



ASC PROFILES LLC

AEP SPAN AND ASC BUILDING PRODUCTS: SINGLE SKIN STEEL ROOF AND WALL PANELS WITH EXPOSED FASTENERS

CSI Section:

- 07 61 00 Sheet Metal Roofing
- 07 64 00 Sheet Metal Wall Cladding

1.0 RECOGNITION

ASC Profiles LLC Single Skin Steel Roof and Wall Panels with Exposed Fasteners have been evaluated for use as exterior roof and wall covering panels. The structural and fire-resistance properties of the panels have been evaluated for compliance with the following codes:

- 2015, 2012, and 2009 International Building Code® (IBC)
- 2015, 2012, and 2009 International Residential Code® (IRC)
- 2016 and 2013 California Building Code® (CBC) – Attached supplement

2.0 LIMITATIONS

Use of the ASC Profiles LLC Single Skin Steel Roof and Wall Panels and fasteners recognized in this report is subject to the following limitations:

2.1 Metal panels used in roof applications shall be applied to a solid or closely fitted deck, except where the roof covering is specifically designed to be applied to spaced support members. The panel installation tables in this report provide applicable substrate limitations.

2.2 Calculations demonstrating compliance with this report shall be submitted to the code official for approval. The calculations shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

2.3 Recommended slopes are defined within the OVERVIEW portion of this report. The minimum roof panel slopes shall conform to IBC Section 1507.4.2 or IRC Section R905.10.2, or as stated in this report.

2.4 Roof panel flashing requirements, when applicable, shall comply with IBC Section 1503.2 and 1503.3, or IRC Sections R903.2 and R903.3. Underlayment, including installation, shall comply with IBC Section 1507.4.5 or IRC Section R905.10.5, with consideration of applicable wind conditions.

2.5 Panels used on exterior walls shall be used with a water-resistant barrier complying and installed in accordance with IBC Section 1403.2 or IRC Section R703.1, and flashing complying with IBC Section 1405.4 or IRC Section R703.4 to provide an exterior wall envelope. Vapor retarders shall be installed, as applicable, in accordance with IBC Section 1405.3 or IRC Section R702.7.

2.6 Design of panel penetrations and other panel discontinuities shall be the responsibility of the structural design professional in accordance with IBC Section 1604.4, or in accordance with the manufacturer’s installation instructions, when approved by the building official.

2.7 Where panels are used as vertical diaphragm shear resistance in walls (shear wall) of light-frame construction, the walls shall be classified as a “bearing wall system” or “building frame system” with “light-framed walls with shear panels of all other materials” subject to the conditions of this classification as defined in ASCE/SEI 7, Section 12.2.

2.8 Product Performance:

2.8.1 Structural: The tables provided in this report specify the gross and effective section properties, inward (positive) uniform allowable loads, allowable reactions at supports, outward (negative) uniform allowable loads, and diaphragm shear capacities, *q* (plf) and flexibility factors, *F* (10-6 in/lbs) for each of the panels described in Section 4.1 of this report.

2.8.2 Roof Classification: Roof assemblies complying with the requirements of IBC Section 1505.2, Exception 2, or IRC Section R902.1, Exception 2, are considered Class A roof assemblies. For other conditions, roof assemblies shall be listed as Class A, B, or C in accordance with ASTM E108 or UL 790, by an approved listing agency or shall be considered as a non-classified roofing. ASC Profiles shall be contacted for information on specific listed assemblies.

2.8.3 Wall Assembly Fire-Resistance: Wall panels are limited to installations where non-fire-resistance-rated construction is permitted by the IBC or IRC. Wall panels may be permitted in fire-resistance-rated wall assemblies based on successful testing in accordance with the requirements prescribed in IBC Section 703.

2.8.4 Air and Water Infiltration: Air and water infiltration resistance is outside the scope of this report. Weather protection shall comply with Sections 2.4 and 2.5 of this report.

2.8.5 Hail Resistance: Hail resistance is outside the scope of this report.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.





2.8.6 Wind-blown Debris Resistance: Wind-blown debris resistance is outside the scope of this report.

3.0 PRODUCT USE

General Design and Installation shall be in accordance with the referenced codes in Section 1.0 of this report, the information provided in this report, ASC Profile’s product installation guides. Where conflicts occur, the more restrictive shall govern.

4.0 PRODUCT DESCRIPTION

4.1 Panels: The panels are available in various configurations as illustrated in the figures accompanying the tables in this report. Panels are either unpainted or are provided with a painted finish. Additional information on the panel configurations is provided in the OVERVIEW portion of this report.

The roof panels comply with requirements for metal roof panels in Chapter 15 of the IBC, and Section R905 of the IRC. The wall panels comply with requirements for steel wall coverings in Chapter 14 of the IBC, and Section R703 of the IRC.

4.2 Base Materials: All No. 18 and No. 20 gage panels are manufactured from sheet steel with G90 galvanized coatings conforming to ASTM A653 SS Grade 40.

All No. 22 and No. 24 gage panels are manufactured from AZ50 aluminum-zinc alloy coated steel sheet conforming to ASTM A792 SS grade 50, or from G90 galvanized sheet per ASTM A653 SS grade 50.

All No. 26 and No. 29 gage panels are manufactured from AZ50 aluminum-zinc alloy coated steel sheet conforming to ASTM A792 SS grade 80. The panels are also available prepainted in accordance with ASTM A755.

4.3 Fasteners: The fasteners size and type requirements are identified in the panel installation tables within this report. All fasteners shall be zinc-plated with an added corrosion resistant coating, or of a 300 series stainless steel construction. Self-tapping metal to metal fasteners shall comply with ASTM C1513. Fasteners installed into treated wood shall be 300 series stainless steel or designed specifically for use with treated wood.

4.4 Substrates: ASC Profiles roof and wall panels may be fastened to numerous substrates including, but not limited to, the following:

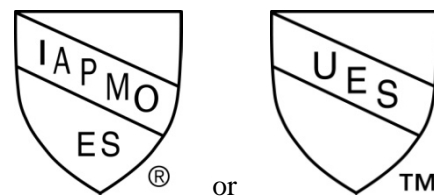
- Cold formed steel in accordance with AISI S100
- Hot rolled steel in accordance with AISC 360
- Concrete in accordance with ACI 318

- Plywood and OSB in accordance with DOC PS-1 and DOC PS-2
- Dimensional lumber in accordance with ANSI/AWC NDS®

The panel installation tables within this report provide applicable substrate and fastening requirements. For other support conditions, structural calculations complying with the applicable code shall be submitted to the code official for approval.

5.0 IDENTIFICATION

A permanent label or a die-stamp label bearing the name and address of the manufacturers, the model number, and this evaluation report number (Evaluation Report ER-550) identifies the products listed in this report. The identification labels also include the IAPMO Uniform Evaluation Service Mark of Conformity, and either one of the following Marks of Conformity may be used:



IAPMO UES ER-550

6.0 SUBSTANTIATING DATA

Data submitted in conformance with IAPMO UES Evaluation Criteria Single Skin Steel Roof and Wall Panels, EC-011, revised June 2015. Any product testing is from laboratories in compliance with ISO/IEC 17025.

7.0 CONTACT INFORMATION

ASC Profiles LLC
2110 Enterprise Blvd.
West Sacramento, CA 95691
(800) 733-4955
www.ascprofiles.com



8.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research carried out by IAPMO Uniform Evaluation Service on ASC Profiles LLC Single Skin Steel Roof and Wall Panels with Exposed Fasteners to assess conformance to the codes and standards shown in Section 1.0 of this report and documents the product's certification.

Brian Gerber, P.E., S.E.
Vice President, Technical Operations
Uniform Evaluation Service

Richard Beck, P.E., CBO, MCP
Vice President, Uniform Evaluation Service

GP Russ Chaney
CEO, The IAPMO Group

For additional information about this evaluation report please visit
www.uniform-es.org or email at info@uniform-es.org



CONTENTS:

OVERVIEW:..... 5

GENERAL NOTES: 7

1.0: 2 1/2” Corrugated..... 10

2.0: Box Rib 15

3.0: Reversed Box Rib 31

4.0 Delta Rib 47

5.0 Delta Rib III 52

6.0 HR-36® 57

7.0 Reversed HR-36® 73

8.0 Mini-V-Beam 89

9.0 Nor-Clad® 103

10.0 Nu-Wave® Corrugated 108

11.0 PBR 120

12.0 Strata Rib® 124

13.0 Super-Span® 129

14.0 Reversed Super-Span® 138

15.0 U-Panel..... 145

16.0 X-Span® / Alta Rib..... 156



OVERVIEW:

The technical information contained within this evaluation report will assist the user in selecting the appropriate AEP Span or ASC Building Products' exposed fastener panels and associated panel attachments.

The report consists of the following product information:

- General report notes and considerations
- Panel views / fastener attachment locations
- Panel section properties
- Reaction at supports (web crippling) capacities
- Inward (positive/ gravity) load tables
- Outward (negative/ uplift) load tables
- Diaphragm shear capacities

Panels:

The following is a list of panels contained within this report along with application limitations:

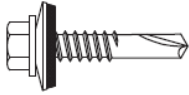
<u>Panel:</u>	<u>Application:</u>	<u>Coverage:</u>	<u>Gage No.:</u>	<u>Minimum Slope*:</u>
2 1/2" Corrugated	Roof, Wall	21 1/3" roof, 24" wall	29, 26	3:12
Box Rib	Wall	36"	29, 26, 24, 22, 20, 18	n/a
Reversed Box Rib	Roof, Wall	36"	29, 26, 24, 22, 20, 18	1:12
Delta Rib	Roof, Wall	24"	29, 26	3:12
Delta Rib III	Roof, Wall	36"	29, 26	3:12
HR-36®	Roof, Wall	36"	29, 26, 24, 22, 20, 18	1:12
Reversed HR-36	Wall	36"	29, 26, 24, 22, 20, 18	n/a
Mini-V-Beam	Roof, Wall	32"	26, 24, 22, 20, 18	1:12
Nor-Clad®	Roof, Wall	36"	29, 26	3:12
Nu-Wave® Corrugated	Roof, Wall	32" roof, 34 2/3" wall	26, 24, 22, 20	3:12
PBR	Roof, Wall	36"	26	1:12
Strata Rib	Roof, Wall	36"	29, 26	3:12
Super-Span	Roof, Wall	36"	26, 24, 22	1:12
Reversed Super-Span	Wall	36"	26, 24, 22	n/a
U-Panel	Roof, Wall	36"	29, 26, 24, 22	3:12
X-Span (Alta Rib)	Roof, Wall	36"	29, 26	1:12

* - ASC recommended minimum slopes. Minimum installed panel slopes shall not be less than those stated in IBC Section 1507.4.2 or IRC Section R905.10.2.

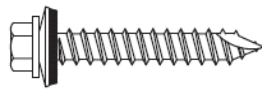


Fasteners:

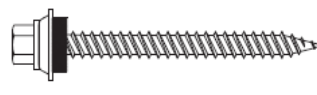
Below is a summary of the fastener size and types specified within this report. Fastener size and type shall be compatible with the material type, thickness, and grade of the supporting members. Section 4.3 of this report provides additional fastener requirements. Hex washer head (HWH) fasteners are shown below. However, alternative fastener heads are acceptable. Fasteners require sealing washers for weather-tight applications.



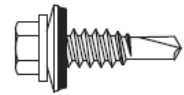
#12 metal-to-metal fastener (self-drilling point shown)



#14 metal-to-wood fastener (milled point shown)



#9 metal-to-wood fastener (dimensional lumber only; self-piercing point shown)



Side Lap Screw (#12 minimum, #14 most common)

To assist in the evaluation of panel shear resistance, fastener connection shear strengths have been provided in Table B of this report for #12 fasteners into steel supports. These capacities are based on AISI S100, Section E4.3 for fastener shear strength and shear strengths limited by tilting and bearing. The capacities listed within Table B of this report are used to determine edge (perimeter) fastening requirements for shear resistance. The general notes and shear and flexibility tables of this report provide further information.

Table B

#12 Fastener Connection Shear Strengths (lbs)													
Substrate Material / Grade Thickness		Panel Gauge / Grade											
		29ga (.0139") Gr80		26ga (.0173") Gr80		24ga (.0232") Gr50		22ga (.0294") Gr50		20ga (.0354") Gr40		18ga (.0459") Gr40	
		ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW
Steel (Gr 50 min.)	16ga (.0590") min.	222	333	276	414	293	440	371	557	378	567	491	737
	18ga (.0459")	222	333	276	414	293	440	371	557	378	567	416	624
	20ga (.0354")	222	333	276	414	286	429	294	441	282	423	282	423
	22ga (.0294")	219	329	242	363	227	341	213	320	213	320	213	320
Steel (Gr 33 min.)	16ga (.0590") min.	222	333	276	414	293	440	371	557	378	567	491	737
	18ga (.0459")	222	333	276	414	291	437	319	479	306	459	288	432
	20ga (.0354")	222	333	251	377	229	344	211	317	195	293	195	293
	22ga (.0294")	203	305	199	299	167	251	148	222	148	222	148	222

GENERAL NOTES:

The following are general notes and considerations for the various report sections:

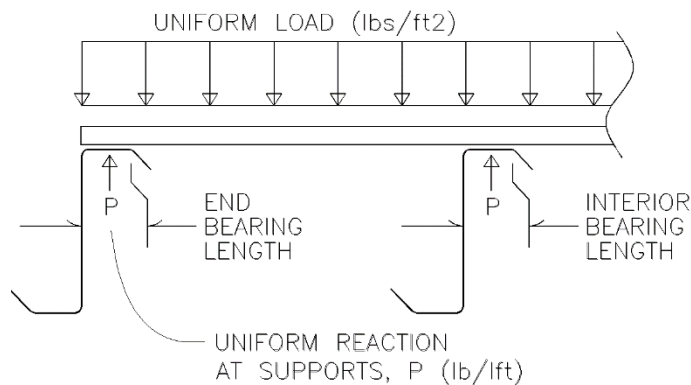
Panel views, with common fastener locations:

1. Included are drawings of the exposed fastener panels with basic dimensions and common fastener locations. These fastener locations correspond to the panel structural capacities contained within this report.

Panel section properties:

1. Section properties are calculated based on the panel geometry and the provisions of the American Iron and Steel Institute's *North American Specification for the Design of Cold-Formed Steel Structural Members* (AISI S100).
2. For calculating the deflection of a panel subject to uniform distributed loads, the hybrid moment of inertia is used and is equal to two times the effective moment of inertia plus the gross moment of inertia divided by three: $(2I_e + I_g)/3$.

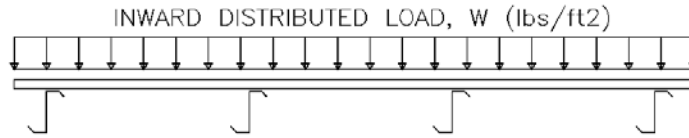
Reaction at supports (web crippling) capacity:



1. The panel reaction at supports capacity is calculated in accordance with AISI S100, Section C3.4 for multi-web steel panels supported by framing that supports a uniform distributed load. Where calculation in accordance to AISI S100 C3.4 is not possible, the performance is evaluated from web crippling testing complying with AISI S909. The panel end and interior reactions listed in the tables are for uniformly distributed out-of-plane loads applied to the panels.
2. The ASD allowable (P_n/Ω) and LRFD factored (ϕP_n) reactions presented in the tables are in pounds per linear foot (plf) running axially along the support for a given panel bearing length on the support. This is based on the web crippling capacity of an individual web multiplied by the number of webs per linear foot.
3. Reaction capacities listed in tables are acceptable for use with bearing lengths greater than those listed.

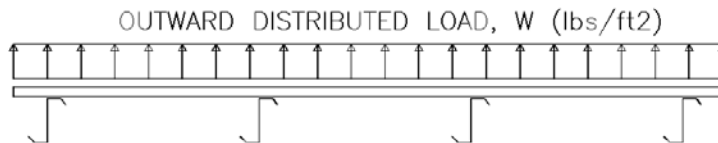


Positive (inward/ gravity) load capacity:



1. For uniform inward loading conditions, the appropriate support spacing is identified by referring to the inward load tables within this report. For conditions not defined by these tables, values are readily derived through standard engineering mechanics using the panel's section properties.
2. The ASD allowable (W/Ω) and LRFD factored (ϕW) panel strengths and have been evaluated for bending, shear, and combined bending and shear.
3. The L/240, L/180, and L/120 values are based on allowable service load deflections.
4. Table values denoted by ' - ' indicate that capacities are limited by allowable panel strength, not deflection. In those instances, the panel strength limits are reached prior to the deflection limits (L/180, etc.) being reached.

Negative (outward/ uplift) load capacity:



1. Common panel attachment combinations and associated outward load capacities are provided within this report. Panel system negative (outward) uniform load capacities are based on fastener pullout, pullover, fastener tension, panel outward bending strength, and IBC Section 1604.3.1 deflection limit of L/60 for formed metal sheet roofing and siding.
2. Using the project's defined outward wind loads, the appropriate *Panel System Negative (Outward) Uniform Load Capacity* table shall be reviewed to select a panel attachment that equals or exceeds the project wind load requirements. Not all possible fastener and substrate combinations are listed within the report. Alternative combinations are acceptable (i.e. attaching a panel assembly with fasteners into a concrete substrate), subject to approval of the code official, provided an analysis is performed by a registered design professional based on the failure modes noted above.
3. Fastener capacities in steel are based on AISI S100. Fastener capacities in wood substrates are based on ANSI/AWC NDS with a combined adjustment factor of 1.6 (2.16 LRFD).
4. Although nominal fastener sizes are provided in the tables, the appropriate fastener thread and point type shall still be properly specified for the selected substrate.
5. The 1-inch minimum fastener penetration specified for the Douglas Fir-Larch values applies to the usable thread length and this minimum depth does not include the tapered portion of the fastener.



Shear and flexibility tables:

1. Shear capacity (lbs/lineal ft) and flexibility factors (10^{-6} in/lb) are presented in the tables. Product capacities are determined in accordance with the American Iron and Steel Institute's *North American Standard for the Design of Profiled Steel Diaphragm Panels* (AISI S310). Values are based on seismic governed loading conditions ($\Omega_d=2.50$) and are therefore conservative for applications governed by wind loads ($\Omega_d=2.35$).
2. Perimeter (edge) fastener spacing parallel to panel ribs has not been included within performance tables. Maximum spacing for edge fasteners parallel to panel flutes is defined as:
$$\text{Max. edge fastener spacing} = \text{shear capacity per fastener (lb)} / \text{shear demand (lb/ft)}$$

The Fastener Connection Shear Strength performance table within this report to assist with the needed fastener capacity in the above equation.
3. Tabulated shear capacities apply to both roof and wall diaphragms.
4. Tables apply to panels installed over steel supports. Evaluation of shear and flexibility over wood framing is outside the scope of this report.
5. Capacities are based on panel gauge, span, support fastener size and type, support attachment pattern, side lap connection fastener and side lap fastener spacing. Capacities based on minimum #12 side lap and support screws.
6. Note: Perimeter (edge) fastener spacing parallel to panel ribs has not been included within performance tables. Maximum spacing for edge fasteners parallel to panel flutes is defined as:
$$\text{Max. edge fastener spacing} = \text{shear capacity per fastener (lb)} / \text{shear demand (lb/ft)}$$

The Fastener Connection Shear Strength performance table within this report may be referenced to assist with the needed fastener capacity in the above equation.
7. Interpolation of diaphragm shear strength and flexibility factor between adjacent spans or side seam spacing is permitted provided the higher value does not exceed the lower value by more than 50 percent.



1.0: 2 1/2" Corrugated

Figure 1.1 - Basic Dimensions and Panel Attachment (2 1/2" Corrugated):

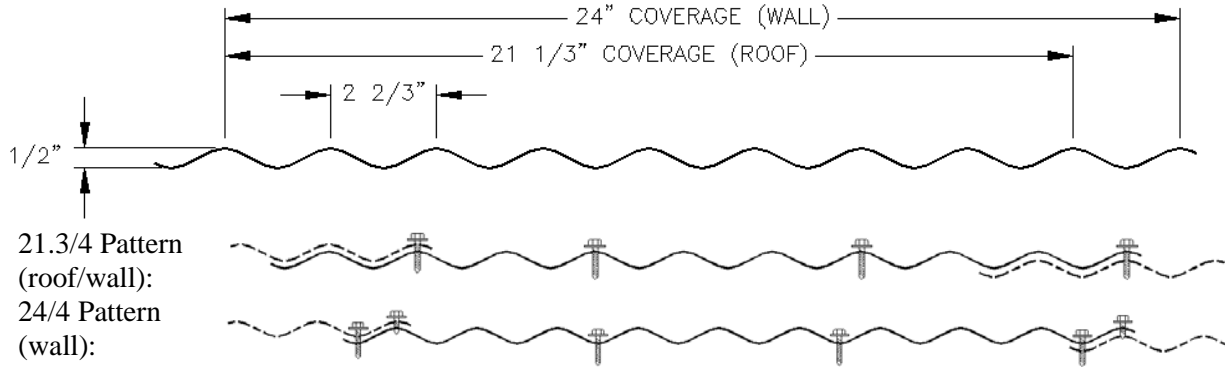


Table 1.1 - Section Properties (2 1/2" Corrugated):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.67	0.0139	80	82	0.1960	0.0055	0.26	0.0217	0.0217
26	0.83	0.0173	80	82	0.2439	0.0070	0.26	0.0269	0.0269

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
	A _e /ft	I _{e+}	y _b	S _{e+}	I _{e-}	y _b	S _{e-}	I ₊	I ₋
	in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft
29	0.1021	0.0055	0.26	0.0209	0.0055	0.26	0.0209	0.0055	0.0055
26	0.1407	0.0070	0.26	0.0269	0.0070	0.26	0.0269	0.0070	0.0070



Table 1.2 - Inward (Positive) Uniform Allowable Loads (2 1/2" Corrugated):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			16"	2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	6' - 0"
29	Single Span	ASD, W/Ω	283	125	80	56	41	31	25	20	14
		LRFD, φW	449	199	127	88	65	50	39	32	22
		L/240	153	45	23	13	8	6	4	3	2
		L/180	204	60	31	18	11	8	5	4	2
		L/120	-	90	46	27	17	11	8	6	3
	Double Span	ASD, W/Ω	274	123	79	55	40	31	24	19	13
		LRFD, φW	412	186	119	82	60	46	36	29	20
		L/240	-	109	56	32	20	14	10	7	4
		L/180	-	-	74	43	27	18	13	9	5
		L/120	-	-	-	-	-	27	19	14	8
	Triple Span	ASD, W/Ω	338	153	98	68	51	39	31	24	17
		LRFD, φW	509	231	148	103	76	58	46	37	25
		L/240	289	85	44	25	16	11	7	5	3
		L/180	-	113	58	34	21	14	10	7	4
		L/120	-	-	87	50	32	21	15	11	6
26	Single Span	ASD, W/Ω	364	161	103	71	52	40	32	26	18
		LRFD, φW	577	255	163	113	83	64	50	41	28
		L/240	195	57	29	17	11	7	5	4	2
		L/180	260	76	39	23	14	10	7	5	3
		L/120	-	115	59	34	21	14	10	7	4
	Double Span	ASD, W/Ω	355	158	101	70	52	39	31	25	17
		LRFD, φW	534	238	153	106	78	59	47	38	26
		L/240	-	138	71	41	26	17	12	9	5
		L/180	-	-	94	55	34	23	16	12	7
		L/120	-	-	-	-	52	35	24	18	10
	Triple Span	ASD, W/Ω	440	198	127	88	65	50	39	31	22
		LRFD, φW	662	298	192	132	98	75	59	48	33
		L/240	368	108	55	32	20	14	10	7	4
		L/180	-	144	74	43	27	18	13	9	5
		L/120	-	-	111	64	40	27	19	14	8

Table 1.3 - Allowable Reactions at Supports (2 1/2" Corrugated):

Reactions at Supports based on Web Crippling				
Gauge	Condition	Bearing Length of Webs		
		ASD (P_n/Ω) (lbs/ft width)		LRFD (ϕP_n) (lbs/ft width)
		1.5"		1.5"
29	End	307		491
	Interior	435		696
26	End	605		966
	Interior	825		1322



Table 1.4 - Outward (Negative) Uniform Allowable Loads (No. 29 gage 2 1/2" Corrugated):

2 1/2" Corrugated, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				12"	16"	2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"			
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	24/4 21.3/4	570	855	427	641	209	331	133	174	93	101	63	63	43	43	30	30	22	22
	12ga (.1050")	#12	24/4 21.3/4	570	855	427	641	209	331	133	174	93	101	63	63	43	43	30	30	22	22
	14ga (.0700")	#12	24/4 21.3/4	557	835	418	627	209	331	133	174	93	101	63	63	43	43	30	30	22	22
	16ga (.0590")	#12	24/4 21.3/4	469	704	352	528	209	331	133	174	93	101	63	63	43	43	30	30	22	22
	18ga (.0459")	#12	24/4 21.3/4	365	548	274	411	183	274	133	174	93	101	63	63	43	43	30	30	22	22
	20ga (.0354")	#12	24/4 21.3/4	282	422	211	317	141	211	113	169	93	101	63	63	43	43	30	30	22	22
	22ga (.0294")	#12	24/4 21.3/4	234	351	175	263	117	175	94	140	78	101	63	63	43	43	30	30	22	22
Steel (Gr 33 min.)	≥10ga (.1350")	#12	24/4 21.3/4	570	855	427	641	209	331	133	174	93	101	63	63	43	43	30	30	22	22
	12ga (.1050")	#12	24/4 21.3/4	570	855	427	641	209	331	133	174	93	101	63	63	43	43	30	30	22	22
	14ga (.0700")	#12	24/4 21.3/4	386	578	289	434	193	289	133	174	93	101	63	63	43	43	30	30	22	22
	16ga (.0590")	#12	24/4 21.3/4	325	487	244	366	162	244	130	174	93	101	63	63	43	43	30	30	22	22
	18ga (.0459")	#12	24/4 21.3/4	253	379	190	284	126	190	101	152	84	101	63	63	43	43	30	30	22	22
	20ga (.0354")	#12	24/4 21.3/4	195	292	146	219	97	146	78	117	65	97	56	63	43	43	30	30	22	22
	22ga (.0294")	#12	24/4 21.3/4	162	243	121	182	81	121	65	97	54	81	46	63	40	43	30	30	22	22
Plywood & OSB	15/32"	#14	24/4 21.3/4	209	283	157	212	105	141	84	113	70	94	60	63	43	43	30	30	22	22
	19/32"	#14	24/4 21.3/4	265	358	199	269	133	179	106	143	88	101	63	63	43	43	30	30	22	22
	23/32"	#14	24/4 21.3/4	321	434	241	325	161	217	128	173	93	101	63	63	43	43	30	30	22	22
Lumber (DFL)	1" min	#9	24/4 21.3/4	388	523	291	392	194	262	133	174	93	101	63	63	43	43	30	30	22	22
		#14	24/4 21.3/4	530	715	397	537	209	331	133	174	93	101	63	63	43	43	30	30	22	22



Table 1.5 - Outward (Negative) Uniform Allowable Loads (No. 26 gage 2 1/2" Corrugated):

2 1/2" Corrugated, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				12"	16"	2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"			
Material / Grade	Thick-ness	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	24/4 21.3/4	709	1064	532	798	268	425	171	222	119	128	81	81	54	54	38	38	28	28
	12ga (.1050")	#12	24/4 21.3/4	709	1064	532	798	268	425	171	222	119	128	81	81	54	54	38	38	28	28
	14ga (.0700")	#12	24/4 21.3/4	557	835	418	627	268	418	171	222	119	128	81	81	54	54	38	38	28	28
	16ga (.0590")	#12	24/4 21.3/4	469	704	352	528	235	352	171	222	119	128	81	81	54	54	38	38	28	28
	18ga (.0459")	#12	24/4 21.3/4	365	548	274	411	183	274	146	219	119	128	81	81	54	54	38	38	28	28
	20ga (.0354")	#12	24/4 21.3/4	282	422	211	317	141	211	113	169	94	128	80	81	54	54	38	38	28	28
	22ga (.0294")	#12	24/4 21.3/4	234	351	175	263	117	175	94	140	78	117	67	81	54	54	38	38	28	28
Steel (Gr 33 min.)	≥10ga (.1350")	#12	24/4 21.3/4	709	1064	532	798	268	425	171	222	119	128	81	81	54	54	38	38	28	28
	12ga (.1050")	#12	24/4 21.3/4	578	868	434	651	268	425	171	222	119	128	81	81	54	54	38	38	28	28
	14ga (.0700")	#12	24/4 21.3/4	386	578	289	434	193	289	154	222	119	128	81	81	54	54	38	38	28	28
	16ga (.0590")	#12	24/4 21.3/4	325	487	244	366	162	244	130	195	108	128	81	81	54	54	38	38	28	28
	18ga (.0459")	#12	24/4 21.3/4	253	379	190	284	126	190	101	152	84	126	72	81	54	54	38	38	28	28
	20ga (.0354")	#12	24/4 21.3/4	195	292	146	219	97	146	78	117	65	97	56	81	49	54	38	38	28	28
	22ga (.0294")	#12	24/4 21.3/4	162	243	121	182	81	121	65	97	54	81	46	69	40	54	36	38	28	28
Plywood & OSB	15/32"	#14	24/4 21.3/4	209	283	157	212	105	141	84	113	70	94	60	81	52	54	38	38	28	28
	19/32"	#14	24/4 21.3/4	265	358	199	269	133	179	106	143	88	119	76	81	54	54	38	38	28	28
	23/32"	#14	24/4 21.3/4	321	434	241	325	161	217	128	173	107	128	81	81	54	54	38	38	28	28
Lumber (DFL)	1" min	#9	24/4 21.3/4	388	523	291	392	194	262	155	209	119	128	81	81	54	54	38	38	28	28
		#14	24/4 21.3/4	530	715	397	537	265	358	171	222	119	128	81	81	54	54	38	38	28	28



Table 1.6 - Shear and Flexibility (No. 29 gage 2 1/2" Corrugated):

29ga 2-1/2" Corrugated (24") 24/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		12"		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	475	771	467	759	458	745	460	747	350	560	257	411	197	315	155	249	126	202
	F	79.5		62.3		45.1		38.2		33.8		30.4		28.1		26.1		24.7	
8"	q	451	732	413	671	388	630	384	624	350	560	257	411	197	315	155	249	126	202
	F	80.1		63.7		47.0		40.2		35.7		32.5		30.8		28.9		27.3	
12"	q	405	658	413	671	341	554	347	564	311	505	257	411	197	315	155	249	126	202
	F	81.2		63.7		48.3		41.3		37.9		34.3		32.9		30.7		30.0	
24"	q	405	658	354	575	274	445	297	483	261	424	231	376	197	315	155	249	126	202
	F	81.2		65.1		50.3		42.8		39.7		38.0		37.0		33.9		33.6	
36"	q	405	658	354	575	274	445	231	375	199	323	231	376	197	315	155	249	126	202
	F	81.2		65.1		50.3		45.4		42.8		38.0		37.0		36.7		36.7	
48"	q	405	658	354	575	274	445	231	375	199	323	174	282	154	250	155	249	126	202
	F	81.2		65.1		50.3		45.4		42.8		41.6		41.2		36.7		36.7	
1 per span	q	405	658	354	575	274	445	231	375	199	323	174	282	154	250	138	224	125	202
	F	81.2		65.1		50.3		45.4		42.8		41.6		41.2		41.3		41.8	
none	q	309	503	252	410	181	293	148	240	125	202	107	174	93	151	82	134	74	120
	F	83.2		67.8		54.4		50.5		48.9		48.7		49.3		50.5		52.0	

Table 1.7 - Shear and Flexibility (26ga 2 1/2" Corrugated):

26ga 2-1/2" Corrugated (24") 24/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		12"		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	591	960	582	945	570	927	572	930	494	790	363	581	278	445	220	351	178	285
	F	48.4		38.5		28.7		24.7		22.2		20.2		19.0		17.8		17.1	
8"	q	561	911	514	835	483	784	478	777	475	771	363	581	278	445	220	351	178	285
	F	48.9		39.8		30.4		26.5		24.0		22.1		21.4		20.3		19.4	
12"	q	504	818	514	835	425	690	432	702	387	629	363	581	278	445	220	351	178	285
	F	49.9		39.8		31.5		27.5		25.9		23.8		23.3		21.9		21.8	
24"	q	504	818	441	716	341	554	370	601	325	528	288	468	258	419	220	351	178	285
	F	49.9		41.0		33.3		28.9		27.6		27.0		27.0		24.8		25.0	
36"	q	504	818	441	716	341	554	288	467	247	402	288	468	258	419	220	351	178	285
	F	49.9		41.0		33.3		31.2		30.3		27.0		27.0		27.3		27.8	
48"	q	504	818	441	716	341	554	288	467	247	402	216	351	192	311	220	351	178	285
	F	49.9		41.0		33.3		31.2		30.3		30.3		30.7		27.3		27.8	
1 per span	q	504	818	441	716	341	554	288	467	247	402	216	351	192	311	172	279	156	253
	F	49.9		41.0		33.3		31.2		30.3		30.3		30.7		31.4		32.4	
none	q	385	626	314	511	225	365	184	299	155	252	133	217	116	189	103	167	92	150
	F	51.7		43.4		37.0		35.7		35.8		36.6		38.0		39.6		41.5	



2.0: Box Rib

Figure 2.1 - Basic Dimensions and Panel Attachment (Box Rib):

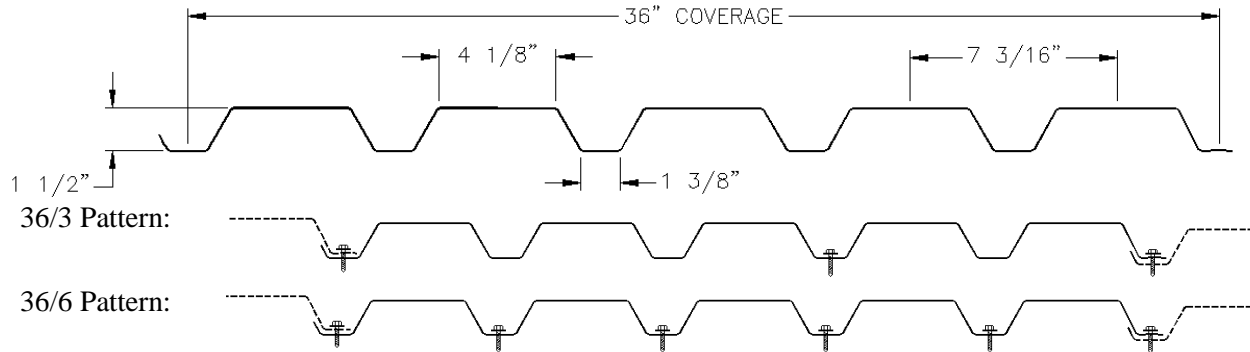


Table 2.1 - Section Properties (Box Rib):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _g ⁺	S _g ⁻
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.73	0.0139	80	82	0.2140	0.0810	0.96	0.1437	0.0845
26	0.91	0.0173	80	82	0.2663	0.1007	0.96	0.1783	0.1049
24	1.21	0.0232	50	65	0.3570	0.1333	0.96	0.2378	0.1402
22	1.54	0.0294	50	65	0.4524	0.1700	0.97	0.2997	0.1771
20	1.85	0.0354	40	55	0.5446	0.2067	0.97	0.3590	0.2127
18	2.40	0.0459	40	55	0.7059	0.2667	0.97	0.4610	0.0274

