Factors of Safety used to determine uniform loads:
 Ω (Bending) = 1.67
 Ω (Shear) = 1.67
 Ω (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 = 4.454 ft (L/180)
Two Span : Max. Span = 5.363 ft (L/180)
Three Span +: Max. Span = 5.769 ft (L/180)

New Tech SS150 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	52	46	41	37	33	30	28	25	23
	L/240	52	46	41	37	33	30	26	23	20
	L/360	43	37	31	27	23	20	18	15	14
2	L/180	52	46	41	37	33	30	28	25	23
	L/240	52	46	41	37	33	30	28	25	23
	L/360	52	46	41	37	33	28	25	22	19
3	L/180	59	53	47	43	39	35	32	29	27
	L/240	59	53	47	43	39	35	32	29	27
	L/360	59	53	47	43	39	35	32	29	26

- 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:
a) Allowable Shear Stress (Fv) [AISI C3.2]
b) Combined Bending and Shear [AISI C3.3]
c) Combined Bending & Web Crippling [AISI C3.5]
- Factors of Safety used to determine uniform loads:
 Ω (Bending) = 1.67
 Ω (Shear) = 1.67
 Ω (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 = 4.454 ft (L/180)
Two Span : Max. Span = 5.363 ft (L/180)
Three Span +: Max. Span = 5.769 ft (L/180)

New Tech SS150 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		SPAN LENGTH (Feet)								
		6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50
1	L/180	21	20	18	17	16	14	13	12	11
	L/240	18	16	15	13	12	11	10	9	8
	L/360	12	11	10	9	8	7	7	6	5
2	L/180	21	20	18	17	16	15	14	13	12
	L/240	21	20	18	17	16	15	14	13	12
	L/360	17	15	14	12	11	10	9	8	8
3	L/180	25	23	21	20	18	17	16	15	14
	L/240	25	23	21	20	18	17	16	15	14
	L/360	23	20	18	16	15	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:

Ω (Bending) = 1.67
 Ω (Shear) = 1.67
 Ω (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 = 4.454 ft (L/180)
Two Span : Max. Span = 5.363 ft (L/180)
Three Span +: Max. Span = 5.769 ft (L/180)

New Tech SS150 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	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	207	164	132	109	92	78	67	58	51
	L/240	207	164	132	109	92	78	67	58	51
	L/360	207	164	132	109	92	78	67	56	46
2	L/180	207	164	132	109	92	78	67	58	51
	L/240	207	164	132	109	92	78	67	58	51
	L/360	207	164	132	109	92	78	67	58	51
3	L/180	228	182	148	123	104	89	77	67	59
	L/240	228	182	148	123	104	89	77	67	59
	L/360	228	182	148	123	104	89	77	67	59

- 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:
 - Ω (Bending) = 1.67
 - Ω (Shear) = 1.67
 - Ω (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 = 4.447 ft (L/180)
 - Two Span : Max. Span = 5.354 ft (L/180)
 - Three Span +: Max. Span = 5.759 ft (L/180)

New Tech SS150 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		SPAN LENGTH (Feet)								
		4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25
1	L/180	45	40	36	32	29	26	24	22	20
	L/240	45	40	36	32	29	26	23	21	18
	L/360	38	32	28	24	20	18	16	14	12
2	L/180	45	40	36	32	29	26	24	22	20
	L/240	45	40	36	32	29	26	24	22	20
	L/360	45	40	36	32	29	25	22	19	17
3	L/180	52	46	41	37	34	31	28	26	24
	L/240	52	46	41	37	34	31	28	26	24
	L/360	52	46	41	37	34	31	28	26	23

- 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:

Ω (Bending) = 1.67
 Ω (Shear) = 1.67
 Ω (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 = 4.447 ft (L/180)
Two Span : Max. Span = 5.354 ft (L/180)
Three Span : Max. Span = 5.759 ft (L/180)

New Tech SS150 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	19	17	16	15	14	13	12	11	10
	L/240	16	14	13	12	11	10	9	8	7
	L/360	11	10	9	8	7	6	6	5	5
2	L/180	19	17	16	15	14	13	12	11	10
	L/240	19	17	16	15	14	13	12	11	10
	L/360	15	14	12	11	10	9	8	7	7
3	L/180	22	20	19	17	16	15	14	13	12
	L/240	22	20	19	17	16	15	14	13	12
	L/360	20	18	16	15	13	12	11	10	9

- Formula's used in Load Tables for FLEXURE and DEFLECTION are:
One Span - $M_p = .125wl^2$, $M_n = .125wl^2$, $x = .0130wl^4/EI$
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:
a) Allowable Shear Stress (Fv) [AISI C3.2]
b) Combined Bending and Shear [AISI C3.3]
c) Combined Bending & Web Crippling [AISI C3.5]
- Factors of Safety used to determine uniform loads:
 Ω (Bending) = 1.67
 Ω (Shear) = 1.67
 Ω (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 = 4.447 ft (L/180)
Two Span : Max. Span = 5.354 ft (L/180)
Three Span +: Max. Span = 5.759 ft (L/180)

New Tech SS150 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	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	184	145	118	97	81	69	59	52	45
	L/240	184	145	118	97	81	69	59	52	45
	L/360	184	145	118	97	81	69	59	50	41
2	L/180	184	145	118	97	81	69	59	52	45
	L/240	184	145	118	97	81	69	59	52	45
	L/360	184	145	118	97	81	69	59	52	45
3	L/180	202	162	132	109	92	79	68	59	52
	L/240	202	162	132	109	92	79	68	59	52
	L/360	202	162	132	109	92	79	68	59	52

- 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:

Ω (Bending) = 1.67
 Ω (Shear) = 1.67
 Ω (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 = 4.440 ft (L/180)
Two Span : Max. Span = 5.346 ft (L/180)
Three Span : Max. Span = 5.680 ft (L/180)

New Tech SS150 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	40	35	32	29	26	23	21	19	18
	L/240	40	35	32	29	26	23	21	18	16
	L/360	35	29	25	21	18	16	14	12	11
2	L/180	40	35	32	29	26	23	21	19	18
	L/240	40	35	32	29	26	23	21	19	18
	L/360	40	35	32	29	26	23	20	17	15
3	L/180	46	41	37	33	30	27	25	23	21
	L/240	46	41	37	33	30	27	25	23	21
	L/360	46	41	37	33	30	27	25	23	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:
 - Ω (Bending) = 1.67
 - Ω (Shear) = 1.67
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- 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 = 4.440 ft (L/180)
 - Two Span : Max. Span = 5.346 ft (L/180)
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New Tech SS150 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	16	15	14	13	12	11	10	9	9
	L/240	15	13	12	10	9	9	8	7	6
	L/360	10	9	8	7	6	6	5	5	4
2	L/180	16	15	14	13	12	11	10	10	9
	L/240	16	15	14	13	12	11	10	10	9
	L/360	14	12	11	10	9	8	7	7	6
3	L/180	19	18	16	15	14	13	12	11	11
	L/240	19	18	16	15	14	13	12	11	11
	L/360	18	16	15	13	12	11	10	9	8

- 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]
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- Factors of Safety used to determine uniform loads:

Ω (Bending) = 1.67
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 Ω (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 = 4.440 ft (L/180)
Two Span : Max. Span = 5.346 ft (L/180)
Three Span : Max. Span = 5.680 ft (L/180)

0.7

0.7