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _e ⁺	y _b	S _e ⁺	I _e ⁻	y _b	S _e ⁻	I _d ⁺	I _d ⁻	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
29	0.0592	0.0487	0.61	0.0448	0.0733	1.14	0.0463	0.0594	0.0759
26	0.0871	0.0630	0.66	0.0653	0.0947	1.09	0.0674	0.0756	0.0967
24	0.1580	0.0963	0.70	0.1020	0.1333	1.01	0.1163	0.1087	0.1333
22	0.2382	0.1333	0.73	0.1438	0.1700	1.00	0.1593	0.1456	0.1700
20	0.3544	0.1833	0.80	0.1928	0.2067	0.97	0.2122	0.1911	0.2067
18	0.5247	0.2567	0.85	0.2573	0.2667	0.97	0.2740	0.2600	0.2667



Table 2.2 - Inward (Positive) Uniform Allowable Loads (Box Rib):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
29	Single Span	ASD, W/Ω	268	172	119	67	43	30	22	17	11
		LRFD, ϕW	426	272	189	106	68	47	35	27	17
		L/240	-	-	-	61	31	18	11	8	4
		L/180	-	-	-	-	42	24	15	10	5
		L/120	-	-	-	-	-	-	-	15	8
	Double Span	ASD, W/Ω	226	154	111	65	42	29	21	16	11
		LRFD, ϕW	341	232	167	98	64	44	33	25	16
		L/240	-	-	-	-	-	-	-	-	9
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	263	183	133	79	52	37	27	21	13
		LRFD, ϕW	398	276	201	120	78	55	41	32	20
		L/240	-	-	-	-	-	34	21	14	7
		L/180	-	-	-	-	-	-	-	19	10
		L/120	-	-	-	-	-	-	-	-	-
26	Single Span	ASD, W/Ω	391	250	174	98	63	43	32	24	16
		LRFD, ϕW	621	397	276	155	99	69	51	39	25
		L/240	-	-	-	77	40	23	14	10	5
		L/180	-	-	-	-	53	31	19	13	7
		L/120	-	-	-	-	-	-	29	19	10
	Double Span	ASD, W/Ω	353	236	168	97	63	43	32	25	16
		LRFD, ϕW	532	355	253	146	95	66	49	37	24
		L/240	-	-	-	-	-	-	-	23	12
		L/180	-	-	-	-	-	-	-	-	16
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	421	285	205	119	77	54	40	31	20
		LRFD, ϕW	634	429	309	180	117	81	60	46	30
		L/240	-	-	-	-	75	43	27	18	9
		L/180	-	-	-	-	-	-	36	24	12
		L/120	-	-	-	-	-	-	-	-	19
24	Single Span	ASD, W/Ω	509	326	226	127	81	57	42	32	20
		LRFD, ϕW	808	517	359	202	129	90	66	50	32
		L/240	-	-	-	111	57	33	21	14	7
		L/180	-	-	-	-	76	44	28	19	9
		L/120	-	-	-	-	-	-	42	28	14
	Double Span	ASD, W/Ω	533	351	248	142	91	63	47	36	23
		LRFD, ϕW	803	528	373	213	138	95	71	54	34
		L/240	-	-	-	-	-	-	-	34	17
		L/180	-	-	-	-	-	-	-	-	23
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	646	429	305	175	114	79	58	44	28
		LRFD, ϕW	973	647	459	264	171	119	87	67	43
		L/240	-	-	-	-	108	62	39	26	13
		L/180	-	-	-	-	-	-	52	35	18
		L/120	-	-	-	-	-	-	-	-	27



Table 2.2 (Cont'd) - Inward (Positive) Uniform Allowable Loads (Box Rib):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
22	Single Span	ASD, W/Ω	717	459	319	179	115	80	59	45	29
		LRFD, ϕW	1138	728	506	285	182	126	93	71	46
		L/240	-	-	-	149	76	44	28	19	10
		L/180	-	-	-	-	102	59	37	25	13
		L/120	-	-	-	-	-	-	56	37	19
	Double Span	ASD, W/Ω	741	485	342	195	126	87	64	49	31
		LRFD, ϕW	1116	731	514	293	189	131	97	74	47
		L/240	-	-	-	-	-	-	-	45	23
		L/180	-	-	-	-	-	-	-	-	31
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	902	596	422	242	156	109	80	61	39
		LRFD, ϕW	1358	897	635	364	235	164	121	92	59
		L/240	-	-	-	-	144	83	52	35	18
		L/180	-	-	-	-	-	-	70	47	24
		L/120	-	-	-	-	-	-	-	-	36
20	Single Span	ASD, W/Ω	770	493	342	192	123	86	63	48	31
		LRFD, ϕW	1221	781	543	305	195	136	100	76	49
		L/240	-	-	-	-	100	58	37	24	13
		L/180	-	-	-	-	-	77	49	33	17
		L/120	-	-	-	-	-	-	-	-	25
	Double Span	ASD, W/Ω	777	511	362	207	133	92	68	52	34
		LRFD, ϕW	1170	770	544	311	200	139	102	78	51
		L/240	-	-	-	-	-	-	-	-	30
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	939	625	445	256	165	115	85	66	41
		LRFD, ϕW	1414	941	669	385	249	174	128	99	62
		L/240	-	-	-	-	-	109	69	46	24
		L/180	-	-	-	-	-	-	-	62	32
		L/120	-	-	-	-	-	-	-	-	-
18	Single Span	ASD, W/Ω	1027	657	457	257	164	114	84	64	41
		LRFD, ϕW	1630	1043	724	407	261	181	133	102	65
		L/240	-	-	-	-	136	79	50	33	17
		L/180	-	-	-	-	-	105	66	44	23
		L/120	-	-	-	-	-	-	-	-	34
	Double Span	ASD, W/Ω	1003	661	466	267	172	120	88	68	43
		LRFD, ϕW	1510	995	702	402	259	181	133	102	65
		L/240	-	-	-	-	-	-	-	-	41
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	1213	808	573	330	214	149	110	85	54
		LRFD, ϕW	1828	1216	863	497	322	225	166	127	81
		L/240	-	-	-	-	-	-	94	63	32
		L/180	-	-	-	-	-	-	-	84	43
		L/120	-	-	-	-	-	-	-	-	-



Table 2.3 - Allowable Reactions at Supports (Box Rib):

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (P_n/Ω) (lbs/ft width)				LRFD (ϕP_n) (lbs/ft width)			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
29	End	158	182	203	n/a	242	279	310	n/a
	Interior	250	283	311	n/a	372	421	463	n/a
26	End	240	275	305	355	367	421	467	543
	Interior	382	430	471	539	568	640	700	802
24	End	347	396	436	505	531	605	668	773
	Interior	557	624	679	773	829	927	1010	1149
22	End	540	612	673	774	826	936	1029	1185
	Interior	874	972	1054	1193	1300	1446	1569	1774
20	End	610	688	754	865	933	1053	1154	1323
	Interior	994	1100	1190	1340	1479	1637	1770	1993
18	End	987	1107	1207	1376	1510	1693	1847	2106
	Interior	1625	1786	1922	2151	2417	2657	2859	3199



Table 2.4 - Outward (Negative) Uniform Allowable Loads (No. 29 gauge Box Rib):

Box Rib, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
Material / Grade	Thick-ness	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	285	427	228	342	190	285	112	177	72	113	50	79	36	58	28	44	18	28
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	36	58	28	44	18	28
	12ga (.1050")	#12	36/6	285	427	228	342	190	285	112	177	72	113	50	79	36	58	28	44	18	28
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	36	58	28	44	18	28
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	112	177	72	113	50	79	36	58	28	44	18	28
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	36	58	28	44	18	28
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	112	176	72	113	50	79	36	58	28	44	18	28
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	28	44	18	28
18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	72	110	50	79	36	58	28	44	18	28	
	#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27	
20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	36	58	28	44	18	28	
	#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21	
22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	28	44	18	28	
	#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	285	427	228	342	190	285	112	177	72	113	50	79	36	58	28	44	18	28
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	36	58	28	44	18	28
	12ga (.1050")	#12	36/6	285	427	228	342	190	285	112	177	72	113	50	79	36	58	28	44	18	28
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	36	58	28	44	18	28
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	72	113	50	79	36	58	28	44	18	28
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	18	28
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	50	79	36	58	28	44	18	28
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	28	44	18	28	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	18	28	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	18	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	36	51	28	44	18	28
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	50	72	36	58	28	44	18	28	
	#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22	
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	72	105	50	79	36	58	28	44	18	28
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	18	26
		#14	36/6	265	358	212	286	177	238	112	177	72	113	50	79	36	58	28	44	18	28
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	36	51	28	44	18	28



Table 2.5 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge Box Rib):

Box Rib, 26ga																							
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																			
				Attachment Spacing, (ft-in)																			
		Material / Grade	Thick-ness	Nom. Size	Attach. Pattern	2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
						ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	355	532	284	426	236	355	163	259	104	166	72	115	53	84	41	65	26	41		
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	41	65	26	41		
	12ga (.1050")	#12	36/6	355	532	284	426	236	355	163	259	104	166	72	115	53	84	41	65	26	41		
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	41	65	26	41		
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	104	166	72	115	53	84	41	65	26	41		
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	26	41		
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	72	115	53	84	41	65	26	41		
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35		
18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	52	78	41	65	26	41			
	#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27			
20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	26	41			
	#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21			
22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35			
	#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18			
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	355	532	284	426	236	355	163	259	104	166	72	115	53	84	41	65	26	41		
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	41	65	26	41		
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	104	166	72	115	53	84	41	65	26	41		
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	26	41		
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	53	83	41	65	26	41		
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29		
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	41	61	26	41		
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24		
18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38			
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19			
20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29			
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15			
22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24			
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12			
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28		
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14		
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	26	36		
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18		
	23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	40	54	26	41		
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22		
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	53	75	41	65	26	41		
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26		
		#14	36/6	265	358	212	286	177	238	132	179	104	143	72	115	53	84	41	65	26	41		
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36		



Table 2.6 - Outward (Negative) Uniform Allowable Loads (No. 24 gauge Box Rib):

Box Rib, 24ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	377	566	302	452	251	377	159	252	102	162	71	112	52	82	40	63	25	40
		#12	36/3	189	283	151	226	126	189	94	141	75	113	63	94	52	81	40	63	25	40
	12ga (.1050")	#12	36/6	377	566	302	452	251	377	159	252	102	162	71	112	52	82	40	63	25	40
		#12	36/3	189	283	151	226	126	189	94	141	75	113	63	94	52	81	40	63	25	40
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	102	162	71	112	52	82	40	63	25	40
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	25	40
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	71	112	52	82	40	63	25	40
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	52	78	40	63	25	40	
	#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27	
20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	25	40	
	#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21	
22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35	
	#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	248	372	159	252	102	162	71	112	52	82	40	63	25	40
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	52	80	40	63	25	40
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	102	162	71	112	52	82	40	63	25	40
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	25	40
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	52	82	40	63	25	40
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	40	61	25	40
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	25	36
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	40	54	25	40	
	#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22	
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	52	75	40	63	25	40
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/6	265	358	212	286	177	238	132	179	102	143	71	112	52	82	40	63	25	40
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	25	36



Table 2.7 - Outward (Negative) Uniform Allowable Loads (No. 22 gauge Box Rib):

Box Rib, 22ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	478	717	382	573	319	478	224	356	143	228	100	158	73	116	56	89	36	57
		#12	36/3	239	358	191	287	159	239	119	179	96	143	80	119	68	102	56	89	36	57
	12ga (.1050")	#12	36/6	418	627	334	501	278	418	209	313	143	228	100	158	73	116	56	89	36	57
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	36	57
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	111	167	93	139	73	116	56	89	36	57
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	78	117	67	101	56	88	36	57
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	52	78	46	68	36	55
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	28	42
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	248	372	186	279	143	223	100	158	73	116	56	89	36	57
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	36	56
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	116	174	96	145	73	116	56	89	36	57
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	55	83	48	72	36	57
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	41	61	32	49
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
	18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38
		#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19
	20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29
		#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15
	22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24
		#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	27	36
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	40	54	32	43
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	55	75	48	65	36	52
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/6	265	358	212	286	177	238	132	179	106	143	88	119	73	102	56	89	36	57
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 2.8 - Outward (Negative) Uniform Allowable Loads (No. 20 gauge Box Rib):

Box Rib, 20ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	487	730	389	584	325	487	241	365	154	244	107	170	79	125	60	95	38	61
		#12	36/3	243	365	195	292	162	243	122	183	97	146	81	122	70	104	60	91	38	61
	12ga (.1050")	#12	36/6	418	627	334	501	278	418	209	313	154	244	107	170	79	125	60	95	38	61
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	38	61
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	111	167	93	139	79	119	60	95	38	61
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	78	117	67	101	59	88	38	61
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	52	78	46	68	37	55
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	28	42
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	248	372	186	279	149	223	107	170	79	125	60	95	38	61
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	116	174	96	145	79	124	60	95	38	61
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	55	83	48	72	38	58
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	41	61	32	49
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
	18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38
		#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19
20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	27	36
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	40	54	32	43
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	55	75	48	65	38	52
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/6	265	358	212	286	177	238	132	179	106	143	88	119	76	102	60	89	38	61
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 2.9 - Outward (Negative) Uniform Allowable Loads (No. 18 gauge Box Rib):

Box Rib, 18ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
				ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
Material / Grade	Thick-ness			W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	537	806	430	644	358	537	269	403	205	322	143	226	105	166	80	127	51	81
		#12	36/3	269	403	215	322	179	269	134	201	107	161	90	134	77	115	67	101	51	81
	12ga (.1050")	#12	36/6	418	627	334	501	278	418	209	313	167	251	139	209	105	166	80	127	51	81
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	63
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	111	167	93	139	80	119	70	104	51	81
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	78	117	67	101	59	88	47	70
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	52	78	46	68	37	55	
	#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27	
20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	28	42	
	#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21	
22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35	
	#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	248	372	186	279	149	223	124	186	105	159	80	127	51	81
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	116	174	96	145	83	124	72	108	51	81
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	55	83	48	72	39	58
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	41	61	32	49
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	27	36
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	40	54	32	43
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	55	75	48	65	39	52
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/6	265	358	212	286	177	238	132	179	106	143	88	119	76	102	66	89	51	72
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 2.10 - Shear and Flexibility (No. 29 gauge Box Rib, 36/3):

29ga Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	251	407	251	408	250	406	249	405	249	404	248	403	248	403	248	403	230	368
	F	1629.2		1305.3		1089.6		819.9		658.0		550.2		473.1		415.3		334.4	
8"	q	236	384	236	383	235	382	228	371	229	372	225	365	226	367	223	362	222	360
	F	1630.6		1306.9		1091.1		821.8		659.9		552.3		475.1		417.6		336.8	
12"	q	223	363	225	366	214	348	208	338	204	332	201	327	199	324	198	321	195	317
	F	1631.6		1307.7		1092.7		823.4		661.8		554.2		477.3		419.6		338.9	
24"	q	198	322	208	339	194	315	167	272	171	278	153	248	158	257	145	235	139	227
	F	1633.3		1308.9		1094.2		826.6		664.5		558.4		480.9		424.6		344.4	
36"	q	198	322	178	290	161	261	167	272	145	236	127	206	137	223	124	202	123	199
	F	1633.3		1311.0		1096.7		826.6		667.0		561.4		483.1		427.1		346.6	
48"	q	198	322	178	290	161	261	132	215	145	236	127	206	112	183	101	164	104	169
	F	1633.3		1311.0		1096.7		830.0		667.0		561.4		486.5		431.0		349.8	
1 per span	q	198	322	178	290	161	261	132	215	111	180	94	152	80	130	70	114	56	91
	F	1633.3		1311.0		1096.7		830.0		671.3		566.5		492.5		437.8		363.2	
none	q	146	237	124	202	107	174	79	129	61	100	50	82	43	70	38	61	30	49
	F	1637.0		1315.7		1102.3		837.5		680.6		577.6		505.6		452.7		381.8	

Table 2.11 - Shear and Flexibility (No. 29 gauge Box Rib, 36/6):

29ga Box Rib 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	463	753	464	753	455	739	450	732	447	726	445	723	443	720	359	574	230	368
	F	132.5		108.0		91.8		71.5		59.3		51.2		45.4		41.1		35.0	
8"	q	402	652	396	643	391	636	364	592	365	593	349	567	352	571	340	553	230	368
	F	133.5		109.2		92.9		73.1		60.9		53.1		47.2		43.1		37.2	
12"	q	361	587	362	589	327	532	307	499	294	478	285	463	278	452	273	443	230	368
	F	134.1		109.7		94.1		74.2		62.4		54.6		49.0		44.8		39.1	
24"	q	303	492	318	517	282	457	226	368	227	370	195	317	201	326	179	291	169	274
	F	135.1		110.5		95.0		76.3		64.3		57.6		51.7		48.6		43.3	
36"	q	303	492	259	420	224	364	226	368	187	305	159	258	171	277	151	246	146	238
	F	135.1		111.6		96.4		76.3		65.8		59.4		53.2		50.3		44.9	
48"	q	303	492	259	420	224	364	175	285	187	305	159	258	136	221	119	194	121	197
	F	135.1		111.6		96.4		78.2		65.8		59.4		55.4		52.8		47.1	
1 per span	q	303	492	259	420	224	364	175	285	140	227	115	188	99	161	87	141	69	113
	F	135.1		111.6		96.4		78.2		68.2		62.3		58.7		56.5		54.9	
none	q	220	357	182	295	153	248	112	182	88	143	72	117	62	101	54	88	43	70
	F	136.7		113.7		98.9		81.5		72.3		67.1		64.4		63.0		63.0	



Table 2.12 - Shear and Flexibility (No. 26 gauge Box Rib, 36/3):

26ga Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Table with 12 columns for attachment spacing (2'-0" to 10'-0") and 2 rows for ASD and LRFD design methods. Includes sub-headers for Side Seam Spacing and Attachment Spacing.

Table 2.13 - Shear and Flexibility (No. 26 gauge Box Rib, 36/6):

26ga Box Rib 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Table with 12 columns for attachment spacing (2'-0" to 10'-0") and 2 rows for ASD and LRFD design methods. Includes sub-headers for Side Seam Spacing and Attachment Spacing.



Table 2.14 - Shear and Flexibility (No. 24 gauge Box Rib, 36/3):

24ga Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Side Seam Spacing		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	332	539	332	540	330	537	329	535	329	534	328	534	328	533	328	533	328	532
	F	456.3		366.3		306.5		231.6		186.6		156.7		135.3		119.2		96.8	
8"	q	312	508	312	506	311	505	302	491	303	493	298	483	299	486	295	479	293	477
	F	457.4		367.5		307.6		233.1		188.1		158.4		136.9		121.0		98.6	
12"	q	295	480	298	485	283	460	276	448	270	439	266	433	264	428	261	425	258	419
	F	458.1		368.1		308.8		234.3		189.6		159.8		138.5		122.6		100.3	
24"	q	262	426	276	448	256	417	221	359	226	367	202	328	209	340	191	311	185	300
	F	459.5		369.1		310.0		236.8		191.7		163.1		141.3		126.4		104.5	
36"	q	262	426	236	384	213	345	221	359	192	312	168	273	182	295	165	267	162	264
	F	459.5		370.7		311.9		236.8		193.6		165.3		143.0		128.4		106.2	
48"	q	262	426	236	384	213	345	175	284	192	312	168	273	149	242	133	216	137	223
	F	459.5		370.7		311.9		239.4		193.6		165.3		145.7		131.4		108.7	
1 per span	q	262	426	236	384	213	345	175	284	147	238	126	204	107	173	93	151	74	121
	F	459.5		370.7		311.9		239.4		196.9		169.3		150.3		136.7		119.1	
none	q	193	314	164	267	142	231	107	175	84	137	69	111	57	93	50	81	40	65
	F	462.3		374.3		316.3		245.2		204.1		178.0		160.4		148.2		133.5	

Table 2.15 - Shear and Flexibility (No. 24 gauge Box Rib, 36/6):

24ga Box Rib 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Side Seam Spacing		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	613	996	613	997	602	978	596	968	591	961	589	956	586	953	585	950	490	784
	F	40.3		33.5		29.1		23.5		20.2		18.0		16.4		15.2		13.5	
8"	q	531	863	523	850	518	841	482	783	483	785	462	750	465	756	450	732	443	720
	F	41.1		34.4		30.0		24.8		21.4		19.4		17.8		16.8		15.2	
12"	q	478	777	480	779	433	704	407	661	389	633	377	613	368	598	361	586	351	570
	F	41.6		34.8		30.9		25.6		22.6		20.6		19.2		18.1		16.7	
24"	q	401	651	421	684	372	605	299	486	301	489	258	420	266	432	237	385	223	363
	F	42.3		35.4		31.6		27.3		24.0		22.9		21.2		21.0		20.0	
36"	q	401	651	342	556	296	482	299	486	248	403	211	343	226	367	200	325	194	315
	F	42.3		36.3		32.7		27.3		25.2		24.3		22.4		22.3		21.2	
48"	q	401	651	342	556	296	482	232	377	248	403	211	343	181	293	158	256	160	261
	F	42.3		36.3		32.7		28.7		25.2		24.3		24.1		24.3		22.9	
1 per span	q	401	651	342	556	296	482	232	377	188	305	155	252	131	214	115	186	92	149
	F	42.3		36.3		32.7		28.7		27.1		26.5		26.6		27.2		29.0	
none	q	291	473	240	391	204	332	151	245	119	193	98	159	82	134	72	116	57	93
	F	43.5		37.9		34.6		31.2		30.2		30.3		31.1		32.2		35.2	



Table 2.16 - Shear and Flexibility (No. 22 gauge Box Rib, 36/3):

22ga Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	420	683	421	684	418	680	417	678	417	677	416	676	416	676	416	675	415	675
	F	254.1		204.3		171.3		129.9		105.0		88.4		76.6		67.8		55.3	
8"	q	396	644	395	642	394	640	383	622	384	624	377	613	379	616	374	607	372	604
	F	255.1		205.4		172.2		131.2		106.3		89.9		78.0		69.3		57.0	
12"	q	374	608	378	614	359	583	349	567	343	557	338	549	334	543	331	538	327	531
	F	255.7		205.9		173.4		132.2		107.6		91.2		79.5		70.7		58.5	
24"	q	332	540	350	568	325	528	280	455	286	465	256	416	265	430	243	394	234	380
	F	256.9		206.8		174.4		134.5		109.5		94.1		82.0		74.1		62.2	
36"	q	332	540	299	486	269	438	280	455	243	395	213	346	230	374	208	339	206	334
	F	256.9		208.2		176.1		134.5		111.2		96.1		83.5		75.9		63.7	
48"	q	332	540	299	486	269	438	221	360	243	395	213	346	189	306	169	274	174	283
	F	256.9		208.2		176.1		136.8		111.2		96.1		85.9		78.6		65.9	
1 per span	q	332	540	299	486	269	438	221	360	186	302	159	259	136	221	118	192	94	153
	F	256.9		208.2		176.1		136.8		114.1		99.7		90.0		83.3		75.2	
none	q	245	398	208	338	180	292	138	224	108	175	88	143	74	120	63	103	51	82
	F	259.5		211.4		180.0		141.9		120.5		107.3		98.9		93.5		88.0	

Table 2.17 - Shear and Flexibility (No. 22 gauge Box Rib, 36/6):

22ga Box Rib 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	777	1262	777	1263	763	1240	755	1226	750	1218	746	1212	743	1208	741	1204	702	1124
	F	23.9		20.2		17.8		14.7		12.9		11.7		10.8		10.2		9.3	
8"	q	673	1094	663	1078	656	1066	611	993	612	995	585	950	590	958	571	927	562	913
	F	24.6		21.0		18.5		15.8		14.0		13.0		12.1		11.6		10.8	
12"	q	606	984	608	988	549	892	515	837	493	802	478	776	466	758	457	743	445	723
	F	25.0		21.3		19.3		16.6		15.0		14.0		13.3		12.8		12.1	
24"	q	508	825	533	866	472	767	379	616	381	620	327	532	337	547	300	487	283	460
	F	25.7		21.9		20.0		18.0		16.3		16.1		15.1		15.3		15.0	
36"	q	508	825	433	704	376	610	379	616	314	511	267	434	286	465	254	412	245	399
	F	25.7		22.7		20.9		18.0		17.4		17.3		16.2		16.5		16.1	
48"	q	508	825	433	704	376	610	294	478	314	511	267	434	230	374	200	325	203	330
	F	25.7		22.7		20.9		19.3		17.4		17.3		17.7		18.2		17.6	
1 per span	q	508	825	433	704	376	610	294	478	239	389	198	321	168	273	146	236	116	189
	F	25.7		22.7		20.9		19.3		19.0		19.3		19.9		20.8		23.0	
none	q	368	599	305	495	259	421	193	313	152	247	125	203	106	172	91	148	73	118
	F	26.8		24.1		22.6		21.6		21.8		22.6		23.9		25.3		28.6	



Table 2.18 - Shear and Flexibility (No. 20 gauge Box Rib, 36/3):

20ga Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	428	696	429	697	426	693	425	691	425	690	424	689	424	688	423	688	423	687
	F	160.9		129.6		108.9		82.9		67.3		56.9		49.4		43.9		36.1	
8"	q	403	656	402	654	401	652	390	634	392	636	384	624	386	628	381	619	379	615
	F	161.8		130.6		109.8		84.1		68.4		58.2		50.7		45.3		37.6	
12"	q	381	620	385	626	366	594	356	578	349	567	344	559	340	553	337	548	333	541
	F	162.4		131.1		110.8		85.0		69.6		59.4		52.1		46.6		38.9	
24"	q	339	550	356	579	331	538	286	464	292	474	261	424	270	439	247	402	238	387
	F	163.5		131.8		111.7		87.1		71.3		62.0		54.3		49.7		42.3	
36"	q	339	550	305	495	274	446	286	464	248	402	217	352	235	381	212	345	210	341
	F	163.5		133.2		113.3		87.1		72.9		63.9		55.7		51.3		43.7	
48"	q	339	550	305	495	274	446	226	367	248	402	217	352	192	312	172	279	177	288
	F	163.5		133.2		113.3		89.2		72.9		63.9		57.9		53.7		45.7	
1 per span	q	339	550	305	495	274	446	226	367	189	308	162	264	140	227	121	197	96	156
	F	163.5		133.2		113.3		89.2		75.5		67.1		61.6		58.0		54.1	
none	q	250	406	212	345	183	298	141	229	111	180	91	148	76	124	66	107	51	84
	F	165.8		136.1		116.8		93.9		81.4		74.1		69.8		67.3		65.8	

Table 2.19 - Shear and Flexibility (No. 20 gauge Box Rib, 36/6):

20ga Box Rib 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	791	1286	792	1287	777	1263	769	1250	764	1241	760	1235	757	1230	755	1227	752	1222
	F	16.2		13.8		12.3		10.5		9.3		8.6		8.0		7.6		7.1	
8"	q	686	1115	676	1098	669	1086	622	1012	624	1013	596	968	601	976	581	945	572	930
	F	16.8		14.5		13.0		11.4		10.3		9.8		9.2		8.9		8.5	
12"	q	617	1003	619	1006	559	909	525	853	503	817	487	791	475	772	466	757	453	736
	F	17.2		14.9		13.8		12.2		11.3		10.7		10.3		10.0		9.6	
24"	q	517	840	543	883	481	781	386	628	388	631	334	542	343	558	306	497	288	468
	F	17.8		15.4		14.3		13.5		12.4		12.6		12.0		12.3		12.3	
36"	q	517	840	442	718	383	622	386	628	320	520	272	442	292	474	258	420	250	406
	F	17.8		16.1		15.2		13.5		13.4		13.7		12.9		13.4		13.3	
48"	q	517	840	442	718	383	622	299	487	320	520	272	442	235	382	205	333	207	337
	F	17.8		16.1		15.2		14.7		13.4		13.7		14.3		15.0		14.7	
1 per span	q	517	840	442	718	383	622	299	487	245	398	202	329	172	279	149	243	118	192
	F	17.8		16.1		15.2		14.7		14.9		15.5		16.3		17.3		19.6	
none	q	375	610	311	505	264	429	197	321	156	253	128	208	109	176	94	152	74	120
	F	18.8		17.4		16.8		16.7		17.4		18.6		19.9		21.4		24.7	



Table 2.20 - Shear and Flexibility (No. 18 gauge Box Rib, 36/3):

18ga Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
Side Seam Spacing		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v
4"	q	555	903	556	904	553	898	551	896	550	894	550	893	549	893	549	892	548	891
	F	85.3		69.0		58.2		44.6		36.5		31.0		27.2		24.3		20.2	
8"	q	523	850	522	848	521	846	506	822	508	825	498	809	501	814	494	802	491	798
	F	86.1		69.8		58.9		45.7		37.5		32.2		28.3		25.5		21.5	
12"	q	495	804	499	811	474	771	461	750	452	735	446	725	441	717	438	711	432	702
	F	86.6		70.2		59.8		46.5		38.6		33.3		29.5		26.7		22.7	
24"	q	439	714	462	750	429	698	370	602	378	615	338	550	350	569	320	521	309	502
	F	87.6		70.9		60.6		48.3		40.0		35.6		31.5		29.4		25.7	
36"	q	439	714	395	642	356	578	370	602	321	522	281	457	304	494	275	448	272	442
	F	87.6		72.1		62.1		48.3		41.4		37.2		32.7		30.8		26.9	
48"	q	439	714	395	642	356	578	292	475	321	522	281	457	249	405	223	362	230	374
	F	87.6		72.1		62.1		50.2		41.4		37.2		34.6		32.9		28.7	
1 per span	q	439	714	395	642	356	578	292	475	246	399	211	342	183	297	159	258	125	203
	F	87.6		72.1		62.1		50.2		43.7		40.0		37.9		36.7		36.1	
none	q	324	526	275	447	238	386	184	300	145	236	119	194	101	164	87	141	67	109
	F	89.6		74.6		65.1		54.3		48.9		46.2		45.0		44.9		46.3	

Table 2.21 - Shear and Flexibility (No. 18 gauge Box Rib, 36/6):

18ga Box Rib 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
Side Seam Spacing		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v
4"	q	1026	1667	1027	1669	1008	1638	997	1620	990	1609	985	1601	982	1595	979	1591	975	1584
	F	9.6		8.4		7.7		6.7		6.2		5.8		5.5		5.3		5.0	
8"	q	889	1445	876	1424	867	1409	807	1312	808	1314	773	1256	779	1266	754	1225	742	1206
	F	10.2		9.1		8.3		7.6		7.0		6.8		6.5		6.5		6.2	
12"	q	800	1300	803	1305	725	1178	681	1106	652	1059	631	1026	616	1001	604	982	587	954
	F	10.5		9.4		8.9		8.2		7.9		7.6		7.5		7.4		7.3	
24"	q	671	1090	704	1144	624	1013	501	814	504	819	433	703	445	723	396	644	374	607
	F	11.1		9.8		9.4		9.4		8.9		9.3		9.0		9.4		9.6	
36"	q	671	1090	573	930	496	806	501	814	415	675	353	574	378	614	335	544	324	527
	F	11.1		10.4		10.2		9.4		9.8		10.3		9.8		10.4		10.5	
48"	q	671	1090	573	930	496	806	388	631	415	675	353	574	306	498	267	434	269	437
	F	11.1		10.4		10.2		10.4		9.8		10.3		11.0		11.8		11.7	
1 per span	q	671	1090	573	930	496	806	388	631	317	515	264	429	225	365	195	317	154	250
	F	11.1		10.4		10.2		10.4		11.1		11.9		12.8		13.8		16.0	
none	q	487	791	403	654	342	556	257	418	204	331	168	273	142	231	123	200	96	156
	F	11.9		11.6		11.6		12.2		13.3		14.6		16.0		17.4		20.5	



3.0: Reversed Box Rib

Figure 3.1 - Basic Dimensions and Panel Attachment (Reversed Box Rib):

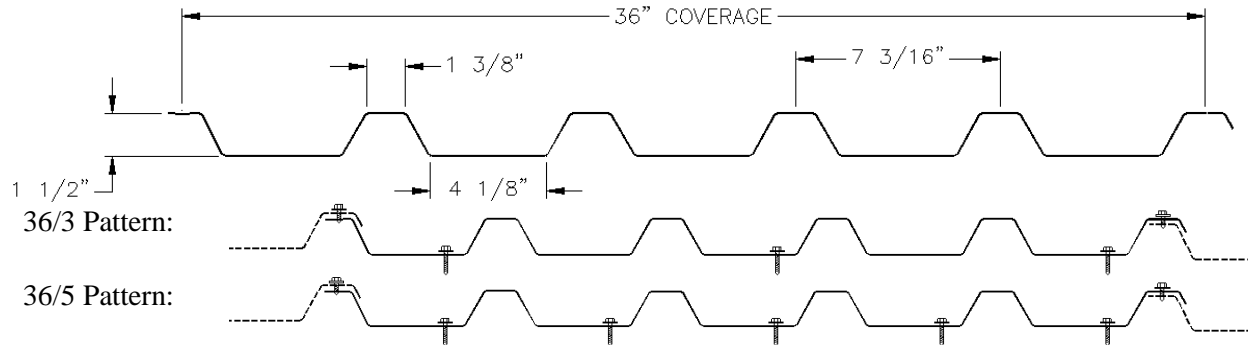


Table 3.1 - Section Properties (Reversed Box Rib):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _g ⁺	S _g ⁻
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.73	0.0139	80	82	0.2140	0.0810	0.96	0.0845	0.1437
26	0.91	0.0173	80	82	0.2663	0.1007	0.96	0.1049	0.1783
24	1.22	0.0232	50	65	0.3572	0.1367	0.96	0.1404	0.2380
22	1.54	0.0294	50	65	0.4527	0.1700	0.97	0.1774	0.3000
20	1.85	0.0354	40	55	0.5446	0.2067	0.97	0.2127	0.3590
18	2.40	0.0459	40	55	0.7059	0.2667	0.97	0.2740	0.4610

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	I ₊	I ₋
	A _e /ft	I _e ⁺	y _b	S _e ⁺	I _e ⁻	y _b	S _e ⁻	in ⁴ /ft	in ⁴ /ft
	in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft		
29	0.0592	0.0733	0.39	0.0463	0.0487	0.92	0.0448	0.0759	0.0594
26	0.0871	0.0947	0.43	0.0674	0.0630	0.86	0.0653	0.0967	0.0756
24	0.1565	0.1333	0.51	0.1158	0.0963	0.83	0.1016	0.1344	0.1098
22	0.2360	0.1700	0.54	0.1587	0.1333	0.79	0.1431	0.1700	0.1456
20	0.3544	0.2067	0.58	0.2122	0.1833	0.75	0.1928	0.2067	0.1911
18	0.5247	0.2667	0.58	0.2740	0.2567	0.70	0.2573	0.2667	0.2600



Table 3.2 - Inward (Positive) Uniform Allowable Loads (Reversed Box Rib):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
29	Single Span	ASD, W/Ω	277	177	123	69	44	31	23	17	11
		LRFD, ϕW	440	282	195	110	70	49	36	27	18
		L/240	-	-	-	-	40	23	15	10	5
		L/180	-	-	-	-	-	31	19	13	7
		L/120	-	-	-	-	-	-	-	-	10
	Double Span	ASD, W/Ω	220	150	108	63	40	28	21	16	10
		LRFD, ϕW	333	227	163	95	61	43	32	25	16
		L/240	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	258	179	131	77	51	35	26	20	13
		LRFD, ϕW	390	270	197	116	76	53	40	30	19
L/240		-	-	-	-	-	-	-	18	9	
L/180		-	-	-	-	-	-	-	-	13	
L/120		-	-	-	-	-	-	-	-	-	
26	Single Span	ASD, W/Ω	404	258	179	101	65	45	33	25	16
		LRFD, ϕW	641	410	285	160	102	71	52	40	26
		L/240	-	-	-	99	51	29	18	12	6
		L/180	-	-	-	-	-	39	25	17	8
		L/120	-	-	-	-	-	-	-	25	13
	Double Span	ASD, W/Ω	344	229	163	94	61	42	31	24	15
		LRFD, ϕW	518	345	246	141	92	64	47	36	22
		L/240	-	-	-	-	-	-	-	-	15
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	411	277	199	115	76	53	39	30	19
		LRFD, ϕW	620	418	300	174	114	79	59	45	29
L/240		-	-	-	-	-	-	35	23	12	
L/180		-	-	-	-	-	-	-	-	16	
L/120		-	-	-	-	-	-	-	-	-	
24	Single Span	ASD, W/Ω	578	370	257	145	92	64	47	36	23
		LRFD, ϕW	917	587	408	229	147	102	75	57	37
		L/240	-	-	-	138	71	41	26	17	9
		L/180	-	-	-	-	-	54	34	23	12
		L/120	-	-	-	-	-	-	-	34	18
	Double Span	ASD, W/Ω	475	311	218	124	80	55	41	31	20
		LRFD, ϕW	715	467	329	187	120	83	62	47	30
		L/240	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	578	381	269	154	99	70	51	39	24
		LRFD, ϕW	871	574	405	232	149	105	77	58	37
L/240		-	-	-	-	-	-	48	32	17	
L/180		-	-	-	-	-	-	-	-	22	
L/120		-	-	-	-	-	-	-	-	-	



Table 3.2 (Cont'd) - Inward (Positive) Uniform Allowable Loads (Reversed Box Rib):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
22	Single Span	ASD, W/Ω	792	507	352	198	127	88	65	49	32
		LRFD, ϕW	1256	804	558	314	201	140	103	79	50
		L/240	-	-	-	174	89	52	32	22	11
		L/180	-	-	-	-	119	69	43	29	15
		L/120	-	-	-	-	-	-	-	44	22
	Double Span	ASD, W/Ω	676	440	309	176	113	79	57	43	28
		LRFD, ϕW	1017	662	465	264	170	118	87	66	43
		L/240	-	-	-	-	-	-	-	-	27
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	825	542	382	218	141	98	72	55	35
		LRFD, ϕW	1243	816	575	328	212	148	109	83	53
		L/240	-	-	-	-	-	97	61	41	21
		L/180	-	-	-	-	-	-	-	55	28
		L/120	-	-	-	-	-	-	-	-	-
20	Single Span	ASD, W/Ω	847	542	376	212	136	94	69	53	34
		LRFD, ϕW	1344	860	597	336	215	149	110	84	54
		L/240	-	-	-	212	108	63	39	26	14
		L/180	-	-	-	-	-	84	53	35	18
		L/120	-	-	-	-	-	-	-	53	27
	Double Span	ASD, W/Ω	717	470	331	188	122	84	62	48	30
		LRFD, ϕW	1080	707	498	283	183	127	94	72	45
		L/240	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	872	576	408	234	151	106	77	59	37
		LRFD, ϕW	1313	868	614	352	227	159	116	89	57
		L/240	-	-	-	-	-	-	75	50	26
		L/180	-	-	-	-	-	-	-	-	34
		L/120	-	-	-	-	-	-	-	-	-
18	Single Span	ASD, W/Ω	1094	700	486	273	175	122	89	68	44
		LRFD, ϕW	1735	1111	771	434	278	193	142	108	69
		L/240	-	-	-	273	140	81	51	34	17
		L/180	-	-	-	-	-	108	68	46	23
		L/120	-	-	-	-	-	-	-	68	35
	Double Span	ASD, W/Ω	953	626	441	251	162	113	83	64	40
		LRFD, ϕW	1435	942	663	378	244	170	125	96	61
		L/240	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	1157	767	543	312	202	140	103	79	50
		LRFD, ϕW	1743	1154	818	469	303	211	156	119	76
		L/240	-	-	-	-	-	-	96	64	33
		L/180	-	-	-	-	-	-	-	-	44
		L/120	-	-	-	-	-	-	-	-	-



Table 3.3 - Allowable Reactions at Supports (Reversed Box Rib):

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (P_n/Ω) (lbs/ft width)				LRFD (ϕP_n) (lbs/ft width)			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
29	End	158	182	203	n/a	242	279	310	n/a
	Interior	250	283	311	n/a	372	421	463	n/a
26	End	240	275	305	355	367	421	467	543
	Interior	382	430	471	539	568	640	700	802
24	End	347	396	436	505	531	605	668	773
	Interior	557	624	679	773	829	927	1010	1149
22	End	540	612	673	774	826	936	1029	1185
	Interior	874	972	1054	1193	1300	1446	1569	1774
20	End	610	688	754	865	933	1053	1154	1323
	Interior	994	1100	1190	1340	1479	1637	1770	1993
18	End	987	1107	1207	1376	1510	1693	1847	2106
	Interior	1625	1786	1922	2151	2417	2657	2859	3199



Table 3.4 - Outward (Negative) Uniform Allowable Loads (No. 29 gauge Reversed Box Rib):

Reversed Box Rib, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
				ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
Material / Grade	Thick-ness			W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	237	356	190	285	158	237	116	178	74	117	51	81	38	60	29	46	18	29
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	38	60	29	46	18	29
	12ga (.1050")	#12	36/5	237	356	190	285	158	237	116	178	74	117	51	81	38	60	29	46	18	29
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	38	60	29	46	18	29
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	74	117	51	81	38	60	29	46	18	29
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	38	60	29	46	18	29
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	74	117	51	81	38	60	29	46	18	29
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	18	29
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	237	356	190	285	158	237	116	178	74	117	51	81	38	60	29	46	18	29
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	38	60	29	46	18	29
	12ga (.1050")	#12	36/5	237	356	190	285	158	237	116	178	74	117	51	81	38	60	29	46	18	29
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	38	60	29	46	18	29
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	51	80	38	60	29	46	18	29
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	18	29
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	38	58	29	46	18	29
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	18	29
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	29	45	18	29
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
	Lumber (DFL)	#9	36/5	161	218	129	174	108	145	81	109	65	87	51	73	38	60	29	46	18	29
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	18	26
#14		36/5	221	298	177	238	147	199	110	149	74	117	51	81	38	60	29	46	18	29	
#14		36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	29	45	18	29	



Table 3.5 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge Reversed Box Rib):

Reversed Box Rib, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	296	443	236	355	197	296	148	222	108	171	75	119	55	87	42	67	27	37
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	42	66	27	37
	12ga (.1050")	#12	36/5	296	443	236	355	197	296	148	222	108	171	75	119	55	87	42	67	27	37
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	42	66	27	37
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	93	139	75	116	55	87	42	67	27	37
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	27	37
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	78	117	65	98	55	84	42	67	27	37
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/5	152	228	122	183	101	152	76	114	61	91	51	76	43	65	38	57	27	37
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/5	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	296	443	236	355	197	296	148	222	108	171	75	119	55	87	42	67	27	37
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	42	66	27	37
	12ga (.1050")	#12	36/5	241	361	193	289	161	241	120	181	96	145	75	119	55	87	42	67	27	37
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	27	37
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	27	37
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	37
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/5	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/5	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	27	37
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/5	221	298	177	238	147	199	110	149	88	119	74	99	55	85	42	67	27	37
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 3.6 - Outward (Negative) Uniform Allowable Loads (No. 24 gauge Reversed Box Rib):

Reversed Box Rib, 24ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
				ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
Material / Grade	Thick-ness			W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	314	471	251	377	209	314	157	236	116	183	80	127	59	94	45	72	29	46
		#12	36/3	189	283	151	226	126	189	94	141	75	113	63	94	54	81	45	71	29	46
	12ga (.1050")	#12	36/5	314	471	251	377	209	314	157	236	116	183	80	127	59	94	45	72	29	46
		#12	36/3	189	283	151	226	126	189	94	141	75	113	63	94	54	81	45	71	29	46
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	93	139	77	116	59	94	45	72	29	46
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	78	117	65	98	56	84	45	72	29	46
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/5	152	228	122	183	101	152	76	114	61	91	51	76	43	65	38	57	29	46
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/5	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	310	465	248	372	207	310	155	232	116	183	80	127	59	94	45	72	29	46
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	45	70	29	46
	12ga (.1050")	#12	36/5	241	361	193	289	161	241	120	181	96	145	80	120	59	94	45	72	29	46
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	29	46
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/5	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/5	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	29	44
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/5	221	298	177	238	147	199	110	149	88	119	74	99	59	85	45	72	29	46
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 3.7 - Outward (Negative) Uniform Allowable Loads (No. 22 gauge Reversed Box Rib):

Reversed Box Rib, 22ga																																							
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																																			
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																																			
				2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"																			
		Material / Grade	Thick-ness	ASD		LRFD		ASD		LRFD		ASD		LRFD		ASD		LRFD		ASD		LRFD		ASD		LRFD		ASD		LRFD									
W/Ω	φW			W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW										
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	398	597	319	478	265	398	199	299	158	239	110	174	81	128	62	98	40	63	239	358	191	287	159	239	119	179	96	143	80	119	68	102	60	90	40	63
		#12	36/3	348	522	278	418	232	348	174	261	139	209	110	174	81	128	62	98	40	63	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	40	63
	12ga (.1050")	#12	36/5	232	348	186	278	155	232	116	174	93	139	77	116	66	99	58	87	40	63	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
		#12	36/3	196	293	156	235	130	196	98	147	78	117	65	98	56	84	49	73	39	59	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	14ga (.0700")	#12	36/5	152	228	122	183	101	152	76	114	61	91	51	76	43	65	38	57	30	46	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	16ga (.0590")	#12	36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	310	465	248	372	207	310	155	232	124	186	103	155	81	128	62	98	40	63	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56
		#12	36/3	241	361	193	289	161	241	120	181	96	145	80	120	69	103	60	90	40	63	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	12ga (.1050")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	32	48	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	32	48
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	14ga (.0700")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
	16ga (.0590")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32
		#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19
18ga (.0459")	#12	36/5	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
20ga (.0354")	#12	36/5	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
22ga (.0294")	#12	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24	
	#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14	
Plywood & OSB	15/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	19/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	32	44	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	32	44
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
	#14	36/5	221	298	177	238	147	199	110	149	88	119	74	99	63	85	55	75	40	60	221	298	177	238	147	199	110	149	88	119	74	99	63	85	55	75	40	60	
		36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36	



Table 3.8 - Outward (Negative) Uniform Allowable Loads (No. 20 gauge Reversed Box Rib):

Reversed Box Rib, 20ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
				Attachment Spacing, (ft-in)																	
		Nom. Size	Attach. Pattern	2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
				ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW
Material / Grade	Thick-ness																				
		Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	406	608	325	487	270	406	203	304	162	243	118	187	86	137	66	105
#12	36/3			243	365	195	292	162	243	122	183	97	146	81	122	70	104	61	91	42	67
12ga (.1050")	#12		36/5	348	522	278	418	232	348	174	261	139	209	116	174	86	137	66	105	42	67
	#12		36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	63
14ga (.0700")	#12		36/5	232	348	186	278	155	232	116	174	93	139	77	116	66	99	58	87	42	67
	#12		36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
16ga (.0590")	#12		36/5	196	293	156	235	130	196	98	147	78	117	65	98	56	84	49	73	39	59
	#12		36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
18ga (.0459")	#12		36/5	152	228	122	183	101	152	76	114	61	91	51	76	43	65	38	57	30	46
	#12		36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
20ga (.0354")	#12		36/5	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	#12		36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
22ga (.0294")	#12		36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29
	#12		36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	310	465	248	372	207	310	155	232	124	186	103	155	86	133	66	105	42	67
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56
	12ga (.1050")	#12	36/5	241	361	193	289	161	241	120	181	96	145	80	120	69	103	60	90	42	67
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	32	48
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/5	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/5	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	32	44
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/5	221	298	177	238	147	199	110	149	88	119	74	99	63	85	55	75	42	60
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 3.9 - Outward (Negative) Uniform Allowable Loads (No. 18 gauge Reversed Box Rib):

Reversed Box Rib, 18ga																						
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																		
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																		
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"										
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD			
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW			
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	448	671	358	537	298	448	224	336	179	269	149	224	112	177	85	136	55	87	
		#12	36/3	269	403	215	322	179	269	134	201	107	161	90	134	77	115	67	101	54	81	
	12ga (.1050")	#12	36/5	348	522	278	418	232	348	174	261	139	209	116	174	99	149	85	131	55	87	
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	63	
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	93	139	77	116	66	99	58	87	46	70	
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42	
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	78	117	65	98	56	84	49	73	39	59	
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	310	465	248	372	207	310	155	232	124	186	103	155	89	133	77	116	55	87	
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56	
	12ga (.1050")	#12	36/5	241	361	193	289	161	241	120	181	96	145	80	120	69	103	60	90	48	72	
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43	
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	32	48	
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29	
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41	
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24	
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14	
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30	
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18	
	23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36	
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22	
	Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	32	44
			#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
#14			36/5	221	298	177	238	147	199	110	149	88	119	74	99	63	85	55	75	44	60	
#14			36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36	



Table 3.10 - Shear and Flexibility (No. 29 gauge Reversed Box Rib, 36/3):

29ga Reverse Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	249	405	250	406	249	404	248	403	248	403	248	402	247	402	247	402	230	368
	F	536.8		431.4		361.4		273.7		221.1		186.1		161.0		142.2		115.9	
8"	q	231	375	231	376	231	376	225	365	226	368	222	361	224	364	221	359	220	357
	F	538.4		433.2		363.0		275.8		223.1		188.4		163.2		144.6		118.4	
12"	q	213	346	218	355	205	334	201	326	198	321	196	318	194	315	193	313	191	311
	F	539.7		434.1		364.9		277.6		225.3		190.4		165.5		146.8		120.7	
24"	q	177	288	196	318	179	292	151	246	159	258	141	229	148	241	135	219	131	214
	F	541.9		435.6		366.7		281.5		228.4		195.3		169.6		152.4		126.7	
36"	q	177	288	155	252	137	223	151	246	129	210	112	182	126	204	113	184	114	185
	F	541.9		438.4		370.1		281.5		231.4		198.9		172.2		155.4		129.2	
48"	q	177	288	155	252	137	223	110	178	129	210	112	182	98	160	87	141	94	152
	F	541.9		438.4		370.1		286.0		231.4		198.9		176.4		160.2		133.0	
1 per span	q	177	288	155	252	137	223	110	178	88	143	72	117	62	100	54	88	43	70
	F	541.9		438.4		370.1		286.0		237.1		205.7		184.3		169.2		150.3	
none	q	103	168	81	131	66	107	47	76	36	58	29	47	25	40	22	35	17	28
	F	547.7		445.6		378.7		297.5		251.5		223.0		204.5		192.3		179.1	

Table 3.11 - Shear and Flexibility (No. 29 gauge Reversed Box Rib, 36/5):

29ga Reverse Box Rib 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	392	637	394	640	388	631	386	627	385	625	384	623	383	622	359	574	230	368
	F	38.1		32.4		28.9		24.3		21.6		19.8		18.5		17.5		16.1	
8"	q	336	545	335	544	335	544	315	513	319	519	308	500	312	506	303	493	230	368
	F	39.4		33.9		30.2		26.2		23.4		21.9		20.5		19.8		18.5	
12"	q	294	478	303	493	274	445	263	427	255	415	250	407	247	401	244	396	230	368
	F	40.3		34.6		31.8		27.6		25.2		23.7		22.6		21.7		20.6	
24"	q	230	373	258	419	227	370	182	296	191	310	164	266	173	281	154	251	149	241
	F	41.8		35.7		33.1		30.6		27.7		27.6		25.9		26.4		25.8	
36"	q	230	373	194	315	167	271	182	296	150	244	125	203	143	233	126	205	126	205
	F	41.8		37.6		35.3		30.6		30.0		30.3		28.0		28.7		27.9	
48"	q	230	373	194	315	167	271	126	205	150	244	125	203	107	174	94	152	101	164
	F	41.8		37.6		35.3		33.6		30.0		30.3		31.1		32.3		30.8	
1 per span	q	230	373	194	315	167	271	126	205	99	161	82	133	70	114	61	99	49	80
	F	41.8		37.6		35.3		33.6		33.7		34.8		36.3		38.3		42.7	
none	q	132	214	104	168	85	138	61	100	47	77	38	62	33	53	29	47	23	37
	F	44.8		41.4		39.9		39.7		41.4		44.0		47.1		50.6		58.1	



Table 3.12 - Shear and Flexibility (No. 26 gauge Reversed Box Rib, 36/3):

26ga Reverse Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	311	505	311	506	309	503	309	502	308	501	308	501	308	501	308	500	308	500
	F	313.1		252.2		211.7		161.0		130.6		110.3		95.8		84.9		69.7	
8"	q	287	467	288	467	288	468	279	454	282	458	276	449	279	453	275	446	274	445
	F	314.6		253.7		213.1		162.9		132.3		112.3		97.7		87.1		71.9	
12"	q	265	431	272	441	255	415	250	406	246	400	244	396	242	393	240	390	238	387
	F	315.7		254.5		214.8		164.4		134.3		114.2		99.8		89.1		74.0	
24"	q	221	358	244	396	223	363	188	306	198	321	175	285	185	300	168	273	164	266
	F	317.7		255.9		216.4		167.9		137.1		118.5		103.5		94.0		79.4	
36"	q	221	358	193	314	171	277	188	306	161	261	139	226	156	254	141	229	141	230
	F	317.7		258.4		219.5		167.9		139.8		121.8		105.8		96.7		81.7	
48"	q	221	358	193	314	171	277	137	222	161	261	139	226	122	199	108	175	117	189
	F	317.7		258.4		219.5		172.0		139.8		121.8		109.6		101.0		85.0	
1 per span	q	221	358	193	314	171	277	137	222	110	179	90	147	77	125	67	109	54	87
	F	317.7		258.4		219.5		172.0		144.8		127.9		116.7		109.1		100.5	
none	q	128	208	102	165	83	135	60	97	46	74	36	59	31	50	27	44	21	35
	F	322.9		264.9		227.2		182.3		157.8		143.4		134.8		129.8		126.4	

Table 3.13 - Shear and Flexibility (No. 26 gauge Reversed Box Rib, 36/5):

26ga Reverse Box Rib 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	488	793	490	796	483	785	480	780	479	778	477	776	477	775	476	773	319	510
	F	24.5		21.2		19.2		16.6		15.1		14.0		13.3		12.7		12.0	
8"	q	418	679	417	678	416	677	393	638	397	645	383	622	388	630	378	614	319	510
	F	25.6		22.5		20.4		18.3		16.7		15.9		15.1		14.8		14.1	
12"	q	366	595	377	613	341	554	327	531	318	517	312	506	307	499	304	493	299	485
	F	26.4		23.2		21.8		19.6		18.3		17.5		16.9		16.5		16.0	
24"	q	286	464	321	521	283	460	226	368	237	386	204	331	215	350	192	312	185	300
	F	27.8		24.2		23.0		22.2		20.6		21.0		20.0		20.7		20.6	
36"	q	286	464	241	392	207	337	226	368	187	304	156	254	178	289	157	255	157	256
	F	27.8		25.9		25.0		22.2		22.6		23.4		21.8		22.8		22.5	
48"	q	286	464	241	392	207	337	158	257	187	304	156	254	133	217	117	190	126	204
	F	27.8		25.9		25.0		24.9		22.6		23.4		24.6		26.0		25.1	
1 per span	q	286	464	241	392	207	337	158	257	125	202	102	166	87	141	76	124	61	99
	F	27.8		25.9		25.0		24.9		25.9		27.5		29.3		31.3		35.8	
none	q	165	268	130	211	107	173	77	126	60	97	48	78	41	66	36	58	29	46
	F	30.5		29.3		29.1		30.4		32.8		35.7		38.9		42.4		49.5	



Table 3.14 - Shear and Flexibility (No.24 gauge Reversed Box Rib, 36/3):

24ga Reverse Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	330	536	331	538	329	535	328	533	328	533	328	532	327	532	327	532	327	531
	F	152.8		123.5		104.2		79.9		65.3		55.5		48.6		43.4		36.1	
8"	q	305	496	306	497	306	497	297	483	299	487	294	477	296	481	292	474	291	473
	F	154.1		124.9		105.4		81.5		66.8		57.3		50.3		45.3		38.0	
12"	q	282	458	289	469	272	441	266	432	262	425	259	421	257	417	255	415	253	411
	F	155.0		125.6		106.9		82.8		68.5		58.9		52.1		47.0		39.8	
24"	q	234	381	259	421	237	386	200	325	210	342	186	303	196	319	179	290	174	283
	F	156.8		126.8		108.3		85.9		70.9		62.7		55.2		51.2		44.4	
36"	q	234	381	206	334	181	295	200	325	171	278	148	241	166	270	150	243	150	244
	F	156.8		129.0		110.9		85.9		73.2		65.5		57.2		53.6		46.4	
48"	q	234	381	206	334	181	295	145	236	171	278	148	241	130	212	115	186	124	201
	F	156.8		129.0		110.9		89.4		73.2		65.5		60.5		57.3		49.3	
1 per span	q	234	381	206	334	181	295	145	236	119	193	97	158	82	134	72	116	57	93
	F	156.8		129.0		110.9		89.4		77.6		70.7		66.6		64.3		62.7	
none	q	136	222	109	178	90	146	65	105	50	81	40	65	33	54	29	46	23	37
	F	161.2		134.5		117.6		98.3		88.8		84.1		82.2		82.1		85.0	

Table 3.15 - Shear and Flexibility (No. 24 gauge Reversed Box Rib, 36/5):

24ga Reverse Box Rib 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	518	843	521	846	513	834	511	830	509	827	508	825	507	823	506	822	490	784
	F	14.2		12.6		11.7		10.5		9.8		9.3		8.9		8.7		8.3	
8"	q	444	721	443	720	443	719	417	678	422	686	407	661	412	670	401	652	398	647
	F	15.2		13.7		12.8		11.9		11.1		10.9		10.5		10.4		10.2	
12"	q	389	632	401	652	363	589	347	565	338	549	331	538	326	530	323	524	317	516
	F	15.9		14.3		13.9		13.1		12.6		12.3		12.1		12.0		11.8	
24"	q	304	494	341	554	301	489	241	391	252	410	217	352	229	372	204	332	197	319
	F	17.0		15.2		15.0		15.3		14.5		15.3		14.7		15.6		15.8	
36"	q	304	494	256	417	221	358	241	391	199	323	167	272	189	308	167	271	167	272
	F	17.0		16.6		16.7		15.3		16.2		17.4		16.3		17.4		17.4	
48"	q	304	494	256	417	221	358	170	276	199	323	167	272	142	231	124	201	134	217
	F	17.0		16.6		16.7		17.7		16.2		17.4		18.7		20.1		19.7	
1 per span	q	304	494	256	417	221	358	170	276	134	218	110	179	93	151	81	132	65	105
	F	17.0		16.6		16.7		17.7		19.1		20.9		22.8		24.8		28.9	
none	q	177	288	140	227	115	187	84	136	65	106	53	86	44	71	38	62	30	49
	F	19.4		19.6		20.3		22.4		25.1		28.0		31.1		34.3		40.8	



Table 3.16 - Shear and Flexibility (No. 22 gauge Reversed Box Rib, 36/3):

22ga Reverse Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	418	680	419	681	417	677	416	676	416	675	415	675	415	674	415	674	414	674
	F	86.3		70.0		59.4		45.9		37.9		32.5		28.7		25.8		21.8	
8"	q	387	629	388	630	388	630	376	612	379	617	372	605	375	610	370	601	369	599
	F	87.4		71.2		60.5		47.4		39.2		34.1		30.2		27.5		23.5	
12"	q	357	580	366	594	344	559	337	547	332	539	328	533	325	529	323	526	321	521
	F	88.2		71.9		61.8		48.6		40.7		35.5		31.8		29.0		25.1	
24"	q	297	483	328	533	301	489	254	412	266	433	236	383	249	404	226	368	220	358
	F	89.8		72.9		63.0		51.3		42.9		38.9		34.6		32.8		29.2	
36"	q	297	483	260	423	230	374	254	412	217	352	188	305	211	342	190	308	191	310
	F	89.8		74.9		65.3		51.3		45.0		41.3		36.4		34.8		30.9	
48"	q	297	483	260	423	230	374	184	299	217	352	188	305	165	268	145	236	157	255
	F	89.8		74.9		65.3		54.4		45.0		41.3		39.3		38.2		33.5	
1 per span	q	297	483	260	423	230	374	184	299	152	247	125	203	105	171	91	148	73	118
	F	89.8		74.9		65.3		54.4		48.9		46.0		44.7		44.4		45.4	
none	q	173	281	140	228	115	187	84	136	65	105	52	85	43	70	36	59	29	47
	F	93.7		79.8		71.3		62.3		58.8		57.9		58.6		60.2		65.2	

Table 3.17 - Shear and Flexibility (No. 22 gauge Reversed Box Rib, 36/5):

22ga Reverse Box Rib 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	657	1068	660	1073	651	1057	647	1051	645	1048	643	1045	642	1043	641	1042	640	1040
	F	9.5		8.6		8.2		7.6		7.2		6.9		6.7		6.6		6.4	
8"	q	563	914	562	913	561	912	529	859	535	870	516	838	522	849	509	826	504	819
	F	10.4		9.6		9.1		8.8		8.4		8.4		8.1		8.2		8.0	
12"	q	493	801	508	826	459	747	440	716	428	696	420	682	414	672	409	664	402	653
	F	11.0		10.1		10.2		9.8		9.7		9.6		9.5		9.5		9.5	
24"	q	385	626	432	702	381	620	305	495	320	519	275	446	290	471	259	420	249	405
	F	12.1		10.9		11.1		11.9		11.4		12.3		11.9		12.7		13.0	
36"	q	385	626	325	528	279	454	305	495	252	410	213	347	240	390	212	344	212	344
	F	12.1		12.2		12.6		11.9		12.9		14.1		13.3		14.3		14.5	
48"	q	385	626	325	528	279	454	216	352	252	410	213	347	181	295	157	256	169	275
	F	12.1		12.2		12.6		13.9		12.9		14.1		15.4		16.8		16.5	
1 per span	q	385	626	325	528	279	454	216	352	171	278	141	229	119	194	103	167	82	133
	F	12.1		12.2		12.6		13.9		15.5		17.2		19.0		20.9		24.7	
none	q	225	365	178	290	147	239	108	175	84	136	68	111	57	92	48	79	39	63
	F	14.2		14.8		15.8		18.1		20.8		23.6		26.4		29.3		35.2	



Table 3.18 - Shear and Flexibility (No. 20 gauge Reversed Box Rib, 36/3):

20ga Reverse Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
Side Seam Spacing		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	426	693	427	694	425	690	424	689	423	688	423	687	423	687	423	687	422	686
	F	55.4		45.2		38.6		30.1		25.1		21.7		19.3		17.5		15.0	
8"	q	394	641	395	642	395	642	384	623	387	628	379	616	382	621	377	613	376	610
	F	56.4		46.3		39.5		31.4		26.3		23.2		20.7		19.0		16.5	
12"	q	364	591	373	606	351	570	343	557	338	549	334	543	332	539	330	535	327	531
	F	57.2		46.9		40.7		32.6		27.7		24.4		22.1		20.4		18.0	
24"	q	303	492	334	543	307	498	258	420	271	441	240	391	253	412	231	375	225	365
	F	58.6		47.8		41.9		35.0		29.6		27.5		24.7		23.9		21.7	
36"	q	303	492	265	431	234	381	258	420	221	359	191	311	215	349	193	314	194	316
	F	58.6		49.6		44.0		35.0		31.5		29.8		26.3		25.7		23.3	
48"	q	303	492	265	431	234	381	188	305	221	359	191	311	168	273	149	242	160	260
	F	58.6		49.6		44.0		37.8		31.5		29.8		28.9		28.7		25.7	
1 per span	q	303	492	265	431	234	381	188	305	155	252	128	208	108	176	94	152	74	120
	F	58.6		49.6		44.0		37.8		35.1		34.0		33.9		34.4		36.5	
none	q	176	286	144	233	118	192	86	140	67	109	54	88	45	73	38	62	29	48
	F	62.2		54.1		49.4		45.1		44.1		44.8		46.5		48.9		54.6	

Table 3.19 - Shear and Flexibility (No. 20 gauge Reversed Box Rib, 36/5):

20ga Reverse Box Rib 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
Side Seam Spacing		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	669	1088	672	1093	663	1077	659	1071	657	1067	655	1065	654	1063	653	1062	652	1060
	F	7.1		6.6		6.4		6.0		5.7		5.6		5.5		5.4		5.3	
8"	q	573	931	572	930	572	929	539	876	545	886	525	854	532	865	518	842	514	835
	F	8.0		7.5		7.2		7.1		6.9		6.9		6.7		6.8		6.8	
12"	q	502	817	518	842	468	761	449	729	436	709	428	695	421	685	417	677	410	666
	F	8.5		8.0		8.1		8.0		8.0		8.0		8.0		8.1		8.1	
24"	q	392	637	440	715	388	631	311	505	326	529	280	455	296	480	264	428	254	412
	F	9.5		8.7		9.0		9.9		9.6		10.5		10.2		11.0		11.3	
36"	q	392	637	331	538	285	463	311	505	257	417	218	354	244	397	217	352	216	351
	F	9.5		9.8		10.4		9.9		11.0		12.2		11.5		12.4		12.6	
48"	q	392	637	331	538	285	463	221	359	257	417	218	354	186	302	161	262	172	280
	F	9.5		9.8		10.4		11.8		11.0		12.2		13.4		14.7		14.5	
1 per span	q	392	637	331	538	285	463	221	359	175	285	144	235	122	199	106	172	84	136
	F	9.5		9.8		10.4		11.8		13.3		15.0		16.7		18.4		21.9	
none	q	229	372	183	297	151	245	111	180	86	140	70	114	59	96	50	82	39	64
	F	11.4		12.2		13.3		15.6		18.1		20.8		23.4		26.1		31.6	



Table 3.20 - Shear and Flexibility (No. 18 gauge Reversed Box Rib, 36/3):

18ga Reverse Box Rib 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n		
4"	q	553	898	554	900	551	895	550	893	549	892	548	891	548	891	548	890	548	890
	F	30.2		24.9		21.5		17.1		14.4		12.7		11.4		10.5		9.2	
8"	q	511	831	512	832	512	833	497	808	501	815	492	799	496	806	489	794	487	791
	F	31.1		25.9		22.3		18.2		15.5		14.0		12.6		11.8		10.6	
12"	q	472	767	483	785	455	739	445	722	438	712	433	704	430	699	427	694	423	688
	F	31.8		26.4		23.4		19.2		16.7		15.1		13.9		13.0		11.8	
24"	q	392	638	434	705	397	646	335	545	352	572	312	506	328	534	299	486	291	473
	F	33.0		27.2		24.4		21.4		18.5		17.8		16.2		16.1		15.1	
36"	q	392	638	344	559	304	494	335	545	286	465	248	403	278	452	250	407	252	409
	F	33.0		28.7		26.2		21.4		20.1		19.8		17.6		17.7		16.5	
48"	q	392	638	344	559	304	494	243	395	286	465	248	403	218	354	194	315	207	337
	F	33.0		28.7		26.2		23.8		20.1		19.8		19.9		20.4		18.6	
1 per span	q	392	638	344	559	304	494	243	395	201	327	168	272	142	231	123	200	96	156
	F	33.0		28.7		26.2		23.8		23.2		23.5		24.3		25.4		28.1	
none	q	228	371	188	305	155	251	113	184	88	143	72	117	60	97	51	83	39	63
	F	36.2		32.7		31.0		30.2		31.2		33.0		35.4		38.0		44.0	

Table 3.21 - Shear and Flexibility (No. 18 gauge Reversed Box Rib, 36/5):

18ga Reverse Box Rib 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n	ASD S _r /Ω	LRFD φS _n		
4"	q	868	1410	872	1417	859	1397	855	1389	852	1384	850	1381	848	1378	847	1376	845	1374
	F	5.0		4.7		4.6		4.4		4.3		4.3		4.2		4.2		4.1	
8"	q	743	1208	742	1206	741	1204	699	1135	707	1149	681	1107	690	1121	672	1092	666	1082
	F	5.7		5.5		5.4		5.5		5.3		5.4		5.3		5.4		5.4	
12"	q	652	1059	672	1091	607	986	582	945	566	919	555	901	546	888	540	878	531	863
	F	6.2		5.9		6.2		6.3		6.3		6.4		6.5		6.5		6.6	
24"	q	509	827	571	927	504	818	403	655	422	686	363	589	383	623	342	555	329	535
	F	7.0		6.5		6.9		7.9		7.7		8.6		8.3		9.1		9.4	
36"	q	509	827	429	697	369	600	403	655	333	541	283	459	317	515	281	457	280	455
	F	7.0		7.5		8.2		7.9		8.9		10.0		9.5		10.4		10.6	
48"	q	509	827	429	697	369	600	286	465	333	541	283	459	242	394	211	342	224	364
	F	7.0		7.5		8.2		9.5		8.9		10.0		11.2		12.3		12.2	
1 per span	q	509	827	429	697	369	600	286	465	229	372	189	307	160	260	139	226	109	177
	F	7.0		7.5		8.2		9.5		11.0		12.5		14.0		15.6		18.8	
none	q	297	482	239	388	197	320	145	235	114	185	93	151	78	127	67	109	51	83
	F	8.7		9.7		10.7		12.9		15.2		17.6		20.0		22.4		27.2	

4.0 Delta Rib

Figure 4.1 - Basic Dimensions and Panel Attachment (Delta Rib):

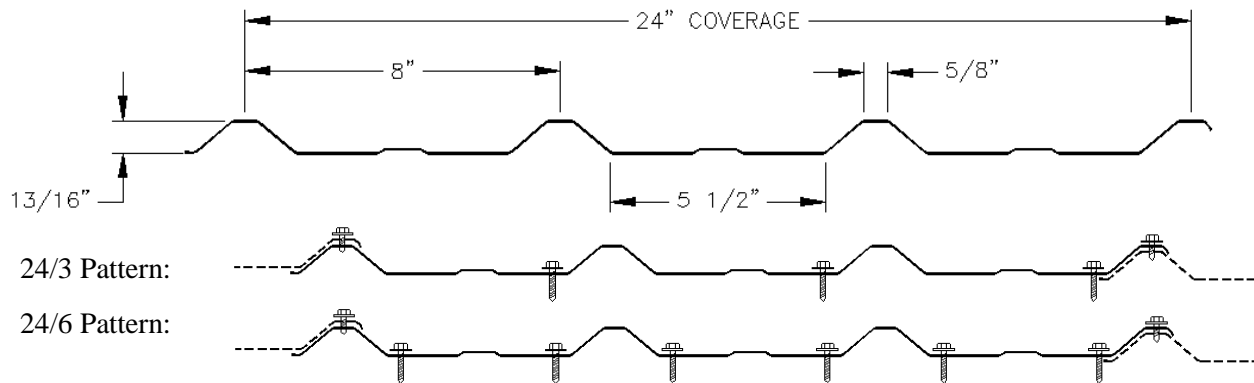


Table 4.1 - Section Properties (Delta Rib):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.67	0.0139	80	82	0.1967	0.0165	0.22	0.0277	0.0748
26	0.83	0.0173	80	82	0.2448	0.0210	0.23	0.0344	0.0924

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _{e+}	y _b	S _{e+}	I _{e-}	y _b	S _{e-}	I ₊	I ₋	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
29	0.0387	0.0165	0.19	0.0227	0.0130	0.35	0.0249	0.0165	0.0142
26	0.0539	0.0210	0.21	0.0320	0.0170	0.34	0.0314	0.0210	0.0183



Table 4.2 - Inward (Positive) Uniform Allowable Loads (Delta Rib):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			16"	2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	6' - 0"
29	Single Span	ASD, W/Ω	307	136	87	60	44	34	27	22	15
		LRFD, ϕW	488	216	138	96	70	54	43	35	24
		L/240	-	135	69	40	25	17	12	9	5
		L/180	-	-	-	53	34	23	16	12	7
		L/120	-	-	-	-	-	34	24	17	10
	Double Span	ASD, W/Ω	301	141	91	64	48	37	28	23	16
		LRFD, ϕW	453	213	138	97	72	55	43	35	24
		L/240	-	-	-	-	-	-	-	21	12
		L/180	-	-	-	-	-	-	-	-	16
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	360	173	113	80	59	46	36	29	20
		LRFD, ϕW	543	260	170	120	89	69	54	44	30
L/240		-	-	-	76	48	32	22	16	9	
L/180		-	-	-	-	-	43	30	22	13	
L/120		-	-	-	-	-	-	-	-	19	
26	Single Span	ASD, W/Ω	433	191	122	85	62	48	38	31	21
		LRFD, ϕW	686	304	194	135	99	76	60	49	34
		L/240	-	172	88	51	32	22	15	11	6
		L/180	-	-	117	68	43	29	20	15	8
		L/120	-	-	-	-	-	43	30	22	13
	Double Span	ASD, W/Ω	395	181	117	82	60	47	36	29	20
		LRFD, ϕW	594	273	176	123	90	70	55	44	31
		L/240	-	-	-	-	-	-	-	27	15
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	480	223	146	102	75	58	46	37	25
		LRFD, ϕW	723	336	219	153	113	87	69	56	38
L/240		-	-	-	96	61	41	29	21	12	
L/180		-	-	-	-	-	54	38	28	16	
L/120		-	-	-	-	-	-	-	-	24	

Table 4.3 - Allowable Reactions at Supports (Delta Rib):

Reactions at Supports based on Web Crippling			
Gauge	Condition	Bearing Length of Webs	
		ASD (P_n/Ω) (lbs/ft width)	LRFD (ϕP_n) (lbs/ft width)
		1.5"	1.5"
29	End	87	140
	Interior	56	90
26	End	164	263
	Interior	205	328



Table 4.4 - Outward (Negative) Uniform Allowable Loads (Delta Rib):

Delta Rib, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
				ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		Steel (Gr 50 min.)	≥10ga (.1350")	#12	24/6	510	809	227	359	145	230	101	160	74	117	57	90	45	71	36	56
#12	24/3			321	481	214	321	145	230	101	160	74	117	57	90	45	71	36	56	25	32
12ga (.1050")	#12		24/6	510	809	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
	#12		24/3	321	481	214	321	145	230	101	160	74	117	57	90	45	71	36	56	25	32
14ga (.0700")	#12		24/6	510	809	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
	#12		24/3	313	470	209	313	145	230	101	160	74	117	57	90	45	71	36	56	25	32
16ga (.0590")	#12		24/6	510	792	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
	#12		24/3	264	396	176	264	141	211	101	160	74	117	57	90	45	71	36	56	25	32
18ga (.0459")	#12		24/6	411	616	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
	#12		24/3	205	308	137	205	110	164	91	137	74	117	57	90	45	71	36	56	25	32
20ga (.0354")	#12		24/6	317	475	211	317	145	230	101	160	74	117	57	90	45	71	36	56	25	32
	#12		24/3	158	238	106	158	84	127	70	106	60	91	53	79	45	70	36	56	25	32
22ga (.0294")	#12		24/6	263	395	175	263	140	211	101	160	74	117	57	90	45	71	36	56	25	32
	#12		24/3	132	197	88	132	70	105	58	88	50	75	44	66	39	58	35	53	25	32
Steel (Gr 33 min.)	≥10ga (.1350")	#12	24/6	510	809	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
		#12	24/3	321	481	214	321	145	230	101	160	74	117	57	90	45	71	36	56	25	32
	12ga (.1050")	#12	24/6	510	809	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
		#12	24/3	321	481	214	321	145	230	101	160	74	117	57	90	45	71	36	56	25	32
	14ga (.0700")	#12	24/6	434	651	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
		#12	24/3	217	325	145	217	116	174	96	145	74	117	57	90	45	71	36	56	25	32
	16ga (.0590")	#12	24/6	366	548	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
		#12	24/3	183	274	122	183	97	146	81	122	70	104	57	90	45	71	36	56	25	32
	18ga (.0459")	#12	24/6	284	427	190	284	145	228	101	160	74	117	57	90	45	71	36	56	25	32
		#12	24/3	142	213	95	142	76	114	63	95	54	81	47	71	42	63	36	56	25	32
	20ga (.0354")	#12	24/6	219	329	146	219	117	175	97	146	74	117	57	90	45	71	36	56	25	32
		#12	24/3	110	165	73	110	58	88	49	73	42	63	37	55	32	49	29	44	24	32
	22ga (.0294")	#12	24/6	182	273	121	182	97	146	81	121	69	104	57	90	45	71	36	56	25	32
		#12	24/3	91	137	61	91	49	73	40	61	35	52	30	46	27	40	24	36	20	30
Plywood & OSB	15/32"	#14	24/6	236	318	157	212	126	170	101	141	74	117	57	90	45	71	36	56	25	32
		#14	24/3	118	159	79	106	63	85	52	71	45	61	39	53	35	47	31	42	25	32
	19/32"	#14	24/6	299	403	199	269	145	215	101	160	74	117	57	90	45	71	36	56	25	32
		#14	24/3	149	202	100	134	80	107	66	90	57	77	50	67	44	60	36	54	25	32
	23/32"	#14	24/6	361	488	227	325	145	230	101	160	74	117	57	90	45	71	36	56	25	32
		#14	24/3	181	244	120	163	96	130	80	108	69	93	57	81	45	71	36	56	25	32
Lumber (DFL)	1" min	#9	24/6	436	589	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
		#9	24/3	218	294	145	196	116	157	97	131	74	112	57	90	45	71	36	56	25	32
		#14	24/6	510	805	227	359	145	230	101	160	74	117	57	90	45	71	36	56	25	32
		#14	24/3	298	402	199	268	145	215	101	160	74	117	57	90	45	71	36	56	25	32



Table 4.5 - Outward (Negative) Uniform Allowable Loads (Delta Rib):

Delta Rib, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
				Attachment Spacing, (ft-in)																	
		Material / Grade	Thick-ness	Nom. Size	Attach. Pattern	16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"	
ASD W/Ω	LRFD φW					ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	24/6	717	1138	319	506	204	324	142	225	104	165	80	126	63	100	51	73	35	42
		#12	24/3	399	598	266	399	204	319	142	225	104	165	80	126	63	100	51	73	35	42
	12ga (.1050")	#12	24/6	717	1138	319	506	204	324	142	225	104	165	80	126	63	100	51	73	35	42
		#12	24/3	399	598	266	399	204	319	142	225	104	165	80	126	63	100	51	73	35	42
	14ga (.0700")	#12	24/6	627	940	319	506	204	324	142	225	104	165	80	126	63	100	51	73	35	42
		#12	24/3	313	470	209	313	167	251	139	209	104	165	80	126	63	100	51	73	35	42
	16ga (.0590")	#12	24/6	528	792	319	506	204	324	142	225	104	165	80	126	63	100	51	73	35	42
		#12	24/3	264	396	176	264	141	211	117	176	101	151	80	126	63	100	51	73	35	42
	18ga (.0459")	#12	24/6	411	616	274	411	204	324	142	225	104	165	80	126	63	100	51	73	35	42
		#12	24/3	205	308	137	205	110	164	91	137	78	117	68	103	61	91	51	73	35	42
	20ga (.0354")	#12	24/6	317	475	211	317	169	253	141	211	104	165	80	126	63	100	51	73	35	42
		#12	24/3	158	238	106	158	84	127	70	106	60	91	53	79	47	70	42	63	35	42
	22ga (.0294")	#12	24/6	263	395	175	263	140	211	117	175	100	150	80	126	63	100	51	73	35	42
		#12	24/3	132	197	88	132	70	105	58	88	50	75	44	66	39	58	35	53	29	42
Steel (Gr 33 min.)	≥10ga (.1350")	#12	24/6	717	1138	319	506	204	324	142	225	104	165	80	126	63	100	51	73	35	42
		#12	24/3	399	598	266	399	204	319	142	225	104	165	80	126	63	100	51	73	35	42
	12ga (.1050")	#12	24/6	651	976	319	506	204	324	142	225	104	165	80	126	63	100	51	73	35	42
		#12	24/3	325	488	217	325	174	260	142	217	104	165	80	126	63	100	51	73	35	42
	14ga (.0700")	#12	24/6	434	651	289	434	204	324	142	225	104	165	80	126	63	100	51	73	35	42
		#12	24/3	217	325	145	217	116	174	96	145	83	124	72	108	63	96	51	73	35	42
	16ga (.0590")	#12	24/6	366	548	244	366	195	292	142	225	104	165	80	126	63	100	51	73	35	42
		#12	24/3	183	274	122	183	97	146	81	122	70	104	61	91	54	81	49	73	35	42
	18ga (.0459")	#12	24/6	284	427	190	284	152	228	126	190	104	163	80	126	63	100	51	73	35	42
		#12	24/3	142	213	95	142	76	114	63	95	54	81	47	71	42	63	38	57	32	42
	20ga (.0354")	#12	24/6	219	329	146	219	117	175	97	146	84	125	73	110	63	97	51	73	35	42
		#12	24/3	110	165	73	110	58	88	49	73	42	63	37	55	32	49	29	44	24	37
	22ga (.0294")	#12	24/6	182	273	121	182	97	146	81	121	69	104	61	91	54	81	49	73	35	42
		#12	24/3	91	137	61	91	49	73	40	61	35	52	30	46	27	40	24	36	20	30
Plywood & OSB	15/32"	#14	24/6	236	318	157	212	126	170	105	141	90	121	79	106	63	94	51	73	35	42
		#14	24/3	118	159	79	106	63	85	52	71	45	61	39	53	35	47	31	42	26	35
	19/32"	#14	24/6	299	403	199	269	159	215	133	179	104	154	80	126	63	100	51	73	35	42
		#14	24/3	149	202	100	134	80	107	66	90	57	77	50	67	44	60	40	54	33	42
	23/32"	#14	24/6	361	488	241	325	193	260	142	217	104	165	80	126	63	100	51	73	35	42
		#14	24/3	181	244	120	163	96	130	80	108	69	93	60	81	54	72	48	65	35	42
Lumber (DFL)	1" min	#9	24/6	436	589	291	392	204	314	142	225	104	165	80	126	63	100	51	73	35	42
		#9	24/3	218	294	145	196	116	157	97	131	83	112	73	98	63	87	51	73	35	42
		#14	24/6	596	805	319	506	204	324	142	225	104	165	80	126	63	100	51	73	35	42
		#14	24/3	298	402	199	268	159	215	132	179	104	153	80	126	63	100	51	73	35	42



Table 4.6 - Shear and Flexibility (No. 29 gauge Delta Rib):

29ga Delta Rib 24/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
Side Seam Spacing		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	361	586	357	581	359	584	355	576	357	579	353	574	355	571	289	462	201	321
	F	17.1		15.0		14.0		13.7		13.1		13.0		12.7		12.6		12.3	
8"	q	320	520	308	501	309	502	310	503	310	504	294	477	296	481	289	462	201	321
	F	19.0		17.4		16.6		16.0		15.6		16.1		15.8		15.5		15.8	
12"	q	320	520	270	439	280	455	254	414	265	431	246	400	256	416	240	391	201	321
	F	19.0		19.2		17.9		18.8		17.9		18.7		17.9		18.7		18.8	
24"	q	267	434	207	336	237	386	210	341	187	305	169	274	194	316	179	291	154	251
	F	21.2		22.4		20.1		21.4		22.8		24.4		22.1		23.3		26.0	
36"	q	267	434	207	336	175	284	150	244	187	305	169	274	153	248	140	227	119	193
	F	21.2		22.4		24.2		26.2		22.8		24.4		26.0		27.7		31.2	
48"	q	267	434	207	336	175	284	150	244	131	213	116	189	153	248	140	227	119	193
	F	21.2		22.4		24.2		26.2		28.5		30.9		26.0		27.7		31.2	
1 per span	q	267	434	207	336	175	284	150	244	131	213	116	189	104	168	93	151	76	124
	F	21.2		22.4		24.2		26.2		28.5		30.9		33.3		35.8		40.9	
none	q	157	255	109	177	86	140	71	116	60	98	52	85	46	74	41	66	33	54
	F	26.5		30.5		34.2		38.3		42.6		47.0		51.4		55.9		65.1	

Table 4.7 - Shear and Flexibility (No. 26 gauge Delta Rib):

26ga Delta Rib 24/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
Side Seam Spacing		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	449	729	445	723	447	726	441	717	444	721	440	715	442	718	408	653	283	453
	F	12.4		11.3		10.7		10.6		10.3		10.3		10.0		10.1		9.9	
8"	q	398	647	384	624	385	625	385	626	386	627	366	594	368	599	371	602	283	453
	F	14.1		13.5		13.0		12.7		12.5		13.1		12.8		12.7		13.0	
12"	q	398	647	336	546	349	567	317	515	330	537	306	497	319	518	299	486	283	453
	F	14.1		15.0		14.2		15.2		14.5		15.4		14.8		15.6		15.7	
24"	q	332	540	257	418	295	480	261	425	233	379	210	341	242	393	223	362	192	312
	F	16.1		17.9		16.2		17.5		19.0		20.5		18.5		19.7		22.1	
36"	q	332	540	257	418	217	353	187	304	233	379	210	341	190	309	174	282	148	240
	F	16.1		17.9		19.8		21.9		19.0		20.5		22.0		23.6		26.8	
48"	q	332	540	257	418	217	353	187	304	163	266	145	236	190	309	174	282	148	240
	F	16.1		17.9		19.8		21.9		24.1		26.3		22.0		23.6		26.8	
1 per span	q	332	540	257	418	217	353	187	304	163	266	145	236	129	210	116	188	96	156
	F	16.1		17.9		19.8		21.9		24.1		26.3		28.6		30.9		35.5	
none	q	195	317	136	222	108	176	89	145	76	123	66	106	58	94	51	83	42	68
	F	20.9		25.2		28.8		32.7		36.7		40.7		44.8		48.9		57.2	

Note: Shear Tables 4.6 & 4.7 based on 24/3 attachment pattern. Values acceptable for use (conservative) for 24/6 attachment pattern.

5.0 Delta Rib III

Figure 5.1 - Basic Dimensions and Panel Attachment (Delta Rib III):

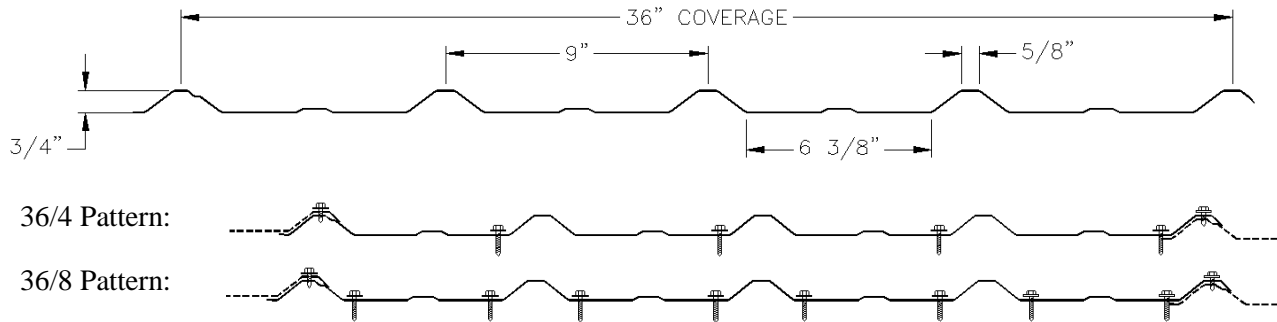


Table 5.1 - Section Properties (Delta Rib III):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.65	0.0139	80	82	0.1900	0.0127	0.19	0.0218	0.0681
26	0.80	0.0173	80	82	0.2365	0.0157	0.19	0.0270	0.0839

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _{e+}	y _b	S _{e+}	I _{e-}	y _b	S _{e-}	I ₊	I ₋	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
29	0.0273	0.0123	0.16	0.0179	0.0093	0.32	0.0191	0.0124	0.0104
26	0.0383	0.0157	0.17	0.0245	0.0123	0.31	0.0242	0.0157	0.0134



Table 5.2 - Inward (Positive) Uniform Allowable Load Table (Delta Rib III):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			16"	2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	6' - 0"
29	Single Span	ASD, W/Ω	242	107	68	48	35	27	21	17	12
		LRFD, ϕW	384	170	109	75	55	42	34	27	19
		L/240	-	102	52	30	19	13	9	7	4
		L/180	-	-	-	40	25	17	12	9	5
		L/120	-	-	-	-	-	25	18	13	8
	Double Span	ASD, W/Ω	238	110	71	49	36	28	22	17	12
		LRFD, ϕW	359	165	107	75	55	42	33	26	19
		L/240	-	-	-	-	-	-	22	16	9
		L/180	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	289	135	88	62	45	35	27	23	15
		LRFD, ϕW	435	204	133	93	68	53	41	34	23
		L/240	-	-	-	57	36	24	17	12	7
		L/180	-	-	-	-	-	32	23	16	10
		L/120	-	-	-	-	-	-	-	-	14
26	Single Span	ASD, W/Ω	332	147	94	65	48	37	29	24	16
		LRFD, ϕW	527	233	149	104	76	58	46	37	26
		L/240	-	128	66	38	24	16	11	8	5
		L/180	-	-	88	51	32	21	15	11	6
		L/120	-	-	-	-	48	32	23	16	10
	Double Span	ASD, W/Ω	310	141	90	63	46	36	28	23	16
		LRFD, ϕW	466	212	136	95	70	54	42	34	24
		L/240	-	-	-	-	-	-	27	20	11
		L/180	-	-	-	-	-	-	-	-	15
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	379	174	112	78	58	45	35	28	20
		LRFD, ϕW	570	262	169	118	87	67	53	42	30
		L/240	-	-	-	72	45	30	21	16	9
		L/180	-	-	-	-	-	40	28	21	12
		L/120	-	-	-	-	-	-	-	-	18

Table 5.3 - Allowable Reactions at Supports (Delta Rib III):

Reactions at Supports based on Web Crippling			
Gauge	Condition	Bearing Length of Webs	
		ASD (P_n/Ω) (lbs/ft width)	LRFD (ϕP_n) (lbs/ft width)
		1.5"	1.5"
29	End	54	86
	Interior	44	71
26	End	86	137
	Interior	90	144



Table 5.4 - Outward (Negative) Uniform Allowable Loads (Delta Rib III):

Delta Rib III, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				16"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	6'-0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/8	401	637	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#12	36/4	285	427	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
	12ga (.1050")	#12	36/8	401	637	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#12	36/4	285	427	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
	14ga (.0700")	#12	36/8	401	637	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#12	36/4	278	418	178	278	114	181	79	126	58	92	45	71	35	56	29	41	20	24
	16ga (.0590")	#12	36/8	401	637	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#12	36/4	235	352	156	235	114	181	79	126	58	92	45	71	35	56	29	41	20	24
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/8	401	637	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#12	36/4	285	427	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
	12ga (.1050")	#12	36/8	401	637	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#12	36/4	285	427	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
	14ga (.0700")	#12	36/8	386	578	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#12	36/4	193	289	129	193	103	154	79	126	58	92	45	71	35	56	29	41	20	24
	16ga (.0590")	#12	36/8	325	487	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#12	36/4	162	244	108	162	87	130	72	108	58	92	45	71	35	56	29	41	20	24
Plywood & OSB	15/32"	#14	36/8	209	283	140	189	112	151	79	126	58	92	45	71	35	56	29	41	20	24
		#14	36/4	105	141	70	94	56	75	47	63	40	54	35	47	31	42	28	38	20	24
	19/32"	#14	36/8	265	358	177	239	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#14	36/4	133	179	88	119	71	96	59	80	51	68	44	60	35	53	29	41	20	24
	23/32"	#14	36/8	321	434	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#14	36/4	161	217	107	145	86	116	71	96	58	83	45	71	35	56	29	41	20	24
	Lumber (DFL)	#9	36/8	388	523	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24
		#9	36/4	194	262	129	174	103	140	79	116	58	92	45	71	35	56	29	41	20	24
#14		36/8	401	637	178	283	114	181	79	126	58	92	45	71	35	56	29	41	20	24	
#14		36/4	265	358	177	238	114	181	79	126	58	92	45	71	35	56	29	41	20	24	



Table 5.5 - Outward (Negative) Uniform Allowable Loads (Delta Rib III):

Delta Rib III, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
				ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
Material / Grade	Thick-ness			W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/8	551	874	245	388	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	355	532	236	355	157	249	109	173	80	127	61	97	48	73	39	53	27	31
	12ga (.1050")	#12	36/8	551	874	245	388	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	355	532	236	355	157	249	109	173	80	127	61	97	48	73	39	53	27	31
	14ga (.0700")	#12	36/8	551	835	245	388	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	278	418	186	278	149	223	109	173	80	127	61	97	48	73	39	53	27	31
	16ga (.0590")	#12	36/8	469	704	245	388	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	235	352	156	235	125	188	104	156	80	127	61	97	48	73	39	53	27	31
	18ga (.0459")	#12	36/8	365	548	243	365	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	183	274	122	183	97	146	81	122	70	104	61	91	48	73	39	53	27	31
	20ga (.0354")	#12	36/8	282	422	188	282	150	225	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	141	211	94	141	75	113	63	94	54	80	47	70	42	63	38	53	27	31
	22ga (.0294")	#12	36/8	234	351	156	234	125	187	104	156	80	127	61	97	48	73	39	53	27	31
		#12	36/4	117	175	78	117	62	94	52	78	45	67	39	58	35	52	31	47	26	31
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/8	551	874	245	388	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	355	532	236	355	157	249	109	173	80	127	61	97	48	73	39	53	27	31
	12ga (.1050")	#12	36/8	551	868	245	388	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	289	434	193	289	154	231	109	173	80	127	61	97	48	73	39	53	27	31
	14ga (.0700")	#12	36/8	386	578	245	386	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	193	289	129	193	103	154	86	129	73	110	61	96	48	73	39	53	27	31
	16ga (.0590")	#12	36/8	325	487	217	325	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#12	36/4	162	244	108	162	87	130	72	108	62	93	54	81	48	72	39	53	27	31
	18ga (.0459")	#12	36/8	253	379	169	253	135	202	109	169	80	127	61	97	48	73	39	53	27	31
		#12	36/4	126	190	84	126	67	101	56	84	48	72	42	63	37	56	34	51	27	31
20ga (.0354")	#12	36/8	195	292	130	195	104	156	87	130	74	111	61	97	48	73	39	53	27	31	
	#12	36/4	97	146	65	97	52	78	43	65	37	56	32	49	29	43	26	39	22	31	
22ga (.0294")	#12	36/8	162	243	108	162	86	130	72	108	62	93	54	81	48	72	39	53	27	31	
	#12	36/4	81	121	54	81	43	65	36	54	31	46	27	40	24	36	22	32	18	27	
Plywood & OSB	15/32"	#14	36/8	209	283	140	189	112	151	93	126	80	108	61	94	48	73	39	53	27	31
		#14	36/4	105	141	70	94	56	75	47	63	40	54	35	47	31	42	28	38	23	31
	19/32"	#14	36/8	265	358	177	239	142	191	109	159	80	127	61	97	48	73	39	53	27	31
		#14	36/4	133	179	88	119	71	96	59	80	51	68	44	60	39	53	35	48	27	31
	23/32"	#14	36/8	321	434	214	289	157	231	109	173	80	127	61	97	48	73	39	53	27	31
		#14	36/4	161	217	107	145	86	116	71	96	61	83	54	72	48	64	39	53	27	31
Lumber (DFL)	1" min	#9	36/8	388	523	245	349	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#9	36/4	194	262	129	174	103	140	86	116	74	100	61	87	48	73	39	53	27	31
		#14	36/8	530	715	245	388	157	249	109	173	80	127	61	97	48	73	39	53	27	31
		#14	36/4	265	358	177	238	141	191	109	159	80	127	61	97	48	73	39	53	27	31



Table 5.6 – Shear and Flexibility (No. 29 gauge Delta Rib III, 36/4):

29ga Delta Rib III 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	327	531	324	527	325	528	322	523	323	525	321	521	294	470	238	381	165	264
	F	15.2		13.2		12.3		12.0		11.5		11.3		11.0		11.0		10.7	
8"	q	300	487	290	471	290	471	289	470	289	470	277	450	278	452	238	381	165	264
	F	16.3		14.6		13.9		13.4		13.0		13.3		13.0		12.8		12.9	
12"	q	300	487	262	425	268	436	247	402	255	414	239	388	246	401	233	379	165	264
	F	16.3		15.6		14.7		15.0		14.4		14.8		14.3		14.8		14.7	
24"	q	263	427	213	346	235	382	211	343	191	310	173	281	195	316	181	294	157	255
	F	17.4		17.3		15.9		16.5		17.2		18.0		16.7		17.4		19.0	
36"	q	263	427	213	346	183	297	159	259	191	310	173	281	158	257	145	236	124	202
	F	17.4		17.3		18.0		19.0		17.2		18.0		18.9		19.9		21.9	
48"	q	263	427	213	346	183	297	159	259	141	229	126	204	158	257	145	236	124	202
	F	17.4		17.3		18.0		19.0		20.2		21.4		18.9		19.9		21.9	
1 per span	q	263	427	213	346	183	297	159	259	141	229	126	204	113	184	103	167	85	138
	F	17.4		17.3		18.0		19.0		20.2		21.4		22.8		24.1		27.0	
none	q	179	291	129	210	106	172	88	144	75	122	65	106	57	93	51	83	42	68
	F	19.9		21.0		22.6		24.6		26.6		28.8		31.1		33.4		38.1	

Table 5.7 – Shear and Flexibility (No. 26 gauge Delta Rib III, 36/4):

26ga Delta Rib III 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	407	661	404	656	405	658	401	651	402	654	399	649	401	650	329	526	228	365
	F	10.9		9.9		9.3		9.2		8.9		8.8		8.7		8.7		8.5	
8"	q	373	607	361	586	360	586	360	585	360	585	344	560	346	562	329	526	228	365
	F	11.9		11.1		10.7		10.5		10.3		10.6		10.4		10.3		10.5	
12"	q	373	607	326	529	334	542	308	500	317	516	297	483	307	498	290	472	228	365
	F	11.9		12.0		11.4		11.9		11.5		12.0		11.6		12.1		12.1	
24"	q	327	532	265	430	292	475	263	427	237	385	215	350	242	394	225	365	196	318
	F	12.9		13.5		12.5		13.2		14.0		14.8		13.8		14.5		15.9	
36"	q	327	532	265	430	228	370	198	322	237	385	215	350	197	319	181	293	155	251
	F	12.9		13.5		14.4		15.5		14.0		14.8		15.7		16.7		18.5	
48"	q	327	532	265	430	228	370	198	322	175	284	156	254	197	319	181	293	155	251
	F	12.9		13.5		14.4		15.5		16.7		17.9		15.7		16.7		18.5	
1 per span	q	327	532	265	430	228	370	198	322	175	284	156	254	141	229	128	208	107	173
	F	12.9		13.5		14.4		15.5		16.7		17.9		19.2		20.5		23.1	
none	q	223	362	161	262	132	215	111	180	94	153	82	133	72	117	64	104	53	86
	F	15.1		16.8		18.6		20.5		22.5		24.5		26.6		28.7		33.0	

Note: Shear Tables 5.6 & 5.7 based on 36/4 attachment pattern. Values acceptable for use (conservative) for 36/8 attachment pattern.

6.0 HR-36®

Figure 6.1 - Basic Dimensions and Panel Attachment (HR-36):

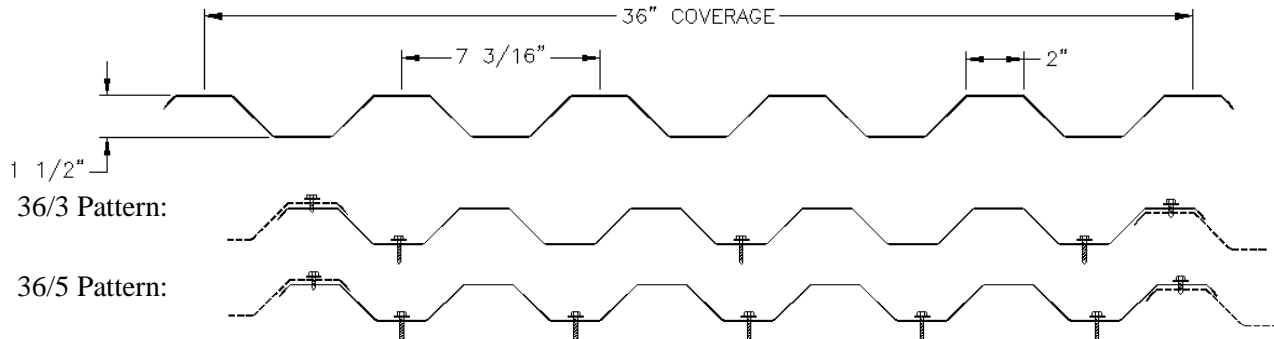


Table 6.1 - Section Properties (HR-36):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.72	0.0139	80	82	0.2103	0.0790	0.80	0.1113	0.0986
26	0.89	0.0173	80	82	0.2618	0.0987	0.81	0.1382	0.1224
24	1.19	0.0232	50	65	0.3510	0.1333	0.81	0.1846	0.1636
22	1.51	0.0294	50	65	0.4448	0.1667	0.81	0.2329	0.2066
20	1.82	0.0354	40	55	0.5356	0.2000	0.81	0.2793	0.2477
18	2.36	0.0459	40	55	0.6942	0.2600	0.82	0.3593	0.3190

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative				
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	I _d = (2I _e +I _g)/3	
A _e /ft	I _{e+}	y _b	S _{e+}	I _{e-}	y _b	S _{e-}	I ₊	I ₋	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
29	0.0655	0.0657	0.55	0.0502	0.0640	1.06	0.0418	0.0701	0.0690
26	0.0983	0.0840	0.63	0.0762	0.0817	1.01	0.0623	0.0889	0.0873
24	0.1782	0.1233	0.71	0.1272	0.1133	0.91	0.1132	0.1267	0.1200
22	0.2702	0.1567	0.72	0.1759	0.1567	0.90	0.1559	0.1600	0.1600
20	0.4012	0.2000	0.77	0.2371	0.2000	0.86	0.2095	0.2000	0.2000
18	0.6179	0.2600	0.80	0.3160	0.2600	0.84	0.2987	0.2600	0.2600



Table 6.2 - Inward (Positive) Uniform Allowable Loads (HR-36):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
29	Single Span	ASD, W/Ω	300	192	134	75	48	33	25	19	12
		LRFD, φW	477	305	212	119	76	53	39	30	19
		L/240	-	-	-	72	37	21	13	9	5
		L/180	-	-	-	-	-	28	18	12	6
		L/120	-	-	-	-	-	-	-	18	9
	Double Span	ASD, W/Ω	189	132	96	57	37	27	20	14	10
		LRFD, φW	286	199	145	86	57	40	30	22	15
		L/240	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	218	154	114	69	45	32	24	18	11
		LRFD, φW	329	233	172	104	69	49	36	28	18
		L/240	-	-	-	-	-	-	-	17	9
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
26	Single Span	ASD, W/Ω	456	292	203	114	73	51	37	29	18
		LRFD, φW	724	463	322	181	116	80	59	45	29
		L/240	-	-	-	91	47	27	17	11	6
		L/180	-	-	-	-	62	36	23	15	8
		L/120	-	-	-	-	-	-	34	23	12
	Double Span	ASD, W/Ω	301	205	149	87	57	40	29	22	14
		LRFD, φW	455	310	224	132	86	60	44	34	21
		L/240	-	-	-	-	-	-	-	-	14
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	351	244	178	107	70	49	36	28	18
		LRFD, φW	530	368	269	161	106	74	55	42	27
		L/240	-	-	-	-	-	-	32	21	11
		L/180	-	-	-	-	-	-	-	-	15
		L/120	-	-	-	-	-	-	-	-	-
24	Single Span	ASD, W/Ω	635	406	282	159	102	71	52	40	25
		LRFD, φW	1007	645	448	252	161	112	82	63	40
		L/240	-	-	-	130	66	38	24	16	8
		L/180	-	-	-	-	89	51	32	22	11
		L/120	-	-	-	-	-	-	48	32	17
	Double Span	ASD, W/Ω	505	335	237	136	88	61	45	35	22
		LRFD, φW	760	504	358	205	132	92	68	52	33
		L/240	-	-	-	-	-	-	-	-	20
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	605	406	290	168	109	76	56	44	27
		LRFD, φW	911	612	437	254	165	115	85	66	41
		L/240	-	-	-	-	-	73	46	31	16
		L/180	-	-	-	-	-	-	-	41	21
		L/120	-	-	-	-	-	-	-	-	-



Table 6.2 (Cont'd) - Inward (Positive) Uniform Allowable Loads (HR-36):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
22	Single Span	ASD, W/Ω	878	562	390	219	140	98	72	55	35
		LRFD, ϕW	1393	891	619	348	223	155	114	87	56
		L/240	-	-	388	164	84	49	31	20	10
		L/180	-	-	-	219	112	65	41	27	14
		L/120	-	-	-	-	-	97	61	41	21
	Double Span	ASD, W/Ω	715	471	332	189	122	85	63	48	30
		LRFD, ϕW	1077	709	500	285	183	129	95	72	46
		L/240	-	-	-	-	-	-	-	-	25
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	866	576	409	235	152	106	78	60	39
		LRFD, ϕW	1305	867	615	354	229	160	118	90	58
		L/240	-	-	-	-	-	92	58	39	20
		L/180	-	-	-	-	-	-	77	52	26
		L/120	-	-	-	-	-	-	-	-	-
20	Single Span	ASD, W/Ω	947	606	421	237	151	105	77	59	38
		LRFD, ϕW	1502	961	667	375	240	167	123	94	60
		L/240	-	-	-	205	105	61	38	26	13
		L/180	-	-	-	-	140	81	51	34	17
		L/120	-	-	-	-	-	-	76	51	26
	Double Span	ASD, W/Ω	778	510	360	205	131	92	68	51	33
		LRFD, ϕW	1172	768	541	308	198	138	102	78	49
		L/240	-	-	-	-	-	-	-	-	32
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	946	626	443	254	164	114	84	64	41
		LRFD, ϕW	1426	943	667	382	247	172	127	97	62
		L/240	-	-	-	-	-	-	72	48	25
		L/180	-	-	-	-	-	-	-	-	33
		L/120	-	-	-	-	-	-	-	-	-
18	Single Span	ASD, W/Ω	1261	807	561	315	202	140	103	79	50
		LRFD, ϕW	2001	1281	889	500	320	222	163	125	80
		L/240	-	-	-	266	136	79	50	33	17
		L/180	-	-	-	-	182	105	66	44	23
		L/120	-	-	-	-	-	-	99	67	34
	Double Span	ASD, W/Ω	1094	720	508	291	187	130	96	73	47
		LRFD, ϕW	1647	1084	765	438	282	196	145	111	71
		L/240	-	-	-	-	-	-	-	-	41
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	1322	880	625	360	233	163	120	92	59
		LRFD, ϕW	1992	1326	941	542	351	245	181	139	89
		L/240	-	-	-	-	-	149	94	63	32
		L/180	-	-	-	-	-	-	-	84	43
		L/120	-	-	-	-	-	-	-	-	-



Table 6.3 - Allowable Reactions at Supports (HR-36):

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (P_n/Ω) (lbs/ft width)				LRFD (ϕP_n) (lbs/ft width)			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
29	End	123	142	158	n/a	188	217	241	n/a
	Interior	203	230	253	n/a	302	342	376	n/a
26	End	188	215	239	278	287	330	365	425
	Interior	310	349	382	438	461	520	569	651
24	End	274	312	344	398	419	477	527	609
	Interior	453	507	552	628	674	754	821	934
22	End	428	485	533	614	655	742	815	939
	Interior	711	791	858	970	1058	1176	1276	1443
20	End	485	547	599	687	742	837	917	1052
	Interior	809	895	968	1090	1203	1331	1440	1621
18	End	788	883	964	1098	1205	1351	1474	1681
	Interior	1322	1454	1565	1751	1967	2163	2327	2604



Table 6.4 - Outward (Negative) Uniform Allowable Loads (No. 29 gauge HR-36):

HR-36, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	237	356	190	285	158	237	119	178	80	127	56	88	41	65	31	50	20	32
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	41	61	31	50	20	32
	12ga (.1050")	#12	36/5	237	356	190	285	158	237	119	178	80	127	56	88	41	65	31	50	20	32
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	41	61	31	50	20	32
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	80	127	56	88	41	65	31	50	20	32
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	31	50	20	32
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	78	117	56	88	41	65	31	50	20	32
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	20	32
18ga (.0459")	#12	36/5	152	228	122	183	101	152	76	114	61	91	51	76	41	65	31	50	20	32	
	#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27	
20ga (.0354")	#12	36/5	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	20	32	
	#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21	
22ga (.0294")	#12	36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
	#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	237	356	190	285	158	237	119	178	80	127	56	88	41	65	31	50	20	32
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	41	61	31	50	20	32
	12ga (.1050")	#12	36/5	237	356	190	285	158	237	119	178	80	127	56	88	41	65	31	50	20	32
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	41	61	31	50	20	32
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	41	65	31	50	20	32
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	31	50	20	32
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	20	32	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/5	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/5	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	20	30
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	31	45	20	32	
	#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22	
Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	41	62	31	50	20	32
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/5	221	298	177	238	147	199	110	149	80	119	56	88	41	65	31	50	20	32
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	31	45	20	32



Table 6.5 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge HR-36):

HR-36, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	296	443	236	355	197	296	148	222	118	177	85	134	62	99	48	75	30	43
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	44	66	30	43
	12ga (.1050")	#12	36/5	296	443	236	355	197	296	148	222	118	177	85	134	62	99	48	75	30	43
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	44	66	30	43
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	93	139	77	116	62	99	48	75	30	43
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	78	117	65	98	56	84	48	73	30	43
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
18ga (.0459")	#12	36/5	152	228	122	183	101	152	76	114	61	91	51	76	43	65	38	57	30	43	
	#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27	
20ga (.0354")	#12	36/5	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35	
	#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21	
22ga (.0294")	#12	36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
	#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	296	443	236	355	197	296	148	222	118	177	85	134	62	99	48	75	30	43
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	44	66	30	43
	12ga (.1050")	#12	36/5	241	361	193	289	161	241	120	181	96	145	80	120	62	99	48	75	30	43
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	30	43
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/5	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/5	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36	
	#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22	
Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	30	43
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/5	221	298	177	238	147	199	110	149	88	119	74	99	62	85	48	75	30	43
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 6.6 - Outward (Negative) Uniform Allowable Loads (No. 24 gauge HR-36):

HR-36, 24ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
				ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW		
Material / Grade	Thick-ness																				
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	314	471	251	377	209	314	157	236	126	189	88	140	65	103	50	79	32	50
		#12	36/3	189	283	151	226	126	189	94	141	75	113	63	94	54	81	47	71	32	50
	12ga (.1050")	#12	36/5	314	471	251	377	209	314	157	236	126	189	88	140	65	103	50	79	32	50
		#12	36/3	189	283	151	226	126	189	94	141	75	113	63	94	54	81	47	71	32	50
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	93	139	77	116	65	99	50	79	32	50
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	78	117	65	98	56	84	49	73	32	50
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
18ga (.0459")	#12	36/5	152	228	122	183	101	152	76	114	61	91	51	76	43	65	38	57	30	46	
	#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27	
20ga (.0354")	#12	36/5	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35	
	#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21	
22ga (.0294")	#12	36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
	#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	310	465	248	372	207	310	155	232	124	186	88	140	65	103	50	79	32	50
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	32	50
	12ga (.1050")	#12	36/5	241	361	193	289	161	241	120	181	96	145	80	120	65	103	50	79	32	50
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	32	48
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/5	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/5	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	32	44
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/5	221	298	177	238	147	199	110	149	88	119	74	99	63	85	50	75	32	50
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 6.7 - Outward (Negative) Uniform Allowable Loads (No. 22 gauge HR-36):

HR-36, 22ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
				ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
Material / Grade	Thick-ness																				
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	398	597	319	478	265	398	199	299	159	239	122	193	90	142	69	109	44	70
		#12	36/3	239	358	191	287	159	239	119	179	96	143	80	119	68	102	60	90	44	70
	12ga (.1050")	#12	36/5	348	522	278	418	232	348	174	261	139	209	116	174	90	142	69	109	44	70
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	63
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	93	139	77	116	66	99	58	87	44	70
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	78	117	65	98	56	84	49	73	39	59
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/5	152	228	122	183	101	152	76	114	61	91	51	76	43	65	38	57	30	46
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/5	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	310	465	248	372	207	310	155	232	124	186	103	155	89	133	69	109	44	70
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56
	12ga (.1050")	#12	36/5	241	361	193	289	161	241	120	181	96	145	80	120	69	103	60	90	44	70
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	32	48
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/5	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/5	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	32	44
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/5	221	298	177	238	147	199	110	149	88	119	74	99	63	85	55	75	44	60
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 6.8 - Outward (Negative) Uniform Allowable Loads (No. 20 gauge HR-36):

HR-36, 20ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	406	608	325	487	270	406	203	304	162	243	131	203	97	153	74	117	47	75
		#12	36/3	243	365	195	292	162	243	122	183	97	146	81	122	70	104	61	91	47	73
	12ga (.1050")	#12	36/5	348	522	278	418	232	348	174	261	139	209	116	174	97	149	74	117	47	75
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	63
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	93	139	77	116	66	99	58	87	46	70
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	78	117	65	98	56	84	49	73	39	59
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/5	152	228	122	183	101	152	76	114	61	91	51	76	43	65	38	57	30	46
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/5	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	310	465	248	372	207	310	155	232	124	186	103	155	89	133	74	116	47	75
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56
	12ga (.1050")	#12	36/5	241	361	193	289	161	241	120	181	96	145	80	120	69	103	60	90	47	72
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	32	48
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36	
	#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22	
Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	32	44
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/5	221	298	177	238	147	199	110	149	88	119	74	99	63	85	55	75	44	60
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 6.9 - Outward (Negative) Uniform Allowable Loads (No. 18 gauge HR-36):

HR-36, 18ga																						
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																		
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																		
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"										
				ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW			
Material / Grade	Thick-ness			2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/5	448	671	358	537	298	448	224	336	179	269	149	224	128	192	99	156	63	100	
		#12	36/3	269	403	215	322	179	269	134	201	107	161	90	134	77	115	67	101	54	81	
	12ga (.1050")	#12	36/5	348	522	278	418	232	348	174	261	139	209	116	174	99	149	87	131	63	100	
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	63	
	14ga (.0700")	#12	36/5	232	348	186	278	155	232	116	174	93	139	77	116	66	99	58	87	46	70	
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42	
	16ga (.0590")	#12	36/5	196	293	156	235	130	196	98	147	78	117	65	98	56	84	49	73	39	59	
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35	
	18ga (.0459")	#12	36/5	152	228	122	183	101	152	76	114	61	91	51	76	43	65	38	57	30	46	
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27	
	20ga (.0354")	#12	36/5	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35	
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21	
	22ga (.0294")	#12	36/5	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/5	310	465	248	372	207	310	155	232	124	186	103	155	89	133	77	116	62	93	
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56	
	12ga (.1050")	#12	36/5	241	361	193	289	161	241	120	181	96	145	80	120	69	103	60	90	48	72	
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43	
	14ga (.0700")	#12	36/5	161	241	129	193	107	161	80	120	64	96	54	80	46	69	40	60	32	48	
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29	
	16ga (.0590")	#12	36/5	135	203	108	162	90	135	68	102	54	81	45	68	39	58	34	51	27	41	
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
	18ga (.0459")	#12	36/5	105	158	84	126	70	105	53	79	42	63	35	53	30	45	26	40	21	32	
		#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
	20ga (.0354")	#12	36/5	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24	
		#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
	22ga (.0294")	#12	36/5	67	101	54	81	45	67	34	51	27	40	22	34	19	29	17	25	13	20	
		#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/5	87	118	70	94	58	79	44	59	35	47	29	39	25	34	22	29	17	24	
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14	
	19/32"	#14	36/5	111	149	88	119	74	100	55	75	44	60	37	50	32	43	28	37	22	30	
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18	
	23/32"	#14	36/5	134	181	107	145	89	120	67	90	54	72	45	60	38	52	33	45	27	36	
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22	
	Lumber (DFL)	1" min	#9	36/5	161	218	129	174	108	145	81	109	65	87	54	73	46	62	40	55	32	44
			#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
#14			36/5	221	298	177	238	147	199	110	149	88	119	74	99	63	85	55	75	44	60	
#14			36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36	



Table 6.10 - Shear and Flexibility (No. 29 gauge HR-36, 36/3):

29ga HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	249	405	250	406	249	404	248	403	248	403	248	402	247	402	247	402	229	366
	F	489.0		393.1		329.4		249.6		201.7		169.8		147.0		129.9		106.0	
8"	q	231	375	231	375	231	376	224	365	226	368	222	361	224	364	221	359	220	357
	F	490.7		394.9		331.0		251.7		203.7		172.1		149.2		132.4		108.5	
12"	q	213	346	218	354	205	333	201	326	198	321	196	318	194	315	193	313	191	311
	F	491.9		395.8		332.9		253.5		205.9		174.2		151.6		134.6		110.8	
24"	q	177	287	195	318	179	291	151	245	159	258	140	228	148	241	135	219	131	213
	F	494.3		397.4		334.8		257.5		209.1		179.2		155.7		140.2		116.9	
36"	q	177	287	155	251	137	222	151	245	129	209	112	181	125	204	113	183	113	184
	F	494.3		400.3		338.3		257.5		212.2		182.9		158.4		143.3		119.5	
48"	q	177	287	155	251	137	222	109	178	129	209	112	181	98	159	86	140	93	152
	F	494.3		400.3		338.3		262.3		212.2		182.9		162.7		148.2		123.3	
1 per span	q	177	287	155	251	137	222	109	178	87	142	72	116	61	100	54	87	43	70
	F	494.3		400.3		338.3		262.3		218.1		190.0		171.0		157.7		141.3	
none	q	102	165	80	129	65	105	46	75	35	57	28	46	24	39	21	34	17	28
	F	500.5		408.0		347.6		274.6		233.6		208.5		192.6		182.4		172.2	

Table 6.11 - Shear and Flexibility (No. 29 gauge HR-36, 36/5):

29ga HR-36 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	392	637	394	639	388	630	386	627	384	625	384	623	383	622	357	572	229	366
	F	29.6		25.6		23.1		19.9		18.0		16.7		15.7		15.1		14.1	
8"	q	335	544	335	544	334	543	315	512	319	518	307	499	311	506	303	493	229	366
	F	31.0		27.1		24.5		21.8		19.7		18.8		17.8		17.3		16.5	
12"	q	293	477	303	492	273	444	262	426	255	414	250	406	246	400	244	396	229	366
	F	31.9		27.8		26.0		23.2		21.6		20.6		19.9		19.3		18.6	
24"	q	228	371	257	417	226	368	181	294	190	309	163	265	173	280	154	250	148	241
	F	33.4		29.0		27.4		26.3		24.2		24.6		23.3		24.0		23.8	
36"	q	228	371	192	313	165	269	181	294	150	243	124	202	143	232	126	204	126	205
	F	33.4		30.9		29.7		26.3		26.5		27.3		25.4		26.4		25.9	
48"	q	228	371	192	313	165	269	125	203	150	243	124	202	106	173	93	151	100	163
	F	33.4		30.9		29.7		29.4		26.5		27.3		28.6		30.1		28.9	
1 per span	q	228	371	192	313	165	269	125	203	98	160	81	131	69	113	61	99	49	79
	F	33.4		30.9		29.7		29.4		30.3		32.0		34.0		36.3		41.2	
none	q	129	210	102	165	83	135	60	98	46	75	38	61	32	52	28	46	23	37
	F	36.7		34.9		34.6		35.8		38.4		41.7		45.3		49.2		57.4	



Table 6.12 - Shear and Flexibility (No. 26 gauge HR-36, 36/3):

26ga HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Side Seam Spacing		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	310	505	311	506	309	503	309	502	308	501	308	501	308	501	308	500	308	500
	F	285.4		229.9		193.1		146.9		119.2		100.8		87.6		77.7		63.9	
8"	q	287	466	288	467	288	468	279	454	282	458	276	449	278	453	275	446	274	445
	F	286.9		231.5		194.5		148.8		121.0		102.9		89.6		79.9		66.1	
12"	q	265	430	271	441	255	415	250	406	246	400	243	395	241	392	240	390	238	387
	F	288.0		232.3		196.2		150.4		123.0		104.7		91.7		81.9		68.2	
24"	q	220	357	243	395	223	362	188	305	197	321	175	284	184	299	168	273	163	265
	F	290.1		233.7		197.9		154.0		125.9		109.2		95.4		86.9		73.6	
36"	q	220	357	193	313	170	276	188	305	160	260	139	226	156	253	140	228	141	229
	F	290.1		236.3		201.1		154.0		128.7		112.5		97.8		89.7		76.0	
48"	q	220	357	193	313	170	276	136	221	160	260	139	226	122	198	107	174	116	189
	F	290.1		236.3		201.1		158.3		128.7		112.5		101.7		94.1		79.4	
1 per span	q	220	357	193	313	170	276	136	221	110	178	90	146	76	124	67	109	53	87
	F	290.1		236.3		201.1		158.3		133.9		118.9		109.1		102.6		95.5	
none	q	127	206	100	163	82	133	59	95	45	73	36	58	30	49	26	43	21	34
	F	295.6		243.3		209.4		169.3		147.8		135.5		128.4		124.7		123.2	

Table 6.13 - Shear and Flexibility (No. 26 gauge HR-36, 36/5):

26ga HR-36 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Side Seam Spacing		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	488	792	490	796	483	785	480	780	479	778	477	776	477	774	476	773	318	510
	F	19.5		17.2		15.8		14.0		12.9		12.1		11.6		11.2		10.7	
8"	q	417	677	416	677	416	676	392	637	397	645	382	621	388	630	377	613	318	510
	F	20.7		18.5		17.0		15.6		14.5		14.0		13.4		13.3		12.8	
12"	q	365	593	377	612	340	553	326	530	317	516	311	506	307	498	303	493	298	485
	F	21.5		19.2		18.4		17.0		16.2		15.6		15.3		15.0		14.7	
24"	q	284	462	320	519	282	458	225	366	236	384	203	330	215	349	191	311	184	300
	F	22.9		20.2		19.6		19.7		18.4		19.2		18.4		19.3		19.4	
36"	q	284	462	240	389	206	335	225	366	186	303	155	252	177	288	156	254	157	255
	F	22.9		21.9		21.7		19.7		20.5		21.7		20.3		21.4		21.3	
48"	q	284	462	240	389	206	335	157	255	186	303	155	252	132	215	116	188	125	203
	F	22.9		21.9		21.7		22.4		20.5		21.7		23.1		24.7		24.0	
1 per span	q	284	462	240	389	206	335	157	255	123	201	101	164	86	140	75	123	60	98
	F	22.9		21.9		21.7		22.4		24.0		25.9		28.0		30.2		35.0	
none	q	162	264	128	208	105	170	76	124	59	95	47	77	40	65	35	57	28	46
	F	25.8		25.5		26.1		28.2		31.2		34.5		38.1		41.8		49.5	



Table 6.14 - Shear and Flexibility (No. 24 gauge HR-36, 36/3):

24ga HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Side Seam Spacing		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	330	536	331	538	329	534	328	533	328	533	328	532	327	532	327	532	327	531
	F	139.4		112.8		95.1		73.0		59.7		50.9		44.6		39.8		33.2	
8"	q	305	496	306	497	306	497	297	483	299	486	294	477	296	481	292	474	291	473
	F	140.7		114.1		96.4		74.7		61.3		52.7		46.3		41.7		35.1	
12"	q	282	457	288	469	271	441	265	431	261	425	259	420	257	417	255	415	253	411
	F	141.7		114.9		97.9		76.0		63.0		54.3		48.1		43.4		36.9	
24"	q	234	380	259	420	237	385	200	324	210	341	186	302	196	318	178	290	174	282
	F	143.5		116.1		99.3		79.2		65.5		58.1		51.3		47.8		41.6	
36"	q	234	380	205	333	181	294	200	324	170	277	148	240	166	269	149	242	150	244
	F	143.5		118.3		102.1		79.2		67.9		61.0		53.4		50.2		43.6	
48"	q	234	380	205	333	181	294	145	235	170	277	148	240	130	211	114	185	124	201
	F	143.5		118.3		102.1		82.8		67.9		61.0		56.7		54.0		46.6	
1 per span	q	234	380	205	333	181	294	145	235	118	192	97	157	82	133	71	115	57	92
	F	143.5		118.3		102.1		82.8		72.4		66.5		63.1		61.3		60.5	
none	q	135	219	108	175	88	144	64	104	49	80	39	64	33	53	28	46	22	37
	F	148.3		124.3		109.2		92.4		84.4		80.8		79.8		80.4		84.4	

Table 6.15 - Shear and Flexibility (No. 24 gauge HR-36, 36/5):

24ga HR-36 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Side Seam Spacing		Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																	
		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	518	842	521	846	513	834	510	829	509	827	507	825	507	823	506	822	497	796
	F	11.7		10.6		10.0		9.1		8.6		8.3		8.1		7.9		7.6	
8"	q	443	720	443	719	442	719	417	677	422	686	407	661	412	669	401	652	398	646
	F	12.7		11.7		11.0		10.6		10.0		9.9		9.6		9.6		9.5	
12"	q	388	630	400	650	362	588	347	563	337	548	331	537	326	530	322	524	317	515
	F	13.4		12.3		12.2		11.7		11.5		11.3		11.2		11.2		11.1	
24"	q	302	491	340	552	300	487	239	389	251	408	216	351	228	371	204	331	196	318
	F	14.6		13.2		13.3		14.1		13.4		14.4		13.9		14.8		15.2	
36"	q	302	491	255	414	219	356	239	389	198	322	166	270	189	306	166	270	167	271
	F	14.6		14.7		15.1		14.1		15.2		16.5		15.5		16.7		16.8	
48"	q	302	491	255	414	219	356	168	273	198	322	166	270	141	229	123	200	133	216
	F	14.6		14.7		15.1		16.5		15.2		16.5		18.0		19.5		19.1	
1 per span	q	302	491	255	414	219	356	168	273	133	216	109	177	92	150	80	130	64	104
	F	14.6		14.7		15.1		16.5		18.2		20.1		22.2		24.3		28.6	
none	q	174	283	137	223	113	183	82	134	64	104	52	84	43	70	37	61	30	48
	F	17.1		17.8		18.8		21.5		24.5		27.6		30.9		34.3		41.1	



Table 6.16 - Shear and Flexibility (No. 22 gauge HR-36, 36/3):

22ga HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	418	680	419	681	417	677	416	676	416	675	415	675	415	674	415	674	414	673
	F	78.8		64.0		54.3		42.1		34.8		29.9		26.4		23.8		20.1	
8"	q	387	628	387	629	388	630	376	611	379	616	372	605	375	610	370	601	368	599
	F	79.9		65.2		55.4		43.6		36.1		31.5		27.9		25.5		21.8	
12"	q	357	580	365	594	344	559	336	546	331	538	328	533	325	529	323	525	320	521
	F	80.8		65.9		56.8		44.8		37.7		32.9		29.5		27.0		23.4	
24"	q	296	481	328	533	300	488	253	411	266	432	235	383	248	403	226	367	220	358
	F	82.4		67.0		58.0		47.6		39.9		36.3		32.4		30.8		27.6	
36"	q	296	481	259	422	229	372	253	411	216	351	187	304	210	341	189	307	190	309
	F	82.4		69.0		60.5		47.6		42.0		38.9		34.2		33.0		29.4	
48"	q	296	481	259	422	229	372	183	298	216	351	187	304	164	267	145	235	157	255
	F	82.4		69.0		60.5		50.8		42.0		38.9		37.2		36.4		32.0	
1 per span	q	296	481	259	422	229	372	183	298	151	245	124	201	105	170	90	147	72	117
	F	82.4		69.0		60.5		50.8		46.0		43.7		42.9		42.8		44.4	
none	q	171	278	138	224	113	184	82	134	64	104	51	83	43	69	36	58	28	46
	F	86.6		74.3		66.8		59.3		56.7		56.5		57.7		59.8		65.6	

Table 6.17 - Shear and Flexibility (No. 22 gauge HR-36, 36/5):

22ga HR-36 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	657	1067	660	1072	650	1057	647	1051	645	1047	643	1045	642	1043	641	1042	640	1040
	F	8.1		7.5		7.2		6.7		6.5		6.3		6.2		6.1		6.0	
8"	q	562	913	561	911	560	911	528	858	535	869	515	837	522	848	508	826	504	819
	F	9.0		8.5		8.1		8.0		7.7		7.8		7.6		7.6		7.6	
12"	q	492	799	507	824	458	745	439	714	427	694	419	681	413	671	408	664	402	653
	F	9.6		9.0		9.2		9.0		9.0		9.0		9.0		9.0		9.0	
24"	q	383	622	430	699	380	617	303	493	318	517	274	445	289	470	258	419	248	404
	F	10.7		9.8		10.1		11.1		10.8		11.8		11.4		12.3		12.6	
36"	q	383	622	323	524	277	451	303	493	251	408	212	345	239	388	211	343	211	343
	F	10.7		11.1		11.7		11.1		12.3		13.6		12.8		13.9		14.1	
48"	q	383	622	323	524	277	451	215	349	251	408	212	345	180	293	156	254	168	274
	F	10.7		11.1		11.7		13.2		12.3		13.6		15.0		16.4		16.2	
1 per span	q	383	622	323	524	277	451	215	349	169	275	139	227	118	192	102	166	81	132
	F	10.7		11.1		11.7		13.2		15.0		16.8		18.7		20.7		24.6	
none	q	221	360	175	285	144	235	106	172	82	134	67	109	56	91	48	77	38	61
	F	12.9		13.9		15.0		17.7		20.5		23.5		26.5		29.6		35.7	



Table 6.18 - Shear and Flexibility (No. 20 gauge HR-36, 36/3):

20ga HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	426	692	427	694	425	690	424	689	423	688	423	687	423	687	423	687	422	686
	F	50.7		41.4		35.3		27.7		23.1		20.0		17.8		16.2		13.9	
8"	q	394	640	395	641	395	642	383	623	387	628	379	616	382	621	377	612	375	610
	F	51.7		42.5		36.3		29.0		24.3		21.5		19.2		17.7		15.4	
12"	q	363	591	372	605	350	569	343	557	338	548	334	543	331	538	329	535	326	530
	F	52.5		43.1		37.6		30.1		25.7		22.8		20.7		19.1		16.9	
24"	q	302	490	334	543	306	497	258	419	271	440	240	390	253	411	230	374	224	364
	F	54.0		44.1		38.7		32.6		27.7		25.9		23.3		22.6		20.7	
36"	q	302	490	264	430	233	379	258	419	220	358	191	310	214	348	193	313	194	315
	F	54.0		45.9		40.9		32.6		29.7		28.2		24.9		24.5		22.3	
48"	q	302	490	264	430	233	379	187	303	220	358	191	310	168	272	148	241	160	259
	F	54.0		45.9		40.9		35.6		29.7		28.2		27.7		27.7		24.7	
1 per span	q	302	490	264	430	233	379	187	303	154	251	127	207	108	175	93	151	73	119
	F	54.0		45.9		40.9		35.6		33.3		32.6		32.8		33.6		36.0	
none	q	174	283	142	230	116	189	85	138	66	107	53	87	44	72	38	61	29	47
	F	57.9		50.8		46.7		43.3		43.0		44.3		46.4		49.0		55.4	

Table 6.19 - Shear and Flexibility (No. 20 gauge HR-36, 36/5):

20ga HR-36 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	669	1087	672	1092	663	1077	659	1071	657	1067	655	1065	654	1063	653	1061	652	1059
	F	6.2		5.8		5.7		5.4		5.3		5.2		5.1		5.0		5.0	
8"	q	572	930	571	929	571	928	538	874	545	885	525	853	532	864	518	841	513	834
	F	7.0		6.7		6.5		6.6		6.4		6.5		6.4		6.5		6.5	
12"	q	501	814	517	840	467	759	448	727	435	708	427	694	421	684	416	676	409	665
	F	7.6		7.2		7.5		7.5		7.6		7.6		7.7		7.7		7.8	
24"	q	390	633	439	713	387	629	309	502	324	527	279	453	295	479	263	427	253	411
	F	8.6		7.9		8.4		9.4		9.2		10.1		9.8		10.7		11.1	
36"	q	390	633	329	534	283	459	309	502	256	415	217	352	244	396	216	351	215	350
	F	8.6		9.1		9.8		9.4		10.6		11.9		11.1		12.2		12.4	
48"	q	390	633	329	534	283	459	219	356	256	415	217	352	185	300	160	261	172	279
	F	8.6		9.1		9.8		11.4		10.6		11.9		13.1		14.5		14.3	
1 per span	q	390	633	329	534	283	459	219	356	174	282	143	232	121	197	105	170	83	135
	F	8.6		9.1		9.8		11.4		13.0		14.8		16.5		18.3		22.0	
none	q	225	366	180	292	148	240	109	176	85	138	69	112	58	94	49	80	38	63
	F	10.6		11.7		12.8		15.4		18.1		20.8		23.6		26.4		32.1	



Table 6.20 - Shear and Flexibility (No. 18 gauge HR-36, 36/3):

18ga HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	553	898	554	900	551	895	550	893	549	892	548	891	548	891	548	890	548	890
	F	27.7		22.9		19.7		15.8		13.4		11.8		10.6		9.8		8.6	
8"	q	511	830	512	831	512	832	497	808	501	814	492	799	496	805	489	794	487	791
	F	28.6		23.8		20.6		16.9		14.5		13.0		11.8		11.1		10.0	
12"	q	471	766	483	785	454	738	444	722	438	711	433	704	430	698	427	694	423	688
	F	29.3		24.4		21.7		17.9		15.7		14.2		13.1		12.3		11.2	
24"	q	391	636	433	703	397	645	334	543	351	571	311	505	328	533	299	485	291	472
	F	30.6		25.2		22.7		20.1		17.4		16.9		15.4		15.4		14.6	
36"	q	391	636	343	557	302	492	334	543	285	464	247	402	278	451	250	406	251	408
	F	30.6		26.8		24.6		20.1		19.1		19.0		16.9		17.1		16.0	
48"	q	391	636	343	557	302	492	242	393	285	464	247	402	217	353	193	314	207	336
	F	30.6		26.8		24.6		22.7		19.1		19.0		19.3		19.9		18.1	
1 per span	q	391	636	343	557	302	492	242	393	200	325	167	271	141	229	122	198	95	155
	F	30.6		26.8		24.6		22.7		22.4		22.9		23.8		25.0		28.0	
none	q	226	367	185	301	153	248	112	181	87	141	71	115	59	96	50	82	38	62
	F	34.0		31.1		29.7		29.5		30.9		33.1		35.7		38.6		45.0	

Table 6.21 - Shear and Flexibility (No. 18 gauge HR-36, 36/5):

18ga HR-36 36/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	868	1410	872	1416	859	1396	854	1389	852	1384	850	1380	848	1378	847	1376	845	1374
	F	4.4		4.2		4.2		4.1		4.0		4.0		4.0		3.9		3.9	
8"	q	742	1206	741	1204	740	1203	698	1134	706	1148	681	1106	690	1121	671	1091	666	1082
	F	5.2		5.1		5.0		5.1		5.0		5.2		5.1		5.2		5.2	
12"	q	649	1055	670	1089	605	984	580	943	565	917	554	900	546	887	539	877	531	862
	F	5.7		5.5		5.8		5.9		6.1		6.2		6.2		6.3		6.4	
24"	q	505	821	569	924	502	815	401	651	421	684	361	587	382	621	341	554	328	533
	F	6.5		6.1		6.6		7.6		7.5		8.4		8.1		8.9		9.3	
36"	q	505	821	426	693	366	595	401	651	331	538	281	457	316	513	280	455	279	453
	F	6.5		7.2		7.8		7.6		8.7		9.9		9.3		10.2		10.4	
48"	q	505	821	426	693	366	595	284	462	331	538	281	457	241	392	209	340	223	362
	F	6.5		7.2		7.8		9.3		8.7		9.9		11.0		12.2		12.1	
1 per span	q	505	821	426	693	366	595	284	462	227	368	187	304	159	258	137	223	108	175
	F	6.5		7.2		7.8		9.3		10.9		12.4		14.0		15.6		18.9	
none	q	292	475	234	381	193	314	142	231	112	181	91	148	77	124	66	107	50	82
	F	8.3		9.4		10.5		12.9		15.3		17.8		20.2		22.7		27.7	

7.0 Reversed HR-36®

Figure 7.1 - Basic Dimensions and Panel Attachment (Reversed HR-36):

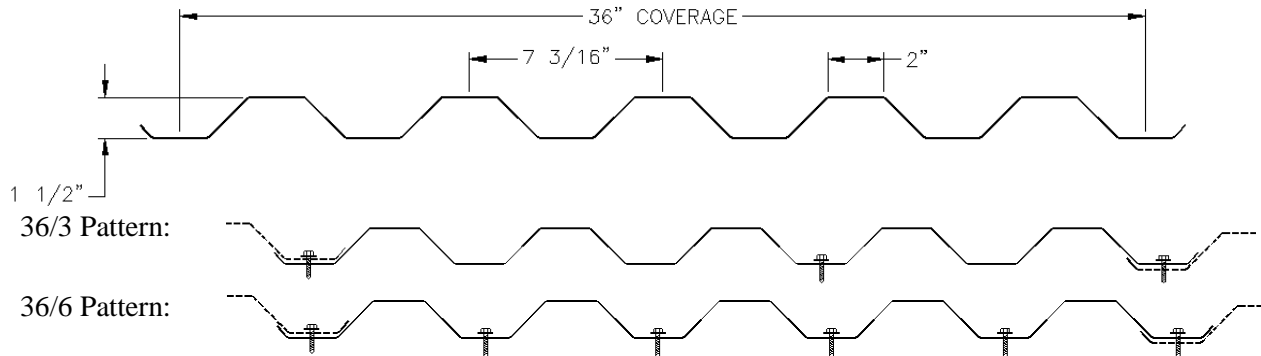


Table 7.1 - Section Properties (Reversed HR-36):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.72	0.0139	80	82	0.2103	0.0790	0.71	0.0986	0.1113
26	0.89	0.0173	80	82	0.2617	0.0983	0.71	0.1224	0.1382
24	1.20	0.0232	50	65	0.3530	0.1333	0.72	0.1635	0.1845
22	1.51	0.0294	50	65	0.4447	0.1667	0.72	0.2064	0.2328
20	1.82	0.0354	40	55	0.5354	0.2000	0.72	0.2477	0.2790
18	2.36	0.0459	40	55	0.6942	0.2600	0.73	0.3190	0.3593

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft in ²	I _{e+} in ⁴ /ft	y _b in	S _{e+} in ³ /ft	I _{e-} in ⁴ /ft	y _b in	S _{e-} in ³ /ft	I ₊ in ⁴ /ft	I ₋ in ⁴ /ft	
29	0.0661	0.0640	0.46	0.0421	0.0657	0.96	0.0506	0.0690	0.0701
26	0.0991	0.0817	0.51	0.0627	0.0840	0.89	0.0768	0.0872	0.0888
24	0.1796	0.1133	0.61	0.1135	0.1233	0.84	0.1277	0.1200	0.1267
22	0.2723	0.1567	0.64	0.1564	0.1567	0.79	0.1766	0.1600	0.1600
20	0.4039	0.2000	0.67	0.2102	0.2000	0.77	0.2379	0.2000	0.2000
18	0.6179	0.2600	0.71	0.2987	0.2600	0.74	0.3160	0.2600	0.2600



Table 7.2 - Inward (Positive) Uniform Allowable Load Table (Reversed HR-36):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
29	Single Span	ASD, W/ Ω	252	161	112	63	40	28	21	16	10
		LRFD, ϕW	400	256	178	100	64	44	33	25	16
		L/240	-	-	-	-	36	21	13	9	5
		L/180	-	-	-	-	-	28	18	12	6
		L/120	-	-	-	-	-	-	-	-	9
	Double Span	ASD, W/ Ω	210	149	110	67	44	31	23	18	11
		LRFD, ϕW	318	225	167	101	67	47	35	27	17
		L/240	-	-	-	-	-	-	-	-	11
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/ Ω	237	171	129	79	53	38	29	22	14
		LRFD, ϕW	359	259	195	120	81	58	44	33	21
L/240		-	-	-	-	-	-	25	17	9	
L/180		-	-	-	-	-	-	-	-	11	
L/120		-	-	-	-	-	-	-	-	-	
26	Single Span	ASD, W/ Ω	375	240	167	94	60	42	31	23	15
		LRFD, ϕW	596	381	265	149	95	66	49	37	24
		L/240	-	-	-	89	46	26	17	11	6
		L/180	-	-	-	-	-	35	22	15	8
		L/120	-	-	-	-	-	-	-	22	11
	Double Span	ASD, W/ Ω	342	239	175	104	68	49	35	27	18
		LRFD, ϕW	517	361	264	157	103	73	54	41	27
		L/240	-	-	-	-	-	-	-	27	14
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/ Ω	392	279	207	126	84	60	44	34	22
		LRFD, ϕW	593	421	313	190	127	90	67	51	33
L/240		-	-	-	-	-	50	31	21	11	
L/180		-	-	-	-	-	-	42	28	14	
L/120		-	-	-	-	-	-	-	-	22	
24	Single Span	ASD, W/ Ω	567	363	252	142	91	63	46	35	23
		LRFD, ϕW	899	575	399	225	144	100	73	56	36
		L/240	-	-	-	123	63	36	23	15	8
		L/180	-	-	-	-	84	49	31	20	10
		L/120	-	-	-	-	-	-	46	31	16
	Double Span	ASD, W/ Ω	555	371	265	153	99	69	50	39	25
		LRFD, ϕW	836	559	399	230	149	104	76	59	38
		L/240	-	-	-	-	-	-	-	37	19
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/ Ω	659	448	322	189	123	86	64	48	31
		LRFD, ϕW	994	675	485	284	185	129	96	73	47
L/240		-	-	-	-	119	69	43	29	15	
L/180		-	-	-	-	-	-	58	39	20	
L/120		-	-	-	-	-	-	-	-	30	



Table 7.2 (Cont'd) - Inward (Positive) Uniform Allowable Load Table (Reversed HR-36):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
22	Single Span	ASD, W/Ω	780	499	347	195	125	87	64	49	31
		LRFD, ϕW	1238	792	550	310	198	138	101	77	50
		L/240	-	-	-	164	84	49	31	20	10
		L/180	-	-	-	-	112	65	41	27	14
		L/120	-	-	-	-	-	-	61	41	21
	Double Span	ASD, W/Ω	794	526	373	214	138	97	71	54	35
		LRFD, ϕW	1195	791	561	322	208	145	107	81	53
		L/240	-	-	-	-	-	-	-	49	25
		L/180	-	-	-	-	-	-	-	-	34
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	953	639	456	264	171	119	88	67	43
		LRFD, ϕW	1436	963	687	397	258	180	133	102	65
		L/240	-	-	-	-	158	92	58	39	20
		L/180	-	-	-	-	-	-	77	52	26
		L/120	-	-	-	-	-	-	-	-	40
20	Single Span	ASD, W/Ω	839	537	373	210	134	93	69	52	34
		LRFD, ϕW	1331	852	592	333	213	148	109	83	53
		L/240	-	-	-	205	105	61	38	26	13
		L/180	-	-	-	-	-	81	51	34	17
		L/120	-	-	-	-	-	-	-	51	26
	Double Span	ASD, W/Ω	867	572	404	231	149	104	76	58	38
		LRFD, ϕW	1306	861	608	348	224	156	115	88	57
		L/240	-	-	-	-	-	-	-	-	32
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	1046	698	496	286	185	129	96	73	47
		LRFD, ϕW	1576	1051	747	430	278	194	144	110	71
		L/240	-	-	-	-	-	115	72	48	25
		L/180	-	-	-	-	-	-	-	64	33
		L/120	-	-	-	-	-	-	-	-	-
18	Single Span	ASD, W/Ω	1192	763	530	298	191	132	97	75	48
		LRFD, ϕW	1892	1211	841	473	303	210	154	118	76
		L/240	-	-	-	266	136	79	50	33	17
		L/180	-	-	-	-	182	105	66	44	23
		L/120	-	-	-	-	-	-	-	67	34
	Double Span	ASD, W/Ω	1146	758	536	307	198	138	102	78	50
		LRFD, ϕW	1726	1140	807	461	298	208	153	117	75
		L/240	-	-	-	-	-	-	-	-	41
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	1381	923	658	380	246	172	127	97	62
		LRFD, ϕW	2081	1390	990	571	370	259	191	146	93
		L/240	-	-	-	-	-	149	94	63	32
		L/180	-	-	-	-	-	-	125	84	43
		L/120	-	-	-	-	-	-	-	-	-



Table 7.3 - Allowable Reactions at Supports (Reversed HR-36):

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (P_n/Ω) (lbs/ft width)				LRFD (ϕP_n) (lbs/ft width)			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
29	End	123	142	158	n/a	188	217	241	n/a
	Interior	203	230	253	n/a	302	342	376	n/a
26	End	188	215	239	278	287	330	365	425
	Interior	310	349	382	438	461	520	569	651
24	End	274	312	344	398	419	477	527	609
	Interior	453	507	552	628	674	754	821	934
22	End	428	485	533	614	655	742	815	939
	Interior	711	791	858	970	1058	1176	1276	1443
20	End	485	547	599	687	742	837	917	1052
	Interior	809	895	968	1090	1203	1331	1440	1621
18	End	788	883	964	1098	1205	1351	1474	1681
	Interior	1322	1454	1565	1751	1967	2163	2327	2604



Table 7.4 - Outward (Negative) Uniform Allowable Loads (No. 29 gauge Reversed HR-36):

Reversed HR-36, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	285	427	228	342	187	285	105	167	67	107	47	74	34	54	26	42	17	27
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	34	54	26	42	17	27
	12ga (.1050")	#12	36/6	285	427	228	342	187	285	105	167	67	107	47	74	34	54	26	42	17	27
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	34	54	26	42	17	27
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	105	167	67	107	47	74	34	54	26	42	17	27
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	34	54	26	42	17	27
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	105	167	67	107	47	74	34	54	26	42	17	27
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	26	42	17	27
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	67	107	47	74	34	54	26	42	17	27
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	17	27
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	34	54	26	42	17	27
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	26	42	17	27
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	285	427	228	342	187	285	105	167	67	107	47	74	34	54	26	42	17	27
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	34	54	26	42	17	27
	12ga (.1050")	#12	36/6	285	427	228	342	187	285	105	167	67	107	47	74	34	54	26	42	17	27
		#12	36/3	142	214	114	171	95	142	71	107	57	85	47	71	34	54	26	42	17	27
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	67	107	47	74	34	54	26	42	17	27
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	17	27
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	47	74	34	54	26	42	17	27
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	34	54	26	42	17	27	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	17	27	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	17	27
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	34	51	26	42	17	27
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	47	72	34	54	26	42	17	27
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	67	105	47	74	34	54	26	42	17	27
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	17	26
		#14	36/6	265	358	212	286	177	238	105	167	67	107	47	74	34	54	26	42	17	27
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	34	51	26	42	17	27



Table 7.5 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge Reversed HR-36):

Reversed HR-36, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	355	532	284	426	236	355	156	248	100	159	70	110	51	81	39	62	25	40
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	39	62	25	40
	12ga (.1050")	#12	36/6	355	532	284	426	236	355	156	248	100	159	70	110	51	81	39	62	25	40
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	39	62	25	40
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	100	159	70	110	51	81	39	62	25	40
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	25	40
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	70	110	51	81	39	62	25	40
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	51	78	39	62	25	40
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	25	40
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	355	532	284	426	236	355	156	248	100	159	70	110	51	81	39	62	25	40
		#12	36/3	177	266	142	213	118	177	89	133	71	106	59	89	51	76	39	62	25	40
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	100	159	70	110	51	81	39	62	25	40
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	25	40
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	51	81	39	62	25	40
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	39	61	25	40
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
	18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38
		#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19
20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	25	36
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	39	54	25	40
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	51	75	39	62	25	40
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/6	265	358	212	286	177	238	132	179	100	143	70	110	51	81	39	62	25	40
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	25	36



Table 7.6 - Outward (Negative) Uniform Allowable Loads (No. 24 gauge Reversed HR-36):

Reversed HR-36, 24ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	377	566	302	452	251	377	177	281	113	180	79	125	58	92	44	70	28	45
		#12	36/3	189	283	151	226	126	189	94	141	75	113	63	94	54	81	44	70	28	45
	12ga (.1050")	#12	36/6	377	566	302	452	251	377	177	281	113	180	79	125	58	92	44	70	28	45
		#12	36/3	189	283	151	226	126	189	94	141	75	113	63	94	54	81	44	70	28	45
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	111	167	79	125	58	92	44	70	28	45
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	78	117	58	92	44	70	28	45
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	52	78	44	68	28	45
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	28	42
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	248	372	177	279	113	180	79	125	58	92	44	70	28	45
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	44	70	28	45
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	113	174	79	125	58	92	44	70	28	45
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	28	43
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	55	83	44	70	28	45
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	41	61	28	45
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	27	36
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	40	54	28	43
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	55	75	44	65	28	45
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/6	265	358	212	286	177	238	132	179	106	143	79	119	58	92	44	70	28	45
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 7.7 - Outward (Negative) Uniform Allowable Loads (No. 22 gauge Reversed HR-36):

Reversed HR-36, 22ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	478	717	382	573	319	478	239	358	156	248	108	172	80	126	61	97	39	62
		#12	36/3	239	358	191	287	159	239	119	179	96	143	80	119	68	102	60	90	39	62
	12ga (.1050")	#12	36/6	418	627	334	501	278	418	209	313	156	248	108	172	80	126	61	97	39	62
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	39	62
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	111	167	93	139	80	119	61	97	39	62
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	78	117	67	101	59	88	39	62
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	52	78	46	68	37	55	
	#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27	
20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	28	42	
	#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21	
22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35	
	#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	248	372	186	279	149	223	108	172	80	126	61	97	39	62
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	116	174	96	145	80	124	61	97	39	62
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	55	83	48	72	39	58
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	41	61	32	49
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29	
	#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24	
	#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	27	36
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	40	54	32	43	
	#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22	
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	55	75	48	65	39	52
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/6	265	358	212	286	177	238	132	179	106	143	88	119	76	102	61	89	39	62
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 7.8 - Outward (Negative) Uniform Allowable Loads (No. 20 gauge Reversed HR-36):

Reversed HR-36, 20ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	487	730	389	584	325	487	243	365	168	266	117	185	86	136	66	104	42	67
		#12	36/3	243	365	195	292	162	243	122	183	97	146	81	122	70	104	61	91	42	67
	12ga (.1050")	#12	36/6	418	627	334	501	278	418	209	313	167	251	117	185	86	136	66	104	42	67
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	63
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	111	167	93	139	80	119	66	104	42	67
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	78	117	67	101	59	88	42	67
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	52	78	46	68	37	55
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	28	42
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	248	372	186	279	149	223	117	185	86	136	66	104	42	67
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	116	174	96	145	83	124	66	104	42	67
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	55	83	48	72	39	58
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	41	61	32	49
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
	18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38
		#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19
	20ga (.0354")	#12	36/6	97	146	78	117	65	97	49	73	39	58	32	49	28	42	24	37	19	29
		#12	36/3	49	73	39	58	32	49	24	37	19	29	16	24	14	21	12	18	10	15
	22ga (.0294")	#12	36/6	81	121	65	97	54	81	40	61	32	49	27	40	23	35	20	30	16	24
		#12	36/3	40	61	32	49	27	40	20	30	16	24	13	20	12	17	10	15	8	12
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	27	36
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	40	54	32	43
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	55	75	48	65	39	52
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/6	265	358	212	286	177	238	132	179	106	143	88	119	76	102	66	89	42	67
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 7.9 - Outward (Negative) Uniform Allowable Loads (No. 18 gauge Reversed HR-36):

Reversed HR-36, 18ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	537	806	430	644	358	537	269	403	215	322	166	263	122	193	93	148	60	95
		#12	36/3	269	403	215	322	179	269	134	201	107	161	90	134	77	115	67	101	54	81
	12ga (.1050")	#12	36/6	418	627	334	501	278	418	209	313	167	251	139	209	119	179	93	148	60	95
		#12	36/3	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	63
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	139	209	111	167	93	139	80	119	70	104	56	84
		#12	36/3	139	209	111	167	93	139	70	104	56	84	46	70	40	60	35	52	28	42
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	117	176	94	141	78	117	67	101	59	88	47	70
		#12	36/3	117	176	94	141	78	117	59	88	47	70	39	59	34	50	29	44	23	35
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	91	137	73	110	61	91	52	78	46	68	37	55
		#12	36/3	91	137	73	110	61	91	46	68	37	55	30	46	26	39	23	34	18	27
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	70	106	56	84	47	70	40	60	35	53	28	42
		#12	36/3	70	106	56	84	47	70	35	53	28	42	23	35	20	30	18	26	14	21
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	58	88	47	70	39	58	33	50	29	44	23	35
		#12	36/3	58	88	47	70	39	58	29	44	23	35	19	29	17	25	15	22	12	18
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	248	372	186	279	149	223	124	186	106	159	93	139	60	95
		#12	36/3	186	279	149	223	124	186	93	139	74	112	62	93	53	80	46	70	37	56
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	145	217	116	174	96	145	83	124	72	108	58	87
		#12	36/3	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	96	145	77	116	64	96	55	83	48	72	39	58
		#12	36/3	96	145	77	116	64	96	48	72	39	58	32	48	28	41	24	36	19	29
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	81	122	65	97	54	81	46	70	41	61	32	49
		#12	36/3	81	122	65	97	54	81	41	61	32	49	27	41	23	35	20	30	16	24
18ga (.0459")	#12	36/6	126	190	101	152	84	126	63	95	51	76	42	63	36	54	32	47	25	38	
	#12	36/3	63	95	51	76	42	63	32	47	25	38	21	32	18	27	16	24	13	19	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	52	71	42	57	35	47	30	40	26	35	21	28
		#14	36/3	52	71	42	57	35	47	26	35	21	28	17	24	15	20	13	18	10	14
	19/32"	#14	36/6	133	179	106	143	88	119	66	90	53	72	44	60	38	51	33	45	27	36
		#14	36/3	66	90	53	72	44	60	33	45	27	36	22	30	19	26	17	22	13	18
	23/32"	#14	36/6	161	217	128	173	107	145	80	108	64	87	54	72	46	62	40	54	32	43
		#14	36/3	80	108	64	87	54	72	40	54	32	43	27	36	23	31	20	27	16	22
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	97	131	78	105	65	87	55	75	48	65	39	52
		#9	36/3	97	131	78	105	65	87	48	65	39	52	32	44	28	37	24	33	19	26
		#14	36/6	265	358	212	286	177	238	132	179	106	143	88	119	76	102	66	89	53	72
		#14	36/3	132	179	106	143	88	119	66	89	53	72	44	60	38	51	33	45	26	36



Table 7.10 - Shear and Flexibility (No. 29 gauge Reversed HR-36, 36/3):

29ga Reverse HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	251	407	251	408	250	406	249	405	249	404	248	403	248	403	248	403	229	366
	F	816.9		655.4		548.0		413.5		332.9		279.1		240.7		211.9		171.6	
8"	q	236	384	236	383	235	382	228	371	229	372	225	365	226	367	223	362	222	360
	F	818.3		657.0		549.4		415.5		334.7		281.3		242.8		214.2		174.0	
12"	q	223	363	225	366	214	348	208	338	204	332	201	327	199	324	198	321	195	317
	F	819.3		657.8		551.0		417.0		336.7		283.1		244.9		216.3		176.1	
24"	q	198	322	208	339	194	315	167	272	171	278	153	248	158	257	145	235	139	227
	F	821.0		659.0		552.5		420.3		339.4		287.4		248.5		221.2		181.6	
36"	q	198	322	178	290	161	261	167	272	145	236	127	206	137	223	124	202	123	199
	F	821.0		661.1		555.1		420.3		341.8		290.3		250.7		223.7		183.8	
48"	q	198	322	178	290	161	261	132	215	145	236	127	206	112	183	101	164	104	169
	F	821.0		661.1		555.1		423.7		341.8		290.3		254.2		227.6		187.0	
1 per span	q	198	322	178	290	161	261	132	215	111	180	94	152	80	130	70	114	56	91
	F	821.0		661.1		555.1		423.7		346.1		295.4		260.1		234.5		200.4	
none	q	146	237	124	202	107	174	79	129	61	100	50	82	43	70	38	61	30	49
	F	824.7		665.8		560.6		431.1		355.4		306.6		273.2		249.3		219.0	

Table 7.11 - Shear and Flexibility (No. 29 gauge Reversed HR-36, 36/6):

29ga Reverse HR-36 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	463	753	464	753	455	739	450	732	447	726	445	723	443	720	357	572	229	366
	F	29.7		25.7		23.2		19.9		18.0		16.7		15.8		15.1		14.1	
8"	q	402	652	396	643	391	636	364	592	365	593	349	567	352	571	340	553	229	366
	F	30.7		26.9		24.3		21.5		19.5		18.5		17.6		17.1		16.3	
12"	q	361	587	362	589	327	532	307	499	294	478	285	463	278	452	273	443	229	366
	F	31.4		27.4		25.4		22.6		21.0		20.0		19.3		18.8		18.2	
24"	q	303	492	318	517	282	457	226	368	227	370	195	317	201	326	179	291	169	274
	F	32.3		28.2		26.4		24.7		22.9		23.0		22.0		22.6		22.4	
36"	q	303	492	259	420	224	364	226	368	187	305	159	258	171	277	151	246	146	238
	F	32.3		29.4		27.8		24.7		24.5		24.9		23.5		24.3		24.0	
48"	q	303	492	259	420	224	364	175	285	187	305	159	258	136	221	119	194	121	197
	F	32.3		29.4		27.8		26.6		24.5		24.9		25.7		26.8		26.2	
1 per span	q	303	492	259	420	224	364	175	285	140	227	115	188	99	161	87	141	69	113
	F	32.3		29.4		27.8		26.6		26.8		27.7		29.0		30.5		34.0	
none	q	220	357	182	295	153	248	112	182	88	143	72	117	62	101	54	88	43	70
	F	33.9		31.4		30.2		29.9		30.9		32.6		34.7		37.0		42.1	



Table 7.12 - Shear and Flexibility (No. 26 gauge Reversed HR-36, 36/3):

26ga Reverse HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	312	507	312	508	311	505	310	503	309	503	309	502	309	502	308	501	308	501
	F	475.1		381.6		319.5		241.8		195.1		164.0		141.8		125.1		101.8	
8"	q	294	478	293	476	293	475	284	462	285	464	280	455	281	457	277	451	276	448
	F	476.3		383.0		320.8		243.5		196.7		165.9		143.6		127.2		104.0	
12"	q	278	452	281	456	266	433	259	421	254	413	251	407	248	403	246	400	243	394
	F	477.2		383.7		322.3		244.9		198.5		167.6		145.6		129.0		105.9	
24"	q	247	401	259	422	241	392	208	338	213	345	190	309	197	320	180	293	174	282
	F	478.8		384.8		323.6		247.8		200.9		171.4		148.8		133.4		110.8	
36"	q	247	401	222	361	200	325	208	338	180	293	158	257	171	278	155	252	153	248
	F	478.8		386.7		325.9		247.8		203.1		174.0		150.8		135.7		112.8	
48"	q	247	401	222	361	200	325	164	267	180	293	158	257	140	227	125	204	129	210
	F	478.8		386.7		325.9		250.8		203.1		174.0		153.9		139.2		115.6	
1 per span	q	247	401	222	361	200	325	164	267	138	224	117	190	100	162	87	142	70	114
	F	478.8		386.7		325.9		250.8		206.9		178.6		159.2		145.3		127.6	
none	q	182	296	155	251	134	217	100	162	78	126	63	102	54	87	47	76	38	61
	F	482.1		390.9		330.9		257.5		215.3		188.6		170.9		158.7		144.3	

Table 7.13 - Shear and Flexibility (No. 26 gauge Reversed HR-36, 36/6):

26ga Reverse HR-36 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	577	937	577	938	566	920	560	910	556	904	554	900	552	896	497	796	318	509
	F	19.5		17.2		15.8		13.9		12.8		12.1		11.6		11.2		10.7	
8"	q	500	812	492	800	487	792	454	737	454	738	434	706	438	711	424	688	318	509
	F	20.4		18.2		16.8		15.3		14.2		13.8		13.2		13.0		12.6	
12"	q	450	731	451	733	407	662	383	622	366	595	355	576	346	562	340	552	318	509
	F	21.0		18.7		17.8		16.4		15.6		15.1		14.8		14.6		14.3	
24"	q	377	612	396	643	350	569	281	457	283	460	243	395	250	406	223	362	210	341
	F	21.8		19.4		18.6		18.2		17.3		17.8		17.2		17.9		18.1	
36"	q	377	612	322	523	279	453	281	457	233	379	198	322	212	345	188	306	182	296
	F	21.8		20.4		19.9		18.2		18.7		19.5		18.6		19.5		19.6	
48"	q	377	612	322	523	279	453	218	355	233	379	198	322	169	275	148	241	151	245
	F	21.8		20.4		19.9		19.9		18.7		19.5		20.5		21.7		21.5	
1 per span	q	377	612	322	523	279	453	218	355	175	285	144	234	123	200	108	175	86	140
	F	21.8		20.4		19.9		19.9		20.8		22.0		23.5		25.1		28.5	
none	q	274	445	226	368	191	310	141	229	110	180	90	147	77	125	67	109	54	88
	F	23.3		22.3		22.1		22.8		24.4		26.4		28.6		30.9		35.8	



Table 7.14 - Shear and Flexibility (No. 24 gauge Reversed HR-36, 36/3):

24ga Reverse HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	332	539	332	540	330	537	329	535	329	534	328	534	328	533	328	533	328	532
	F	230.5		185.6		155.8		118.5		96.1		81.2		70.6		62.6		51.4	
8"	q	312	508	312	506	311	505	302	491	303	493	298	483	299	486	295	479	293	477
	F	231.6		186.8		156.9		120.0		97.6		82.9		72.2		64.4		53.2	
12"	q	295	480	298	485	283	460	276	448	270	439	266	433	264	428	261	425	258	419
	F	232.3		187.4		158.2		121.2		99.1		84.3		73.8		65.9		54.9	
24"	q	262	426	276	448	256	417	221	359	226	367	202	328	209	340	191	311	185	300
	F	233.6		188.3		159.3		123.7		101.2		87.6		76.6		69.8		59.1	
36"	q	262	426	236	384	213	345	221	359	192	312	168	273	182	295	165	267	162	264
	F	233.6		190.0		161.3		123.7		103.1		89.9		78.3		71.7		60.8	
48"	q	262	426	236	384	213	345	175	284	192	312	168	273	149	242	133	216	137	223
	F	233.6		190.0		161.3		126.4		103.1		89.9		81.0		74.8		63.3	
1 per span	q	262	426	236	384	213	345	175	284	147	238	126	204	107	173	93	151	74	121
	F	233.6		190.0		161.3		126.4		106.4		93.9		85.6		80.0		73.7	
none	q	193	314	164	267	142	231	107	175	84	137	69	111	57	93	50	81	40	65
	F	236.5		193.6		165.6		132.1		113.6		102.5		95.7		91.6		88.1	

Table 7.15 - Shear and Flexibility (No. 24 gauge Reversed HR-36, 36/6):

24ga Reverse HR-36 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	613	996	613	997	602	978	596	968	591	961	589	956	586	953	585	950	497	796
	F	11.6		10.5		9.9		9.1		8.6		8.2		8.0		7.8		7.6	
8"	q	531	863	523	850	518	841	482	783	483	785	462	750	465	756	450	732	443	720
	F	12.4		11.4		10.8		10.3		9.8		9.7		9.4		9.4		9.3	
12"	q	478	777	480	779	433	704	407	661	389	633	377	613	368	598	361	586	351	570
	F	12.9		11.8		11.6		11.2		10.9		10.8		10.8		10.7		10.7	
24"	q	401	651	421	684	372	605	299	486	301	489	258	420	266	432	237	385	223	363
	F	13.6		12.4		12.4		12.8		12.4		13.2		12.9		13.6		14.0	
36"	q	401	651	342	556	296	482	299	486	248	403	211	343	226	367	200	325	194	315
	F	13.6		13.3		13.5		12.8		13.6		14.6		14.0		15.0		15.3	
48"	q	401	651	342	556	296	482	232	377	248	403	211	343	181	293	158	256	160	261
	F	13.6		13.3		13.5		14.3		13.6		14.6		15.7		16.9		17.0	
1 per span	q	401	651	342	556	296	482	232	377	188	305	155	252	131	214	115	186	92	149
	F	13.6		13.3		13.5		14.3		15.4		16.8		18.3		19.8		23.0	
none	q	291	473	240	391	204	332	151	245	119	193	98	159	82	134	72	116	57	93
	F	14.9		14.9		15.3		16.8		18.6		20.6		22.7		24.8		29.3	



Table 7.16 - Shear and Flexibility (No. 22 gauge Reversed HR-36, 36/3):

22ga Reverse HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	420	683	421	684	418	680	417	678	417	677	416	676	416	676	416	675	415	675
	F	129.1		104.3		87.9		67.3		54.9		46.6		40.8		36.3		30.2	
8"	q	396	644	395	642	394	640	383	622	384	624	377	613	379	616	374	607	372	604
	F	130.1		105.3		88.8		68.6		56.2		48.1		42.2		37.9		31.8	
12"	q	374	608	378	614	359	583	349	567	343	557	338	549	334	543	331	538	327	531
	F	130.7		105.9		90.0		69.7		57.5		49.4		43.7		39.3		33.3	
24"	q	332	540	350	568	325	528	280	455	286	465	256	416	265	430	243	394	234	380
	F	131.9		106.7		91.0		71.9		59.4		52.3		46.1		42.7		37.0	
36"	q	332	540	299	486	269	438	280	455	243	395	213	346	230	374	208	339	206	334
	F	131.9		108.2		92.7		71.9		61.0		54.3		47.7		44.5		38.6	
48"	q	332	540	299	486	269	438	221	360	243	395	213	346	189	306	169	274	174	283
	F	131.9		108.2		92.7		74.2		61.0		54.3		50.0		47.2		40.8	
1 per span	q	332	540	299	486	269	438	221	360	186	302	159	259	136	221	118	192	94	153
	F	131.9		108.2		92.7		74.2		64.0		57.9		54.1		51.9		50.0	
none	q	245	398	208	338	180	292	138	224	108	175	88	143	74	120	63	103	51	82
	F	134.5		111.4		96.6		79.3		70.4		65.6		63.1		62.1		62.8	

Table 7.17 - Shear and Flexibility (No. 22 gauge Reversed HR-36, 36/6):

22ga Reverse HR-36 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	777	1262	777	1263	763	1240	755	1226	750	1218	746	1212	743	1208	741	1204	702	1123
	F	8.0		7.4		7.1		6.7		6.4		6.2		6.1		6.0		5.9	
8"	q	673	1094	663	1078	656	1066	611	993	612	995	585	950	590	958	571	927	562	913
	F	8.7		8.2		7.9		7.7		7.5		7.5		7.4		7.5		7.4	
12"	q	606	984	608	988	549	892	515	837	493	802	478	776	466	758	457	743	445	723
	F	9.1		8.5		8.6		8.5		8.5		8.5		8.6		8.6		8.7	
24"	q	508	825	533	866	472	767	379	616	381	620	327	532	337	547	300	487	283	460
	F	9.7		9.1		9.3		10.0		9.8		10.6		10.4		11.2		11.6	
36"	q	508	825	433	704	376	610	379	616	314	511	267	434	286	465	254	412	245	399
	F	9.7		9.9		10.2		10.0		10.9		11.9		11.5		12.4		12.8	
48"	q	508	825	433	704	376	610	294	478	314	511	267	434	230	374	200	325	203	330
	F	9.7		9.9		10.2		11.3		10.9		11.9		13.0		14.1		14.2	
1 per span	q	508	825	433	704	376	610	294	478	239	389	198	321	168	273	146	236	116	189
	F	9.7		9.9		10.2		11.3		12.5		13.8		15.2		16.7		19.6	
none	q	368	599	305	495	259	421	193	313	152	247	125	203	106	172	91	148	73	118
	F	10.9		11.3		11.9		13.5		15.3		17.2		19.2		21.1		25.2	



Table 7.18 - Shear and Flexibility (No. 20 gauge Reversed HR-36, 36/3):

20ga Reverse HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	428	696	429	697	426	693	425	691	425	690	424	689	424	688	423	688	423	687
	F	82.3		66.7		56.4		43.5		35.7		30.5		26.8		24.1		20.2	
8"	q	403	656	402	654	401	652	390	634	392	636	384	624	386	628	381	619	379	615
	F	83.2		67.6		57.3		44.7		36.9		31.9		28.1		25.5		21.7	
12"	q	381	620	385	626	366	594	356	578	349	567	344	559	340	553	337	548	333	541
	F	83.8		68.1		58.3		45.6		38.1		33.1		29.5		26.8		23.1	
24"	q	339	550	356	579	331	538	286	464	292	474	261	424	270	439	247	402	238	387
	F	84.9		68.9		59.2		47.7		39.8		35.7		31.7		29.9		26.5	
36"	q	339	550	305	495	274	446	286	464	248	402	217	352	235	381	212	345	210	341
	F	84.9		70.2		60.8		47.7		41.3		37.6		33.1		31.5		27.9	
48"	q	339	550	305	495	274	446	226	367	248	402	217	352	192	312	172	279	177	288
	F	84.9		70.2		60.8		49.8		41.3		37.6		35.3		33.9		29.8	
1 per span	q	339	550	305	495	274	446	226	367	189	308	162	264	140	227	121	197	96	156
	F	84.9		70.2		60.8		49.8		44.0		40.8		39.0		38.2		38.3	
none	q	250	406	212	345	183	298	141	229	111	180	91	148	76	124	66	107	51	84
	F	87.2		73.2		64.3		54.5		49.8		47.8		47.2		47.5		49.9	

Table 7.19 - Shear and Flexibility (No. 20 gauge Reversed HR-36, 36/6):

20ga Reverse HR-36 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	791	1286	792	1287	777	1263	769	1250	764	1241	760	1235	757	1230	755	1227	752	1222
	F	6.1		5.7		5.6		5.3		5.2		5.1		5.0		5.0		4.9	
8"	q	686	1115	676	1098	669	1086	622	1012	624	1013	596	968	601	976	581	945	572	930
	F	6.7		6.5		6.3		6.3		6.2		6.3		6.2		6.3		6.3	
12"	q	617	1003	619	1006	559	909	525	853	503	817	487	791	475	772	466	757	453	736
	F	7.1		6.8		7.0		7.0		7.1		7.2		7.3		7.4		7.5	
24"	q	517	840	543	883	481	781	386	628	388	631	334	542	343	558	306	497	288	468
	F	7.7		7.3		7.6		8.4		8.3		9.1		9.0		9.7		10.2	
36"	q	517	840	442	718	383	622	386	628	320	520	272	442	292	474	258	420	250	406
	F	7.7		8.0		8.5		8.4		9.3		10.3		9.9		10.8		11.2	
48"	q	517	840	442	718	383	622	299	487	320	520	272	442	235	382	205	333	207	337
	F	7.7		8.0		8.5		9.5		9.3		10.3		11.3		12.3		12.5	
1 per span	q	517	840	442	718	383	622	299	487	245	398	202	329	172	279	149	243	118	192
	F	7.7		8.0		8.5		9.5		10.8		12.0		13.4		14.7		17.4	
none	q	375	610	311	505	264	429	197	321	156	253	128	208	109	176	94	152	74	120
	F	8.7		9.3		10.0		11.6		13.3		15.1		16.9		18.8		22.5	



Table 7.20 - Shear and Flexibility (No. 18 gauge Reversed HR-36, 36/3):

18ga Reverse HR-36 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	555	903	556	904	553	898	551	896	550	894	550	893	549	893	549	892	548	891
	F	44.2		36.0		30.7		24.0		19.9		17.3		15.3		13.9		11.9	
8"	q	523	850	522	848	521	846	506	822	508	825	498	809	501	814	494	802	491	798
	F	45.0		36.9		31.5		25.0		21.0		18.5		16.5		15.2		13.2	
12"	q	495	804	499	811	474	771	461	750	452	735	446	725	441	717	438	711	432	702
	F	45.5		37.3		32.4		25.9		22.0		19.5		17.6		16.3		14.4	
24"	q	439	714	462	750	429	698	370	602	378	615	338	550	350	569	320	521	309	502
	F	46.5		38.0		33.2		27.7		23.5		21.8		19.6		19.0		17.4	
36"	q	439	714	395	642	356	578	370	602	321	522	281	457	304	494	275	448	272	442
	F	46.5		39.2		34.6		27.7		24.9		23.4		20.9		20.4		18.6	
48"	q	439	714	395	642	356	578	292	475	321	522	281	457	249	405	223	362	230	374
	F	46.5		39.2		34.6		29.6		24.9		23.4		22.7		22.5		20.3	
1 per span	q	439	714	395	642	356	578	292	475	246	399	211	342	183	297	159	258	125	203
	F	46.5		39.2		34.6		29.6		27.2		26.2		26.0		26.3		27.7	
none	q	324	526	275	447	238	386	184	300	145	236	119	194	101	164	87	141	67	109
	F	48.5		41.7		37.7		33.7		32.3		32.4		33.2		34.5		38.0	

Table 7.21 - Shear and Flexibility (No. 18 gauge Reversed HR-36, 36/6):

18ga Reverse HR-36 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	1026	1667	1027	1669	1008	1638	997	1620	990	1609	985	1601	982	1595	979	1591	975	1584
	F	4.3		4.2		4.1		4.0		4.0		3.9		3.9		3.9		3.9	
8"	q	889	1445	876	1424	867	1409	807	1312	808	1314	773	1256	779	1266	754	1225	742	1206
	F	4.9		4.8		4.7		4.9		4.8		5.0		4.9		5.0		5.1	
12"	q	800	1300	803	1305	725	1178	681	1106	652	1059	631	1026	616	1001	604	982	587	954
	F	5.2		5.1		5.4		5.5		5.7		5.8		5.9		6.0		6.1	
24"	q	671	1090	704	1144	624	1013	501	814	504	819	433	703	445	723	396	644	374	607
	F	5.8		5.5		5.9		6.7		6.7		7.4		7.4		8.0		8.5	
36"	q	671	1090	573	930	496	806	501	814	415	675	353	574	378	614	335	544	324	527
	F	5.8		6.2		6.7		6.7		7.6		8.5		8.2		9.0		9.4	
48"	q	671	1090	573	930	496	806	388	631	415	675	353	574	306	498	267	434	269	437
	F	5.8		6.2		6.7		7.7		7.6		8.5		9.4		10.3		10.5	
1 per span	q	671	1090	573	930	496	806	388	631	317	515	264	429	225	365	195	317	154	250
	F	5.8		6.2		6.7		7.7		8.9		10.0		11.2		12.4		14.8	
none	q	487	791	403	654	342	556	257	418	204	331	168	273	142	231	123	200	96	156
	F	6.7		7.3		8.0		9.5		11.1		12.7		14.3		16.0		19.3	

8.0 Mini-V-Beam

Figure 8.1 - Basic Dimensions and Panel Attachment (Mini-V-Beam):

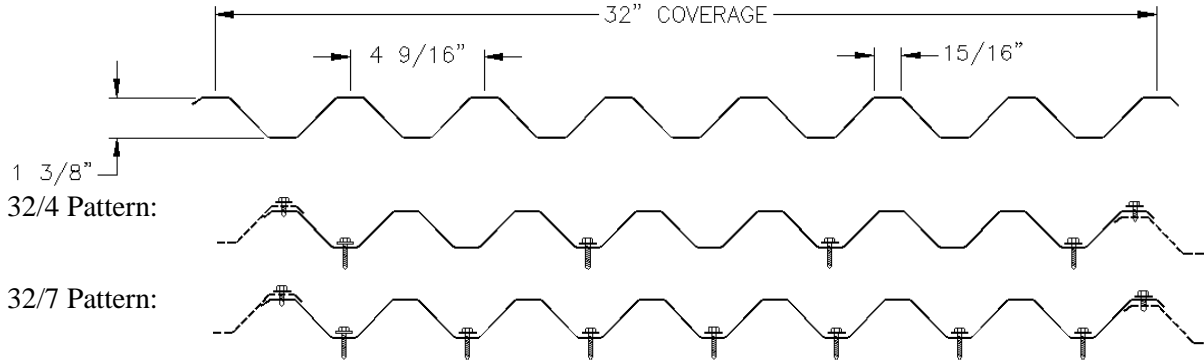


Table 8.1 - Section Properties (Mini-V-Beam):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
26	0.92	0.0173	80	82	0.270	0.071	0.72	0.107	0.0990
24	1.23	0.0232	50	65	0.361	0.096	0.73	0.142	0.1322
22	1.56	0.0294	50	65	0.458	0.120	0.73	0.179	0.1668
20	1.88	0.0354	40	55	0.551	0.146	0.73	0.215	0.2000
18	2.43	0.0459	40	55	0.715	0.191	0.74	0.277	0.2573

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _{e+}	y _b	S _{e+}	I _{e-}	y _b	S _{e-}	I ₊	I ₋	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
26	0.140	0.071	0.69	0.092	0.070	0.75	0.088	0.0708	0.0705
24	0.243	0.096	0.71	0.131	0.096	0.73	0.129	0.0956	0.0956
22	0.350	0.120	0.72	0.166	0.120	0.72	0.167	0.1200	0.1200
20	0.480	0.146	0.73	0.200	0.146	0.73	0.200	0.1463	0.1463
18	0.687	0.191	0.74	0.257	0.191	0.74	0.257	0.1913	0.1913



Table 8.2 - Inward (Positive) Uniform Allowable Loads (Mini-V-Beam):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
26	Single Span	ASD, W/Ω	551	353	245	138	88	61	45	34	22
		LRFD, ϕW	875	560	389	219	140	97	71	55	35
		L/240	-	297	172	72	37	21	14	9	5
		L/180	-	-	229	97	49	29	18	12	6
		L/120	-	-	-	-	74	43	27	18	9
	Double Span	ASD, W/Ω	441	297	214	124	81	56	42	32	20
		LRFD, ϕW	664	449	322	187	122	85	63	48	31
		L/240	-	-	-	-	-	52	33	22	11
		L/180	-	-	-	-	-	-	-	29	15
	Triple Span	ASD, W/Ω	517	357	258	153	100	70	51	40	26
		LRFD, ϕW	781	538	389	230	150	106	78	60	39
		L/240	-	-	-	137	70	41	26	17	9
		L/180	-	-	-	-	93	54	34	23	12
		L/120	-	-	-	-	-	-	51	34	18
	24	Single Span	ASD, W/Ω	652	417	290	163	104	72	53	41
LRFD, ϕW			1034	662	460	259	165	115	84	65	41
L/240			-	401	232	98	50	29	18	12	6
L/180			-	-	-	131	67	39	24	16	8
L/120			-	-	-	-	100	58	37	24	13
Double Span		ASD, W/Ω	603	394	277	157	101	71	52	39	25
		LRFD, ϕW	907	593	416	236	152	106	78	59	38
		L/240	-	-	-	-	-	70	44	29	15
		L/180	-	-	-	-	-	-	-	-	20
Triple Span		ASD, W/Ω	734	484	342	195	126	88	65	49	31
		LRFD, ϕW	1106	729	514	294	189	132	97	74	48
		L/240	-	-	-	185	95	55	34	23	12
		L/180	-	-	-	-	126	73	46	31	16
		L/120	-	-	-	-	-	-	-	46	24
22		Single Span	ASD, W/Ω	831	532	369	208	133	92	68	52
	LRFD, ϕW		1318	843	586	329	211	146	108	82	53
	L/240		-	503	291	123	63	36	23	15	8
	L/180		-	-	-	164	84	49	31	20	10
	L/120		-	-	-	-	126	73	46	31	16
	Double Span	ASD, W/Ω	798	517	362	206	131	92	68	51	33
		LRFD, ϕW	1200	779	545	309	198	138	102	77	50
		L/240	-	-	-	-	-	88	55	37	19
		L/180	-	-	-	-	-	-	-	49	25
	Triple Span	ASD, W/Ω	979	640	449	256	164	114	84	64	41
		LRFD, ϕW	1473	962	676	385	247	172	127	96	62
		L/240	-	-	-	232	119	69	43	29	15
		L/180	-	-	-	-	158	92	58	39	20
		L/120	-	-	-	-	-	-	-	58	30



Table 8.2 (Cont'd) - Inward (Positive) Uniform Allowable Loads (Mini-V-Beam):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"
20	Single Span	ASD, W/Ω	798	511	355	200	128	89	65	50	32
		LRFD, ϕW	1266	810	563	317	203	141	103	79	51
		L/240	-	-	-	150	77	44	28	19	10
		L/180	-	-	-	-	102	59	37	25	13
		L/120	-	-	-	-	-	-	56	37	19
	Double Span	ASD, W/Ω	770	499	348	197	126	88	64	49	32
		LRFD, ϕW	1158	751	524	296	190	132	97	74	48
		L/240	-	-	-	-	-	-	-	45	23
		L/180	-	-	-	-	-	-	-	-	31
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	948	617	433	246	158	109	81	61	39
		LRFD, ϕW	1427	929	651	370	237	165	121	93	59
		L/240	-	-	-	-	145	84	53	35	18
		L/180	-	-	-	-	-	-	70	47	24
		L/120	-	-	-	-	-	-	-	-	36
	18	Single Span	ASD, W/Ω	1027	657	456	257	164	114	84	64
LRFD, ϕW			1629	1043	724	407	261	181	133	102	65
L/240			-	-	-	196	100	58	37	24	13
L/180			-	-	-	-	134	77	49	33	17
L/120			-	-	-	-	-	-	73	49	25
Double Span		ASD, W/Ω	991	642	449	254	163	113	83	64	41
		LRFD, ϕW	1491	965	675	382	245	171	125	96	61
		L/240	-	-	-	-	-	-	-	59	30
		L/180	-	-	-	-	-	-	-	-	40
		L/120	-	-	-	-	-	-	-	-	-
Triple Span		ASD, W/Ω	1221	795	557	316	203	142	104	79	51
		LRFD, ϕW	1837	1196	838	476	306	213	157	119	76
		L/240	-	-	-	-	189	110	69	46	24
		L/180	-	-	-	-	-	-	92	62	32
		L/120	-	-	-	-	-	-	-	-	47



Table 8.3 - Allowable Reactions at Supports (Mini-V-Beam):

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (P_n/Ω) (lbs/ft width)				LRFD (ϕP_n) (lbs/ft width)			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
26	End	302	347	384	447	462	530	588	684
	Interior	490	552	604	692	729	821	899	1029
24	End	439	500	552	638	671	765	844	976
	Interior	716	801	872	992	1065	1191	1297	1476
22	End	684	775	852	981	1047	1186	1304	1501
	Interior	1123	1249	1355	1532	1670	1857	2015	2279
20	End	774	873	957	1097	1184	1336	1464	1679
	Interior	1277	1414	1528	1721	1900	2103	2274	2560
18	End	1255	1407	1535	1750	1921	2153	2349	2678
	Interior	2088	2295	2470	2764	3106	3414	3675	4111



Table 8.4 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge Mini-V-Beam):

Mini-V-Beam, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	32/7	465	698	372	559	310	465	230	349	147	233	102	162	75	102	57	68	35	35
		#12	32/4	266	399	213	319	177	266	133	199	106	160	89	133	75	102	57	68	35	35
	12ga (.1050")	#12	32/7	465	698	372	559	310	465	230	349	147	233	102	162	75	102	57	68	35	35
		#12	32/4	266	399	213	319	177	266	133	199	106	160	89	133	75	102	57	68	35	35
	14ga (.0700")	#12	32/7	365	548	292	439	244	365	183	274	146	219	102	162	75	102	57	68	35	35
		#12	32/4	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	68	35	35
	16ga (.0590")	#12	32/7	308	462	246	370	205	308	154	231	123	185	102	154	75	102	57	68	35	35
		#12	32/4	176	264	141	211	117	176	88	132	70	106	59	88	50	75	44	66	35	35
18ga (.0459")	#12	32/7	240	359	192	288	160	240	120	180	96	144	80	120	68	102	57	68	35	35	
	#12	32/4	137	205	110	164	91	137	68	103	55	82	46	68	39	59	34	51	27	35	
20ga (.0354")	#12	32/7	185	277	148	222	123	185	92	139	74	111	62	92	53	79	46	68	35	35	
	#12	32/4	106	158	84	127	70	106	53	79	42	63	35	53	30	45	26	40	21	32	
22ga (.0294")	#12	32/7	154	230	123	184	102	154	77	115	61	92	51	77	44	66	38	58	31	35	
	#12	32/4	88	132	70	105	58	88	44	66	35	53	29	44	25	38	22	33	18	26	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	32/7	465	698	372	559	310	465	230	349	147	233	102	162	75	102	57	68	35	35
		#12	32/4	266	399	213	319	177	266	133	199	106	160	89	133	75	102	57	68	35	35
	12ga (.1050")	#12	32/7	380	569	304	455	253	380	190	285	147	228	102	162	75	102	57	68	35	35
		#12	32/4	217	325	174	260	145	217	108	163	87	130	72	108	62	93	54	68	35	35
	14ga (.0700")	#12	32/7	253	380	202	304	169	253	127	190	101	152	84	127	72	102	57	68	35	35
		#12	32/4	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	35
	16ga (.0590")	#12	32/7	213	320	171	256	142	213	107	160	85	128	71	107	61	91	53	68	35	35
		#12	32/4	122	183	97	146	81	122	61	91	49	73	41	61	35	52	30	46	24	35
18ga (.0459")	#12	32/7	166	249	133	199	111	166	83	124	66	100	55	83	47	71	41	62	33	35	
	#12	32/4	95	142	76	114	63	95	47	71	38	57	32	47	27	41	24	36	19	28	
20ga (.0354")	#12	32/7	128	192	102	154	85	128	64	96	51	77	43	64	37	55	32	48	26	35	
	#12	32/4	73	110	58	88	49	73	37	55	29	44	24	37	21	31	18	27	15	22	
22ga (.0294")	#12	32/7	106	159	85	128	71	106	53	80	43	64	35	53	30	46	27	40	21	32	
	#12	32/4	61	91	49	73	40	61	30	46	24	36	20	30	17	26	15	23	12	18	
Plywood & OSB	15/32"	#14	32/7	137	186	110	148	92	124	69	93	55	74	46	62	39	53	34	46	27	35
		#14	32/4	79	106	63	85	52	71	39	53	31	42	26	35	22	30	20	27	16	21
	19/32"	#14	32/7	174	235	139	188	116	157	87	118	70	94	58	78	50	67	44	59	35	35
		#14	32/4	100	134	80	107	66	90	50	67	40	54	33	45	28	38	25	34	20	27
23/32"	#14	32/7	211	285	169	228	141	190	105	142	84	114	70	95	60	81	53	68	35	35	
	#14	32/4	120	163	96	130	80	108	60	81	48	65	40	54	34	46	30	41	24	33	
Lumber (DFL)	1" min	#9	32/7	254	343	203	275	170	229	127	172	102	137	85	114	73	98	57	68	35	35
		#9	32/4	145	196	116	157	97	131	73	98	58	78	48	65	42	56	36	49	29	35
		#14	32/7	348	469	278	376	232	313	174	235	139	188	102	156	75	102	57	68	35	35
		#14	32/4	199	268	159	215	132	179	99	134	79	107	66	89	57	77	50	67	35	35



Table 8.5 - Outward (Negative) Uniform Allowable Loads (No. 24 gauge Mini-V-Beam):

Mini-V-Beam, 24ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	32/7	495	742	396	594	330	495	204	323	130	207	91	144	67	106	51	81	33	47
		#12	32/4	283	424	226	339	189	283	141	212	113	170	91	141	67	106	51	81	33	47
	12ga (.1050")	#12	32/7	495	742	396	594	330	495	204	323	130	207	91	144	67	106	51	81	33	47
		#12	32/4	283	424	226	339	189	283	141	212	113	170	91	141	67	106	51	81	33	47
	14ga (.0700")	#12	32/7	365	548	292	439	244	365	183	274	130	207	91	144	67	106	51	81	33	47
		#12	32/4	209	313	167	251	139	209	104	157	84	125	70	104	60	90	51	78	33	47
	16ga (.0590")	#12	32/7	308	462	246	370	205	308	154	231	123	185	91	144	67	106	51	81	33	47
		#12	32/4	176	264	141	211	117	176	88	132	70	106	59	88	50	75	44	66	33	47
	18ga (.0459")	#12	32/7	240	359	192	288	160	240	120	180	96	144	80	120	67	103	51	81	33	47
		#12	32/4	137	205	110	164	91	137	68	103	55	82	46	68	39	59	34	51	27	41
	20ga (.0354")	#12	32/7	185	277	148	222	123	185	92	139	74	111	62	92	53	79	46	69	33	47
		#12	32/4	106	158	84	127	70	106	53	79	42	63	35	53	30	45	26	40	21	32
	22ga (.0294")	#12	32/7	154	230	123	184	102	154	77	115	61	92	51	77	44	66	38	58	31	46
		#12	32/4	88	132	70	105	58	88	44	66	35	53	29	44	25	38	22	33	18	26
Steel (Gr 33 min.)	≥10ga (.1350")	#12	32/7	488	732	390	586	325	488	204	323	130	207	91	144	67	106	51	81	33	47
		#12	32/4	279	418	223	335	186	279	139	209	112	167	91	139	67	106	51	81	33	47
	12ga (.1050")	#12	32/7	380	569	304	455	253	380	190	285	130	207	91	144	67	106	51	81	33	47
		#12	32/4	217	325	174	260	145	217	108	163	87	130	72	108	62	93	51	81	33	47
	14ga (.0700")	#12	32/7	253	380	202	304	169	253	127	190	101	152	84	127	67	106	51	81	33	47
		#12	32/4	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	16ga (.0590")	#12	32/7	213	320	171	256	142	213	107	160	85	128	71	107	61	91	51	80	33	47
		#12	32/4	122	183	97	146	81	122	61	91	49	73	41	61	35	52	30	46	24	37
18ga (.0459")	#12	32/7	166	249	133	199	111	166	83	124	66	100	55	83	47	71	41	62	33	47	
	#12	32/4	95	142	76	114	63	95	47	71	38	57	32	47	27	41	24	36	19	28	
20ga (.0354")	#12	32/7	128	192	102	154	85	128	64	96	51	77	43	64	37	55	32	48	26	38	
	#12	32/4	73	110	58	88	49	73	37	55	29	44	24	37	21	31	18	27	15	22	
22ga (.0294")	#12	32/7	106	159	85	128	71	106	53	80	43	64	35	53	30	46	27	40	21	32	
	#12	32/4	61	91	49	73	40	61	30	46	24	36	20	30	17	26	15	23	12	18	
Plywood & OSB	15/32"	#14	32/7	137	186	110	148	92	124	69	93	55	74	46	62	39	53	34	46	27	37
		#14	32/4	79	106	63	85	52	71	39	53	31	42	26	35	22	30	20	27	16	21
	19/32"	#14	32/7	174	235	139	188	116	157	87	118	70	94	58	78	50	67	44	59	33	47
		#14	32/4	100	134	80	107	66	90	50	67	40	54	33	45	28	38	25	34	20	27
23/32"	#14	32/7	211	285	169	228	141	190	105	142	84	114	70	95	60	81	51	71	33	47	
	#14	32/4	120	163	96	130	80	108	60	81	48	65	40	54	34	46	30	41	24	33	
Lumber (DFL)	1" min	#9	32/7	254	343	203	275	170	229	127	172	102	137	85	114	67	98	51	81	33	47
		#9	32/4	145	196	116	157	97	131	73	98	58	78	48	65	42	56	36	49	29	39
		#14	32/7	348	469	278	376	232	313	174	235	130	188	91	144	67	106	51	81	33	47
		#14	32/4	199	268	159	215	132	179	99	134	79	107	66	89	57	77	50	67	33	47



Table 8.6 - Outward (Negative) Uniform Allowable Loads (No. 22 gauge Mini-V-Beam):

Mini-V-Beam, 22ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	32/7	627	941	502	752	418	627	260	412	166	264	115	183	85	134	65	103	42	59
		#12	32/4	358	537	287	430	239	358	179	269	143	215	115	179	85	134	65	103	42	59
	12ga (.1050")	#12	32/7	548	822	439	658	365	548	260	411	166	264	115	183	85	134	65	103	42	59
		#12	32/4	313	470	251	376	209	313	157	235	125	188	104	157	85	134	65	103	42	59
	14ga (.0700")	#12	32/7	365	548	292	439	244	365	183	274	146	219	115	183	85	134	65	103	42	59
		#12	32/4	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	59
	16ga (.0590")	#12	32/7	308	462	246	370	205	308	154	231	123	185	103	154	85	132	65	103	42	59
		#12	32/4	176	264	141	211	117	176	88	132	70	106	59	88	50	75	44	66	35	53
	18ga (.0459")	#12	32/7	240	359	192	288	160	240	120	180	96	144	80	120	68	103	60	90	42	59
		#12	32/4	137	205	110	164	91	137	68	103	55	82	46	68	39	59	34	51	27	41
	20ga (.0354")	#12	32/7	185	277	148	222	123	185	92	139	74	111	62	92	53	79	46	69	37	55
		#12	32/4	106	158	84	127	70	106	53	79	42	63	35	53	30	45	26	40	21	32
	22ga (.0294")	#12	32/7	154	230	123	184	102	154	77	115	61	92	51	77	44	66	38	58	31	46
		#12	32/4	88	132	70	105	58	88	44	66	35	53	29	44	25	38	22	33	18	26
Steel (Gr 33 min.)	≥10ga (.1350")	#12	32/7	488	732	390	586	325	488	244	366	166	264	115	183	85	134	65	103	42	59
		#12	32/4	279	418	223	335	186	279	139	209	112	167	93	139	80	120	65	103	42	59
	12ga (.1050")	#12	32/7	380	569	304	455	253	380	190	285	152	228	115	183	85	134	65	103	42	59
		#12	32/4	217	325	174	260	145	217	108	163	87	130	72	108	62	93	54	81	42	59
	14ga (.0700")	#12	32/7	253	380	202	304	169	253	127	190	101	152	84	127	72	108	63	95	42	59
		#12	32/4	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	16ga (.0590")	#12	32/7	213	320	171	256	142	213	107	160	85	128	71	107	61	91	53	80	42	59
		#12	32/4	122	183	97	146	81	122	61	91	49	73	41	61	35	52	30	46	24	37
18ga (.0459")	#12	32/7	166	249	133	199	111	166	83	124	66	100	55	83	47	71	41	62	33	50	
	#12	32/4	95	142	76	114	63	95	47	71	38	57	32	47	27	41	24	36	19	28	
20ga (.0354")	#12	32/7	128	192	102	154	85	128	64	96	51	77	43	64	37	55	32	48	26	38	
	#12	32/4	73	110	58	88	49	73	37	55	29	44	24	37	21	31	18	27	15	22	
22ga (.0294")	#12	32/7	106	159	85	128	71	106	53	80	43	64	35	53	30	46	27	40	21	32	
	#12	32/4	61	91	49	73	40	61	30	46	24	36	20	30	17	26	15	23	12	18	
Plywood & OSB	15/32"	#14	32/7	137	186	110	148	92	124	69	93	55	74	46	62	39	53	34	46	27	37
		#14	32/4	79	106	63	85	52	71	39	53	31	42	26	35	22	30	20	27	16	21
	19/32"	#14	32/7	174	235	139	188	116	157	87	118	70	94	58	78	50	67	44	59	35	47
		#14	32/4	100	134	80	107	66	90	50	67	40	54	33	45	28	38	25	34	20	27
23/32"	#14	32/7	211	285	169	228	141	190	105	142	84	114	70	95	60	81	53	71	42	57	
	#14	32/4	120	163	96	130	80	108	60	81	48	65	40	54	34	46	30	41	24	33	
Lumber (DFL)	1" min	#9	32/7	254	343	203	275	170	229	127	172	102	137	85	114	73	98	64	86	42	59
		#9	32/4	145	196	116	157	97	131	73	98	58	78	48	65	42	56	36	49	29	39
		#14	32/7	348	469	278	376	232	313	174	235	139	188	115	156	85	134	65	103	42	59
		#14	32/4	199	268	159	215	132	179	99	134	79	107	66	89	57	77	50	67	40	54



Table 8.7 - Outward (Negative) Uniform Allowable Loads (No. 20 gauge Mini-V-Beam):

Mini-V-Beam, 20ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	32/7	639	958	511	767	426	639	249	396	160	253	111	176	81	129	62	99	40	63
		#12	32/4	365	548	292	438	243	365	183	274	146	219	111	176	81	129	62	99	40	63
	12ga (.1050")	#12	32/7	548	822	439	658	365	548	249	396	160	253	111	176	81	129	62	99	40	63
		#12	32/4	313	470	251	376	209	313	157	235	125	188	104	157	81	129	62	99	40	63
	14ga (.0700")	#12	32/7	365	548	292	439	244	365	183	274	146	219	111	176	81	129	62	99	40	63
		#12	32/4	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	40	63
	16ga (.0590")	#12	32/7	308	462	246	370	205	308	154	231	123	185	103	154	81	129	62	99	40	63
		#12	32/4	176	264	141	211	117	176	88	132	70	106	59	88	50	75	44	66	35	53
	18ga (.0459")	#12	32/7	240	359	192	288	160	240	120	180	96	144	80	120	68	103	60	90	40	63
		#12	32/4	137	205	110	164	91	137	68	103	55	82	46	68	39	59	34	51	27	41
	20ga (.0354")	#12	32/7	185	277	148	222	123	185	92	139	74	111	62	92	53	79	46	69	37	55
		#12	32/4	106	158	84	127	70	106	53	79	42	63	35	53	30	45	26	40	21	32
	22ga (.0294")	#12	32/7	154	230	123	184	102	154	77	115	61	92	51	77	44	66	38	58	31	46
		#12	32/4	88	132	70	105	58	88	44	66	35	53	29	44	25	38	22	33	18	26
Steel (Gr 33 min.)	≥10ga (.1350")	#12	32/7	488	732	390	586	325	488	244	366	160	253	111	176	81	129	62	99	40	63
		#12	32/4	279	418	223	335	186	279	139	209	112	167	93	139	80	120	62	99	40	63
	12ga (.1050")	#12	32/7	380	569	304	455	253	380	190	285	152	228	111	176	81	129	62	99	40	63
		#12	32/4	217	325	174	260	145	217	108	163	87	130	72	108	62	93	54	81	40	63
	14ga (.0700")	#12	32/7	253	380	202	304	169	253	127	190	101	152	84	127	72	108	62	95	40	63
		#12	32/4	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	16ga (.0590")	#12	32/7	213	320	171	256	142	213	107	160	85	128	71	107	61	91	53	80	40	63
		#12	32/4	122	183	97	146	81	122	61	91	49	73	41	61	35	52	30	46	24	37
	18ga (.0459")	#12	32/7	166	249	133	199	111	166	83	124	66	100	55	83	47	71	41	62	33	50
		#12	32/4	95	142	76	114	63	95	47	71	38	57	32	47	27	41	24	36	19	28
20ga (.0354")	#12	32/7	128	192	102	154	85	128	64	96	51	77	43	64	37	55	32	48	26	38	
	#12	32/4	73	110	58	88	49	73	37	55	29	44	24	37	21	31	18	27	15	22	
22ga (.0294")	#12	32/7	106	159	85	128	71	106	53	80	43	64	35	53	30	46	27	40	21	32	
	#12	32/4	61	91	49	73	40	61	30	46	24	36	20	30	17	26	15	23	12	18	
Plywood & OSB	15/32"	#14	32/7	137	186	110	148	92	124	69	93	55	74	46	62	39	53	34	46	27	37
		#14	32/4	79	106	63	85	52	71	39	53	31	42	26	35	22	30	20	27	16	21
	19/32"	#14	32/7	174	235	139	188	116	157	87	118	70	94	58	78	50	67	44	59	35	47
		#14	32/4	100	134	80	107	66	90	50	67	40	54	33	45	28	38	25	34	20	27
	23/32"	#14	32/7	211	285	169	228	141	190	105	142	84	114	70	95	60	81	53	71	40	57
		#14	32/4	120	163	96	130	80	108	60	81	48	65	40	54	34	46	30	41	24	33
Lumber (DFL)	1" min	#9	32/7	254	343	203	275	170	229	127	172	102	137	85	114	73	98	62	86	40	63
		#9	32/4	145	196	116	157	97	131	73	98	58	78	48	65	42	56	36	49	29	39
		#14	32/7	348	469	278	376	232	313	174	235	139	188	111	156	81	129	62	99	40	63
		#14	32/4	199	268	159	215	132	179	99	134	79	107	66	89	57	77	50	67	40	54



Table 8.8 - Outward (Negative) Uniform Allowable Loads (No. 18 gauge Mini-V-Beam):

Mini-V-Beam, 18ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
				Attachment Spacing, (ft-in)																	
		Material / Grade	Thick-ness	Nom. Size	Attach. Pattern	2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
ASD W/Ω	LRFD φW					ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	32/7	705	1057	564	846	470	705	321	509	205	326	143	226	105	166	80	127	51	81
		#12	32/4	403	604	322	483	269	403	201	302	161	242	134	201	105	166	80	127	51	81
	12ga (.1050")	#12	32/7	548	822	439	658	365	548	274	411	205	326	143	226	105	166	80	127	51	81
		#12	32/4	313	470	251	376	209	313	157	235	125	188	104	157	90	134	78	117	51	81
	14ga (.0700")	#12	32/7	365	548	292	439	244	365	183	274	146	219	122	183	104	157	80	127	51	81
		#12	32/4	209	313	167	251	139	209	104	157	84	125	70	104	60	90	52	78	42	63
	16ga (.0590")	#12	32/7	308	462	246	370	205	308	154	231	123	185	103	154	88	132	77	116	51	81
		#12	32/4	176	264	141	211	117	176	88	132	70	106	59	88	50	75	44	66	35	53
	18ga (.0459")	#12	32/7	240	359	192	288	160	240	120	180	96	144	80	120	68	103	60	90	48	72
		#12	32/4	137	205	110	164	91	137	68	103	55	82	46	68	39	59	34	51	27	41
	20ga (.0354")	#12	32/7	185	277	148	222	123	185	92	139	74	111	62	92	53	79	46	69	37	55
		#12	32/4	106	158	84	127	70	106	53	79	42	63	35	53	30	45	26	40	21	32
	22ga (.0294")	#12	32/7	154	230	123	184	102	154	77	115	61	92	51	77	44	66	38	58	31	46
		#12	32/4	88	132	70	105	58	88	44	66	35	53	29	44	25	38	22	33	18	26
Steel (Gr 33 min.)	≥10ga (.1350")	#12	32/7	488	732	390	586	325	488	244	366	195	293	143	226	105	166	80	127	51	81
		#12	32/4	279	418	223	335	186	279	139	209	112	167	93	139	80	120	70	105	51	81
	12ga (.1050")	#12	32/7	380	569	304	455	253	380	190	285	152	228	127	190	105	163	80	127	51	81
		#12	32/4	217	325	174	260	145	217	108	163	87	130	72	108	62	93	54	81	43	65
	14ga (.0700")	#12	32/7	253	380	202	304	169	253	127	190	101	152	84	127	72	108	63	95	51	76
		#12	32/4	145	217	116	174	96	145	72	108	58	87	48	72	41	62	36	54	29	43
	16ga (.0590")	#12	32/7	213	320	171	256	142	213	107	160	85	128	71	107	61	91	53	80	43	64
		#12	32/4	122	183	97	146	81	122	61	91	49	73	41	61	35	52	30	46	24	37
	18ga (.0459")	#12	32/7	166	249	133	199	111	166	83	124	66	100	55	83	47	71	41	62	33	50
		#12	32/4	95	142	76	114	63	95	47	71	38	57	32	47	27	41	24	36	19	28
20ga (.0354")	#12	32/7	128	192	102	154	85	128	64	96	51	77	43	64	37	55	32	48	26	38	
	#12	32/4	73	110	58	88	49	73	37	55	29	44	24	37	21	31	18	27	15	22	
22ga (.0294")	#12	32/7	106	159	85	128	71	106	53	80	43	64	35	53	30	46	27	40	21	32	
	#12	32/4	61	91	49	73	40	61	30	46	24	36	20	30	17	26	15	23	12	18	
Plywood & OSB	15/32"	#14	32/7	137	186	110	148	92	124	69	93	55	74	46	62	39	53	34	46	27	37
		#14	32/4	79	106	63	85	52	71	39	53	31	42	26	35	22	30	20	27	16	21
	19/32"	#14	32/7	174	235	139	188	116	157	87	118	70	94	58	78	50	67	44	59	35	47
		#14	32/4	100	134	80	107	66	90	50	67	40	54	33	45	28	38	25	34	20	27
	23/32"	#14	32/7	211	285	169	228	141	190	105	142	84	114	70	95	60	81	53	71	42	57
		#14	32/4	120	163	96	130	80	108	60	81	48	65	40	54	34	46	30	41	24	33
Lumber (DFL)	1" min	#9	32/7	254	343	203	275	170	229	127	172	102	137	85	114	73	98	64	86	51	69
		#9	32/4	145	196	116	157	97	131	73	98	58	78	48	65	42	56	36	49	29	39
		#14	32/7	348	469	278	376	232	313	174	235	139	188	116	156	99	134	80	117	51	81
		#14	32/4	199	268	159	215	132	179	99	134	79	107	66	89	57	77	50	67	40	54



Table 8.9 - Shear and Flexibility (No. 26 gauge Mini-V-Beam, 32/4):

26ga Mini-V-Beam 32/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	447	726	448	729	443	720	441	717	440	714	439	713	438	712	383	613	245	392
	F	99.9		81.6		69.6		54.5		45.5		39.4		35.1		31.9		27.3	
8"	q	391	635	390	634	390	634	370	602	374	608	362	588	366	595	358	581	245	392
	F	101.3		83.1		71.0		56.4		47.3		41.6		37.2		34.2		29.8	
12"	q	348	565	357	581	326	530	314	510	306	497	300	488	296	481	293	476	245	392
	F	102.2		83.9		72.6		58.0		49.2		43.4		39.3		36.2		31.9	
24"	q	277	450	308	501	274	446	222	360	232	377	200	326	211	344	189	308	182	296
	F	103.9		85.1		74.1		61.1		51.9		47.6		42.9		41.1		37.3	
36"	q	277	450	236	383	204	331	222	360	185	300	157	255	176	286	156	254	156	253
	F	103.9		87.2		76.6		61.1		54.3		50.5		45.1		43.6		39.5	
48"	q	277	450	236	383	204	331	159	259	185	300	157	255	133	217	117	189	126	204
	F	103.9		87.2		76.6		64.4		54.3		50.5		48.4		47.4		42.6	
1 per span	q	277	450	236	383	204	331	159	259	125	204	103	167	87	141	76	124	61	99
	F	103.9		87.2		76.6		64.4		58.4		55.4		54.2		54.0		55.7	
none	q	165	268	131	213	107	175	78	127	61	99	49	80	41	66	36	58	29	46
	F	107.4		91.6		81.9		71.5		67.3		66.1		66.6		68.2		73.4	

Table 8.10 - Shear and Flexibility (No. 26 gauge Mini-V-Beam, 32/7):

26ga Mini-V-Beam 32/7 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	696	1131	699	1136	680	1104	670	1090	665	1080	661	1074	500	801	383	613	245	392
	F	10.8		10.4		10.2		10.0		9.8		9.7		9.6		9.6		9.5	
8"	q	554	900	546	888	541	880	494	803	498	810	472	766	478	777	383	613	245	392
	F	11.9		11.6		11.4		11.6		11.4		11.6		11.5		11.7		11.7	
12"	q	473	768	481	782	423	687	395	642	378	614	366	594	357	580	350	570	245	392
	F	12.5		12.1		12.6		12.8		13.0		13.1		13.3		13.4		13.6	
24"	q	367	597	401	652	346	563	270	438	276	449	234	380	244	397	215	349	204	332
	F	13.5		13.0		13.6		15.0		15.0		16.3		16.1		17.3		18.1	
36"	q	367	597	304	494	259	420	270	438	218	355	180	293	200	324	175	284	172	280
	F	13.5		14.2		15.1		15.0		16.6		18.3		17.7		19.1		19.8	
48"	q	367	597	304	494	259	420	194	316	218	355	180	293	153	249	134	218	140	227
	F	13.5		14.2		15.1		17.0		16.6		18.3		20.0		21.8		22.1	
1 per span	q	367	597	304	494	259	420	194	316	153	249	126	205	107	174	94	152	75	122
	F	13.5		14.2		15.1		17.0		19.1		21.3		23.6		25.8		30.4	
none	q	236	383	187	304	154	251	113	184	89	144	72	118	61	99	53	87	43	69
	F	15.3		16.5		17.8		20.6		23.6		26.7		29.8		33.0		39.4	



Table 8.11 - Shear and Flexibility (No. 24 gauge Mini-V-Beam, 32/4):

24ga Mini-V-Beam 32/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	475	772	477	775	471	765	469	762	467	760	466	758	466	757	465	756	381	610
	F	50.5		41.7		36.0		28.8		24.5		21.6		19.6		18.0		15.9	
8"	q	416	675	415	674	415	674	394	639	398	646	385	625	389	633	380	618	377	610
	F	51.7		43.0		37.3		30.5		26.1		23.5		21.3		20.0		17.9	
12"	q	370	601	380	617	347	563	333	542	325	528	319	518	315	511	311	506	306	498
	F	52.5		43.7		38.6		31.8		27.8		25.1		23.2		21.8		19.8	
24"	q	294	478	328	532	292	474	236	383	247	401	213	346	225	365	201	327	194	315
	F	54.0		44.7		39.9		34.5		30.1		28.7		26.3		26.0		24.5	
36"	q	294	478	251	407	217	352	236	383	196	319	167	272	187	304	166	270	166	269
	F	54.0		46.5		42.0		34.5		32.1		31.2		28.2		28.1		26.4	
48"	q	294	478	251	407	217	352	169	275	196	319	167	272	143	232	124	201	134	217
	F	54.0		46.5		42.0		37.4		32.1		31.2		31.1		31.5		29.1	
1 per span	q	294	478	251	407	217	352	169	275	135	219	111	180	94	152	81	132	65	105
	F	54.0		46.5		42.0		37.4		35.7		35.5		36.1		37.2		40.3	
none	q	175	285	140	228	116	188	85	137	66	107	53	87	45	72	38	62	30	49
	F	57.0		50.4		46.6		43.5		43.3		44.6		46.8		49.4		55.6	

Table 8.12 - Shear and Flexibility (No. 24 gauge Mini-V-Beam, 32/7):

24ga Mini-V-Beam 32/7 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	740	1202	743	1207	722	1174	713	1158	707	1148	702	1141	699	1136	595	953	381	610
	F	7.6		7.4		7.5		7.4		7.3		7.3		7.3		7.3		7.3	
8"	q	589	957	581	944	575	935	525	854	530	861	501	814	508	826	489	794	381	610
	F	8.6		8.5		8.5		8.8		8.7		9.0		8.9		9.1		9.2	
12"	q	502	816	512	832	449	730	420	682	401	652	389	632	380	617	373	605	363	589
	F	9.1		9.0		9.5		9.8		10.1		10.3		10.5		10.6		10.8	
24"	q	390	634	426	693	368	598	287	466	294	477	249	404	260	422	229	371	217	353
	F	10.0		9.7		10.3		11.7		11.8		13.0		12.9		14.0		14.7	
36"	q	390	634	323	525	275	447	287	466	233	379	193	314	213	347	186	302	183	297
	F	10.0		10.8		11.6		11.7		13.2		14.7		14.3		15.5		16.1	
48"	q	390	634	323	525	275	447	208	338	233	379	193	314	164	267	143	232	148	241
	F	10.0		10.8		11.6		13.5		13.2		14.7		16.3		17.8		18.1	
1 per span	q	390	634	323	525	275	447	208	338	165	267	136	220	115	187	100	162	80	130
	F	10.0		10.8		11.6		13.5		15.4		17.4		19.3		21.3		25.3	
none	q	251	407	200	325	165	269	122	198	96	156	78	127	66	107	57	92	45	74
	F	11.5		12.7		14.0		16.6		19.3		22.0		24.7		27.5		33.1	



Table 8.13 - Shear and Flexibility (No. 22 gauge Mini-V-Beam, 32/4):

22ga Mini-V-Beam 32/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	602	978	604	982	597	970	594	965	592	962	591	961	590	959	590	958	540	863
	F	29.7		24.8		21.8		17.8		15.4		13.8		12.7		11.9		10.7	
8"	q	527	856	526	855	525	854	499	810	504	819	488	792	493	802	482	783	478	777
	F	30.8		26.0		22.8		19.3		16.8		15.5		14.3		13.6		12.5	
12"	q	468	761	481	782	439	714	423	687	412	669	404	657	399	648	394	641	388	631
	F	31.5		26.6		24.1		20.4		18.3		16.9		15.9		15.2		14.2	
24"	q	373	606	415	675	369	600	299	486	313	508	270	439	285	463	255	414	246	399
	F	32.8		27.5		25.2		22.9		20.4		20.1		18.7		18.9		18.3	
36"	q	373	606	318	516	275	446	299	486	249	404	212	344	237	385	211	342	210	341
	F	32.8		29.1		27.1		22.9		22.2		22.3		20.3		20.9		20.0	
48"	q	373	606	318	516	275	446	214	349	249	404	212	344	182	296	158	257	169	275
	F	32.8		29.1		27.1		25.4		22.2		22.3		22.9		23.8		22.4	
1 per span	q	373	606	318	516	275	446	214	349	172	279	142	230	120	195	104	169	82	133
	F	32.8		29.1		27.1		25.4		25.4		26.1		27.4		28.9		32.4	
none	q	222	361	179	291	148	240	108	176	85	138	69	112	58	94	49	80	39	63
	F	35.5		32.5		31.1		30.8		32.2		34.3		36.9		39.7		46.0	

Table 8.14 - Shear and Flexibility (No. 22 gauge Mini-V-Beam, 32/7):

22ga Mini-V-Beam 32/7 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	938	1524	942	1530	916	1488	903	1468	895	1455	890	1446	886	1440	843	1349	540	863
	F	5.9		5.8		5.9		5.9		5.9		5.9		5.9		5.9		5.9	
8"	q	746	1212	736	1196	729	1185	666	1082	671	1091	635	1032	644	1046	619	1006	540	863
	F	6.7		6.8		6.8		7.1		7.1		7.4		7.3		7.5		7.6	
12"	q	637	1035	649	1054	569	925	532	865	509	827	493	801	481	782	472	767	460	747
	F	7.2		7.2		7.7		8.0		8.3		8.5		8.7		8.9		9.1	
24"	q	495	804	540	878	467	758	363	591	372	605	315	513	329	535	291	472	275	447
	F	8.0		7.8		8.4		9.8		9.8		11.0		10.9		11.8		12.5	
36"	q	495	804	410	666	348	566	363	591	296	481	246	399	271	441	236	384	232	377
	F	8.0		8.8		9.6		9.8		11.1		12.5		12.1		13.2		13.8	
48"	q	495	804	410	666	348	566	265	430	296	481	246	399	209	340	182	296	188	306
	F	8.0		8.8		9.6		11.3		11.1		12.5		13.9		15.3		15.5	
1 per span	q	495	804	410	666	348	566	265	430	210	341	173	281	147	239	127	207	101	164
	F	8.0		8.8		9.6		11.3		13.1		14.8		16.6		18.4		22.0	
none	q	318	516	255	414	211	343	156	253	123	199	101	163	85	138	73	119	57	93
	F	9.4		10.5		11.7		14.1		16.5		18.9		21.4		23.9		28.8	



Table 8.15 - Shear and Flexibility (No. 20 gauge Mini-V-Beam, 32/4):

20ga Mini-V-Beam 32/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	613	996	615	1000	608	988	605	984	603	981	602	979	601	977	601	976	600	974
	F	19.9		16.8		15.0		12.5		11.0		10.0		9.3		8.8		8.1	
8"	q	537	872	536	871	535	870	508	826	513	834	497	807	503	817	491	797	487	791
	F	20.9		17.9		15.9		13.8		12.3		11.5		10.8		10.4		9.7	
12"	q	477	776	490	797	448	727	430	700	419	682	412	669	406	660	402	653	396	643
	F	21.5		18.5		17.1		14.9		13.6		12.8		12.3		11.8		11.3	
24"	q	380	617	423	687	376	612	304	495	318	517	275	447	290	472	260	422	250	407
	F	22.7		19.3		18.1		17.1		15.5		15.7		14.8		15.2		15.0	
36"	q	380	617	323	526	280	455	304	495	253	412	216	351	241	392	215	349	214	347
	F	22.7		20.7		19.8		17.1		17.2		17.8		16.3		17.0		16.6	
48"	q	380	617	323	526	280	455	219	355	253	412	216	351	187	303	162	263	172	280
	F	22.7		20.7		19.8		19.4		17.2		17.8		18.6		19.7		18.7	
1 per span	q	380	617	323	526	280	455	219	355	176	286	145	236	123	200	107	173	84	136
	F	22.7		20.7		19.8		19.4		20.1		21.2		22.7		24.3		27.9	
none	q	226	368	184	298	151	246	111	181	87	142	71	116	60	97	51	83	39	64
	F	25.2		23.8		23.5		24.4		26.3		28.6		31.3		34.2		40.2	

Table 8.16 - Shear and Flexibility (No. 20 gauge Mini-V-Beam, 32/7):

20ga Mini-V-Beam 32/7 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	955	1552	959	1559	933	1516	920	1495	912	1482	907	1474	903	1467	900	1462	719	1151
	F	4.9		4.9		4.9		5.0		5.0		5.0		5.0		5.0		5.0	
8"	q	760	1235	750	1219	743	1207	678	1102	684	1112	647	1052	656	1066	631	1025	621	1008
	F	5.7		5.7		5.7		6.1		6.1		6.3		6.3		6.5		6.6	
12"	q	649	1054	661	1074	580	942	542	881	518	842	502	816	490	796	481	782	468	761
	F	6.1		6.1		6.6		6.9		7.2		7.4		7.6		7.7		7.9	
24"	q	504	819	551	895	475	772	370	602	379	616	321	522	335	545	296	481	280	456
	F	6.8		6.7		7.3		8.5		8.6		9.6		9.6		10.4		11.0	
36"	q	504	819	418	678	355	577	370	602	302	490	251	408	277	451	242	393	236	384
	F	6.8		7.6		8.3		8.5		9.7		11.0		10.7		11.7		12.2	
48"	q	504	819	418	678	355	577	270	439	302	490	251	408	214	348	186	303	192	312
	F	6.8		7.6		8.3		9.9		9.7		11.0		12.3		13.6		13.8	
1 per span	q	504	819	418	678	355	577	270	439	215	349	177	288	151	245	131	212	103	167
	F	6.8		7.6		8.3		9.9		11.5		13.1		14.8		16.4		19.7	
none	q	324	526	261	423	216	350	159	259	126	204	103	168	87	142	75	122	59	95
	F	8.1		9.1		10.2		12.4		14.6		16.9		19.1		21.4		25.9	



Table 8.17 - Shear and Flexibility (No. 18 gauge Mini-V-Beam, 32/4):

18ga Mini-V-Beam 32/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	795	1292	798	1297	788	1281	785	1275	782	1271	781	1269	780	1267	779	1266	778	1263
	F	11.7		10.1		9.2		7.9		7.2		6.7		6.3		6.0		5.7	
8"	q	696	1131	695	1129	694	1128	659	1071	666	1082	644	1047	652	1059	636	1034	631	1026
	F	12.6		11.1		10.0		9.1		8.3		8.0		7.6		7.5		7.1	
12"	q	619	1006	636	1033	580	943	558	907	544	884	534	868	527	856	521	847	513	834
	F	13.2		11.5		11.0		10.0		9.5		9.1		8.9		8.7		8.5	
24"	q	493	801	548	891	488	793	395	641	413	671	357	580	376	611	337	547	325	527
	F	14.2		12.3		11.9		12.0		11.1		11.7		11.1		11.7		11.8	
36"	q	493	801	419	682	363	590	395	641	328	534	280	455	313	509	278	452	277	450
	F	14.2		13.5		13.4		12.0		12.6		13.5		12.4		13.2		13.1	
48"	q	493	801	419	682	363	590	283	460	328	534	280	455	243	395	212	344	225	365
	F	14.2		13.5		13.4		14.0		12.6		13.5		14.5		15.6		15.0	
1 per span	q	493	801	419	682	363	590	283	460	230	373	190	308	161	262	140	227	110	178
	F	14.2		13.5		13.4		14.0		15.1		16.5		18.0		19.6		23.1	
none	q	293	477	239	389	198	321	146	237	115	186	94	152	79	128	68	110	52	85
	F	16.4		16.3		16.7		18.4		20.6		23.0		25.6		28.3		33.9	

Table 8.18 - Shear and Flexibility (No. 18 gauge Mini-V-Beam, 32/7):

18ga Mini-V-Beam 32/7 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	1239	2013	1244	2021	1209	1965	1193	1939	1183	1922	1176	1911	1171	1902	1167	1896	1069	1710
	F	3.8		3.8		3.9		4.0		4.0		4.0		4.0		4.0		4.1	
8"	q	986	1602	972	1580	963	1565	880	1429	887	1441	839	1364	851	1382	818	1329	805	1308
	F	4.5		4.6		4.6		4.9		5.0		5.2		5.2		5.3		5.4	
12"	q	841	1367	857	1392	752	1222	703	1142	672	1092	651	1058	635	1033	624	1014	607	987
	F	4.9		4.9		5.3		5.7		5.9		6.1		6.3		6.4		6.6	
24"	q	653	1062	714	1160	616	1002	480	780	492	799	417	677	435	706	384	624	364	592
	F	5.5		5.4		6.0		7.0		7.2		8.1		8.0		8.8		9.3	
36"	q	653	1062	541	880	460	748	480	780	391	636	327	532	361	586	315	512	307	499
	F	5.5		6.2		6.9		7.0		8.2		9.3		9.0		9.9		10.4	
48"	q	653	1062	541	880	460	748	352	572	391	636	327	532	279	453	243	395	250	406
	F	5.5		6.2		6.9		8.3		8.2		9.3		10.4		11.5		11.8	
1 per span	q	653	1062	541	880	460	748	352	572	280	454	231	376	197	320	171	278	135	219
	F	5.5		6.2		6.9		8.3		9.7		11.2		12.6		14.0		16.9	
none	q	420	682	339	551	281	457	208	338	165	267	135	220	115	186	99	161	77	125
	F	6.6		7.6		8.5		10.5		12.5		14.4		16.4		18.4		22.4	



9.0 Nor-Clad®

Figure 9.1 - Basic Dimensions and Panel Attachment (Nor-Clad):

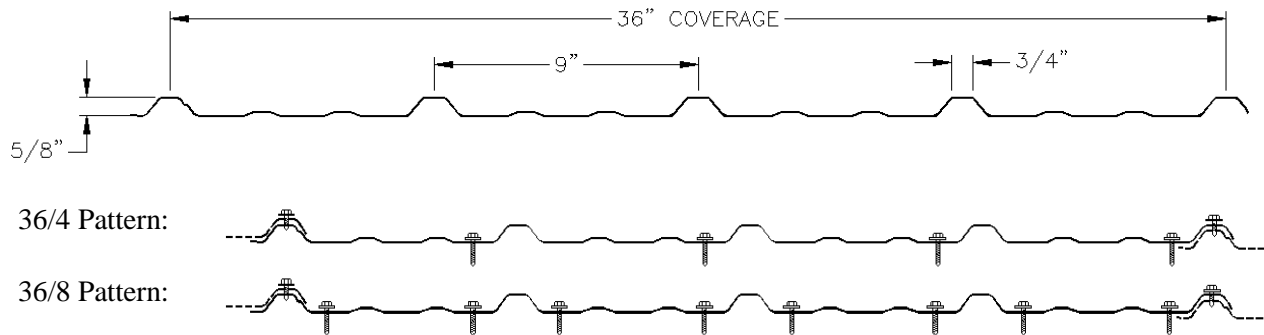


Table 9.1 - Section Properties (Nor-Clad):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.65	0.0139	80	82	0.1912	0.0080	0.15	0.0164	0.0539
26	0.81	0.0173	80	82	0.2380	0.0100	0.15	0.0204	0.0663

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _{e+}	y _b	S _{e+}	I _{e-}	y _b	S _{e-}	I ₊	I ₋	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
29	0.0259	0.0080	0.14	0.0147	0.0057	0.30	0.0149	0.0080	0.0064
26	0.0360	0.0100	0.15	0.0195	0.0097	0.30	0.0188	0.0100	0.0098



Table 9.2 - Inward (Positive) Uniform Allowable Loads (Nor-Clad):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			16"	2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	6' - 0"
29	Single Span	ASD, W/Ω	199	88	56	39	29	22	17	14	10
		LRFD, ϕW	316	140	89	62	46	35	28	22	16
		L/240	-	66	34	19	12	8	6	4	2
		L/180	-	87	45	26	16	11	8	6	3
		L/120	-	-	-	39	24	16	12	8	5
	Double Span	ASD, W/Ω	196	88	57	39	28	22	17	13	9
		LRFD, ϕW	296	132	85	59	43	33	26	21	14
		L/240	-	-	-	-	-	20	14	10	6
		L/180	-	-	-	-	-	-	-	-	8
		L/180	-	-	-	-	-	-	-	-	8
	Triple Span	ASD, W/Ω	243	110	70	49	36	27	21	18	12
		LRFD, ϕW	366	165	106	73	54	41	32	27	19
L/240		-	-	63	37	23	15	11	8	5	
L/180		-	-	-	49	31	21	14	11	6	
L/120		-	-	-	-	-	-	-	16	9	
26	Single Span	ASD, W/Ω	264	117	75	52	38	29	23	19	13
		LRFD, ϕW	418	185	118	82	60	46	37	30	21
		L/240	-	82	42	24	15	10	7	5	3
		L/180	-	109	56	32	20	14	10	7	4
		L/120	-	-	-	49	31	20	14	10	6
	Double Span	ASD, W/Ω	248	111	71	50	36	28	22	17	12
		LRFD, ϕW	373	167	107	75	54	42	33	26	18
		L/240	-	-	-	-	-	25	17	13	7
		L/180	-	-	-	-	-	-	-	17	10
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	307	138	89	61	45	34	27	22	15
		LRFD, ϕW	462	208	134	93	68	52	41	34	23
L/240		-	-	79	46	29	19	14	10	6	
L/180		-	-	-	61	38	26	18	13	8	
L/120		-	-	-	-	-	-	-	20	11	

Table 9.3 - Allowable Reactions at Supports (Nor-Clad):

Reactions at Supports based on Web Crippling					
Gauge	Condition	Bearing Length of Webs			
		ASD (P_n/Ω) (lbs/ft width)		LRFD (ϕP_n) (lbs/ft width)	
		1"	1.5"	1"	1.5"
29	End	123	142	188	217
	Interior	162	184	241	273
26	End	184	211	281	323
	Interior	251	283	373	420



Table 9.4 - Outward (Negative) Uniform Allowable Loads (No. 29 gauge Nor-Clad):

Nor-Clad, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				16"	2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	6' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/8	330	524	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#12	36/4	285	427	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
	12ga (.1050")	#12	36/8	330	524	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#12	36/4	285	427	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
	14ga (.0700")	#12	36/8	330	524	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#12	36/4	278	418	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
	16ga (.0590")	#12	36/8	330	524	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#12	36/4	235	352	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
18ga (.0459")	#12	36/8	330	524	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15	
	#12	36/4	183	274	122	183	94	146	65	103	48	74	37	50	29	35	23	26	15	15	
20ga (.0354")	#12	36/8	282	422	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15	
	#12	36/4	141	211	94	141	75	113	63	94	48	74	37	50	29	35	23	26	15	15	
22ga (.0294")	#12	36/8	234	351	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15	
	#12	36/4	117	175	78	117	62	94	52	78	45	67	37	50	29	35	23	26	15	15	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/8	330	524	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#12	36/4	285	427	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
	12ga (.1050")	#12	36/8	330	524	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#12	36/4	285	427	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
	14ga (.0700")	#12	36/8	330	524	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#12	36/4	193	289	129	193	94	149	65	103	48	74	37	50	29	35	23	26	15	15
	16ga (.0590")	#12	36/8	325	487	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#12	36/4	162	244	108	162	87	130	65	103	48	74	37	50	29	35	23	26	15	15
18ga (.0459")	#12	36/8	253	379	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15	
	#12	36/4	126	190	84	126	67	101	56	84	48	72	37	50	29	35	23	26	15	15	
20ga (.0354")	#12	36/8	195	292	130	195	94	149	65	103	48	74	37	50	29	35	23	26	15	15	
	#12	36/4	97	146	65	97	52	78	43	65	37	56	32	49	29	35	23	26	15	15	
22ga (.0294")	#12	36/8	162	243	108	162	86	130	65	103	48	74	37	50	29	35	23	26	15	15	
	#12	36/4	81	121	54	81	43	65	36	54	31	46	27	40	24	35	22	26	15	15	
Plywood & OSB	15/32"	#14	36/8	209	283	140	189	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#14	36/4	105	141	70	94	56	75	47	63	40	54	35	47	29	35	23	26	15	15
	19/32"	#14	36/8	265	358	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#14	36/4	133	179	88	119	71	96	59	80	48	68	37	50	29	35	23	26	15	15
23/32"	#14	36/8	321	434	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15	
	#14	36/4	161	217	107	145	86	116	65	96	48	74	37	50	29	35	23	26	15	15	
Lumber (DFL)	1" min	#9	36/8	330	523	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#9	36/4	194	262	129	174	94	140	65	103	48	74	37	50	29	35	23	26	15	15
		#14	36/8	330	524	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15
		#14	36/4	265	358	147	233	94	149	65	103	48	74	37	50	29	35	23	26	15	15



Table 9.5 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge Nor-Clad):

Nor-Clad, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				16"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	6'-0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/8	437	694	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	355	532	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
	12ga (.1050")	#12	36/8	437	694	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	355	532	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
	14ga (.0700")	#12	36/8	437	694	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	278	418	186	278	124	197	86	137	63	101	49	76	38	53	31	39	22	22
	16ga (.0590")	#12	36/8	437	694	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	235	352	156	235	124	188	86	137	63	101	49	76	38	53	31	39	22	22
	18ga (.0459")	#12	36/8	365	548	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	183	274	122	183	97	146	81	122	63	101	49	76	38	53	31	39	22	22
	20ga (.0354")	#12	36/8	282	422	188	282	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	141	211	94	141	75	113	63	94	54	80	47	70	38	53	31	39	22	22
	22ga (.0294")	#12	36/8	234	351	156	234	124	187	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	117	175	78	117	62	94	52	78	45	67	39	58	35	52	31	39	22	22
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/8	437	694	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	355	532	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
	12ga (.1050")	#12	36/8	437	694	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	289	434	193	289	124	197	86	137	63	101	49	76	38	53	31	39	22	22
	14ga (.0700")	#12	36/8	386	578	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	193	289	129	193	103	154	86	129	63	101	49	76	38	53	31	39	22	22
	16ga (.0590")	#12	36/8	325	487	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	162	244	108	162	87	130	72	108	62	93	49	76	38	53	31	39	22	22
	18ga (.0459")	#12	36/8	253	379	169	253	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#12	36/4	126	190	84	126	67	101	56	84	48	72	42	63	37	53	31	39	22	22
20ga (.0354")	#12	36/8	195	292	130	195	104	156	86	130	63	101	49	76	38	53	31	39	22	22	
	#12	36/4	97	146	65	97	52	78	43	65	37	56	32	49	29	43	26	39	22	22	
22ga (.0294")	#12	36/8	162	243	108	162	86	130	72	108	62	93	49	76	38	53	31	39	22	22	
	#12	36/4	81	121	54	81	43	65	36	54	31	46	27	40	24	36	22	32	18	22	
Plywood & OSB	15/32"	#14	36/8	209	283	140	189	112	151	86	126	63	101	49	76	38	53	31	39	22	22
		#14	36/4	105	141	70	94	56	75	47	63	40	54	35	47	31	42	28	38	22	22
	19/32"	#14	36/8	265	358	177	239	124	191	86	137	63	101	49	76	38	53	31	39	22	22
		#14	36/4	133	179	88	119	71	96	59	80	51	68	44	60	38	53	31	39	22	22
	23/32"	#14	36/8	321	434	194	289	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#14	36/4	161	217	107	145	86	116	71	96	61	83	49	72	38	53	31	39	22	22
Lumber (DFL)	1" min	#9	36/8	388	523	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#9	36/4	194	262	129	174	103	140	86	116	63	100	49	76	38	53	31	39	22	22
		#14	36/8	437	694	194	308	124	197	86	137	63	101	49	76	38	53	31	39	22	22
		#14	36/4	265	358	177	238	124	191	86	137	63	101	49	76	38	53	31	39	22	22



Table 9.6 - Shear and Flexibility (No. 29 gauge Nor-Clad, 36/4):

29ga Nor-Clad 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	326	529	323	525	324	527	321	522	323	524	263	420	208	332	168	269	117	187
	F	17.1		14.6		13.4		12.9		12.3		12.0		11.7		11.5		11.2	
8"	q	295	480	286	465	286	465	287	466	287	466	263	420	208	332	168	269	117	187
	F	18.3		16.0		15.0		14.3		13.9		14.0		13.7		13.4		13.4	
12"	q	295	480	255	414	263	428	242	393	251	408	234	381	208	332	168	269	117	187
	F	18.3		17.1		15.9		16.1		15.3		15.7		15.1		15.5		15.4	
24"	q	253	411	201	326	227	369	203	330	183	297	165	269	189	307	168	269	117	187
	F	19.5		19.0		17.2		17.6		18.3		19.1		17.6		18.3		19.8	
36"	q	253	411	201	326	171	279	148	241	183	297	165	269	151	245	138	224	117	187
	F	19.5		19.0		19.5		20.5		18.3		19.1		20.0		21.0		23.0	
48"	q	253	411	201	326	171	279	148	241	130	212	116	189	151	245	138	224	117	187
	F	19.5		19.0		19.5		20.5		21.6		22.9		20.0		21.0		23.0	
1 per span	q	253	411	201	326	171	279	148	241	130	212	116	189	104	170	95	154	78	127
	F	19.5		19.0		19.5		20.5		21.6		22.9		24.3		25.7		28.7	
none	q	156	254	111	180	89	145	74	120	63	102	54	88	48	78	43	70	35	57
	F	22.4		23.3		25.0		27.0		29.2		31.6		34.0		36.5		41.7	

Table 9.7 - Shear and Flexibility (No. 26 gauge Nor-Clad, 36/4):

26ga Nor-Clad 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	405	659	402	654	404	656	400	650	401	652	366	586	289	463	234	375	163	260
	F	12.1		10.7		10.0		9.7		9.4		9.3		9.1		9.0		8.8	
8"	q	368	597	356	578	356	579	357	580	357	580	341	554	289	463	234	375	163	260
	F	13.1		12.0		11.4		11.1		10.8		11.1		10.9		10.7		10.8	
12"	q	368	597	317	516	328	533	301	489	312	507	292	474	289	463	234	375	163	260
	F	13.1		12.9		12.2		12.6		12.1		12.5		12.1		12.5		12.5	
24"	q	315	511	250	406	283	460	253	411	227	370	206	335	235	382	218	354	163	260
	F	14.2		14.6		13.4		14.0		14.8		15.6		14.4		15.1		16.5	
36"	q	315	511	250	406	213	347	185	300	227	370	206	335	188	305	172	279	147	239
	F	14.2		14.6		15.5		16.6		14.8		15.6		16.5		17.5		19.4	
48"	q	315	511	250	406	213	347	185	300	162	264	145	235	188	305	172	279	147	239
	F	14.2		14.6		15.5		16.6		17.7		19.0		16.5		17.5		19.4	
1 per span	q	315	511	250	406	213	347	185	300	162	264	145	235	130	211	118	192	98	159
	F	14.2		14.6		15.5		16.6		17.7		19.0		20.3		21.7		24.5	
none	q	194	316	138	224	112	182	92	150	79	128	68	111	60	98	54	87	44	72
	F	16.8		18.5		20.3		22.4		24.6		26.8		29.1		31.4		36.1	

Note: Shear Tables 9.6 & 9.7 based on 36/4 attachment pattern. Values acceptable for use (conservative) for 36/8 attachment pattern.



10.0 Nu-Wave® Corrugated

Figure 10.1 - Basic Dimensions and Panel Attachment (Nu-Wave Corrugated):

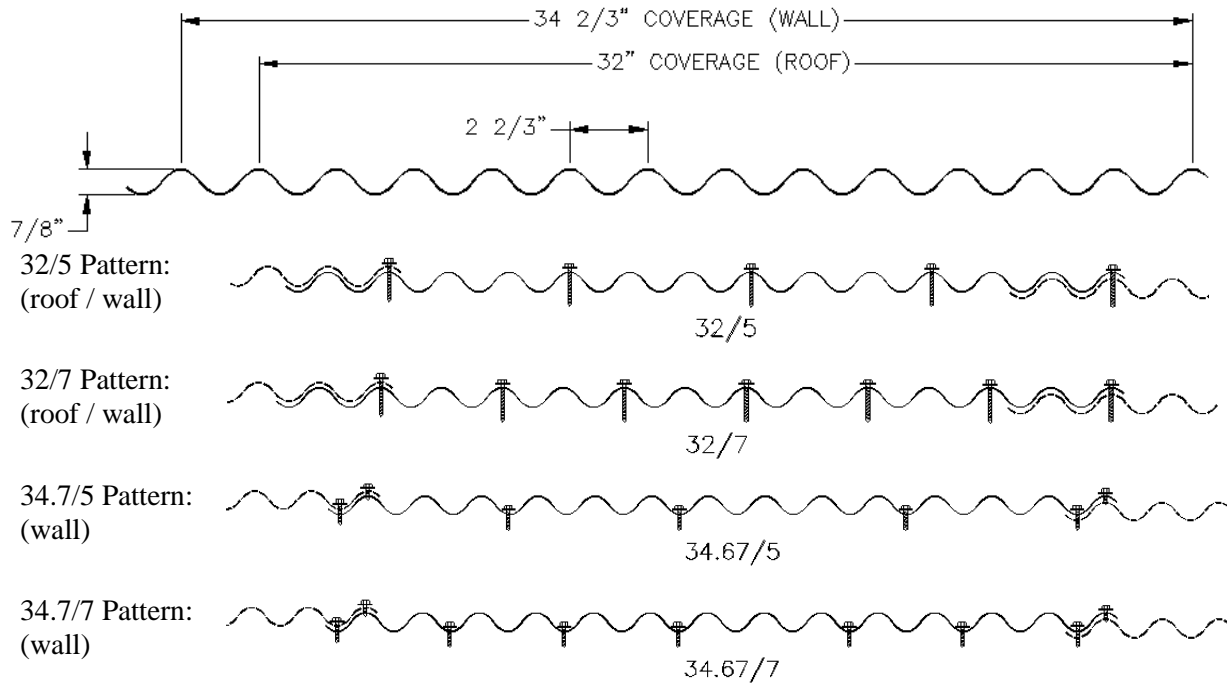




Table 10.1 - Section Properties (Nu-Wave Corrugated):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w psf	t in	Fy ksi	Fu ksi	A _g in ² /ft	I _g in ⁴ /ft	y _b in	S _{g+} in ³ /ft	S _{g-} in ³ /ft
26	0.94	0.0173	80	82	0.2749	0.0256	0.44	0.0579	0.0579
24	1.25	0.0232	50	65	0.3682	0.0346	0.44	0.0769	0.0769
22	1.59	0.0294	50	65	0.4661	0.0415	0.45	0.0964	0.0964
20	1.91	0.0354	40	55	0.5606	0.0519	0.45	0.1150	0.1150

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative				
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	$I_d = (2I_e + I_g)/3$	
A _e /ft in ²	I _{e+} in ⁴ /ft	y _b in	S _{e+} in ³ /ft	I _{e-} in ⁴ /ft	y _b in	S _{e-} in ³ /ft	I ₊ in ⁴ /ft	I ₋ in ⁴ /ft	
26	0.2117	0.0256	0.44	0.0579	0.0256	0.44	0.0579	0.0256	0.0256
24	0.3369	0.0346	0.45	0.0769	0.0346	0.45	0.0769	0.0346	0.0346
22	0.4589	0.0415	0.43	0.0964	0.0415	0.43	0.0964	0.0415	0.0415
20	0.5550	0.0519	0.45	0.1150	0.0519	0.45	0.1150	0.0519	0.0519



Table 10.2 - Inward (Positive) Uniform Allowable Loads (Nu-Wave Corrugated):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"
26	Single Span	ASD, W/Ω	347	222	154	113	87	55	39	28	22
		LRFD, φW	550	352	244	180	137	88	61	45	34
		L/240	210	107	62	39	26	13	8	5	3
		L/180	280	143	83	52	35	18	10	7	4
		L/120	-	215	124	78	52	27	16	10	7
	Double Span	ASD, W/Ω	334	217	151	111	85	55	38	28	21
		LRFD, φW	503	326	227	168	128	83	57	42	32
		L/240	-	-	150	94	63	32	19	12	8
		L/180	-	-	-	-	84	43	25	16	11
		L/120	-	-	-	-	-	-	37	24	16
	Triple Span	ASD, W/Ω	411	268	188	138	106	69	47	35	27
		LRFD, φW	619	403	282	208	160	103	71	53	41
		L/240	396	203	117	74	50	25	15	9	6
		L/180	-	-	156	99	66	34	20	12	8
		L/120	-	-	-	-	99	51	29	18	12
24	Single Span	ASD, W/Ω	384	246	171	125	96	61	43	31	24
		LRFD, φW	609	390	271	199	152	97	68	50	38
		L/240	284	145	84	53	35	18	11	7	4
		L/180	378	194	112	71	47	24	14	9	6
		L/120	-	-	168	106	71	36	21	13	9
	Double Span	ASD, W/Ω	370	239	167	123	95	60	42	31	23
		LRFD, φW	556	360	252	186	143	91	64	46	35
		L/240	-	-	-	-	85	44	25	16	11
		L/180	-	-	-	-	-	58	34	21	14
		L/120	-	-	-	-	-	-	-	-	21
	Triple Span	ASD, W/Ω	455	297	208	154	118	75	52	39	30
		LRFD, φW	685	446	313	231	177	114	79	58	45
		L/240	-	274	159	100	67	34	20	12	8
		L/180	-	-	-	133	89	46	26	17	11
		L/120	-	-	-	-	-	69	40	25	17
22	Single Span	ASD, W/Ω	481	308	214	157	120	77	53	39	30
		LRFD, φW	763	488	339	249	191	122	85	62	48
		L/240	340	174	101	64	43	22	13	8	5
		L/180	454	232	134	85	57	29	17	11	7
		L/120	-	-	202	127	85	44	25	16	11
	Double Span	ASD, W/Ω	463	300	210	154	119	76	53	39	29
		LRFD, φW	697	452	316	232	179	115	80	59	44
		L/240	-	-	-	153	102	52	30	19	13
		L/180	-	-	-	-	-	70	40	25	17
		L/120	-	-	-	-	-	-	-	38	26
	Triple Span	ASD, W/Ω	571	371	261	193	148	95	65	48	37
		LRFD, φW	859	559	392	290	223	143	99	72	55
		L/240	-	329	190	120	80	41	24	15	10
		L/180	-	-	254	160	107	55	32	20	13
		L/120	-	-	-	-	-	82	48	30	20



Table 10.2 (Cont'd) - Inward (Positive) Uniform Allowable Loads (Nu-Wave Corrugated)

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"
20	Single Span	ASD, W/Ω	459	294	204	150	115	73	51	37	29
		LRFD, ϕW	728	466	324	238	182	116	81	59	46
		L/240	425	218	126	79	53	27	16	10	7
		L/180	-	290	168	106	71	36	21	13	9
		L/120	-	-	-	-	106	54	32	20	13
	Double Span	ASD, W/Ω	442	286	201	148	114	72	50	37	28
		LRFD, ϕW	665	431	302	222	171	109	75	55	42
		L/240	-	-	-	-	-	66	38	24	16
		L/180	-	-	-	-	-	-	-	32	21
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	544	354	248	184	141	91	63	46	35
		LRFD, ϕW	819	533	374	276	212	137	95	70	53
		L/240	-	-	238	150	100	51	30	19	13
		L/180	-	-	-	-	134	69	40	25	17
		L/120	-	-	-	-	-	-	59	37	25

Table 10.3 - Allowable Reactions at Supports (Nu-Wave Corrugated):

Reactions at Supports based on Web Crippling			
Gauge	Condition	Bearing Length of Webs	
		ASD (P_n/Ω) (lbs/ft width)	LRFD (ϕP_n) (lbs/ft width)
		1.5"	1.5"
26	End	509	815
	Interior	711	1138
24	End	540	864
	Interior	879	1408
22	End	836	1339
	Interior	1406	2251
20	End	1118	1791
	Interior	2062	3301



Table 10.4 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge Nu-Wave Corrugated):

Nu-Wave Corrugated, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
				ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW		
Material / Grade	Thick-ness																				
Steel (Gr 50 min.)	≥10ga (.1350")	#12	34.7/7	430	644	344	516	257	407	189	296	144	198	92	101	59	59	37	37	25	25
		#12	34.7/5	307	460	246	368	205	307	175	263	144	198	92	101	59	59	37	37	25	25
	12ga (.1050")	#12	34.7/7	430	644	344	516	257	407	189	296	144	198	92	101	59	59	37	37	25	25
		#12	34.7/5	307	460	246	368	205	307	175	263	144	198	92	101	59	59	37	37	25	25
	14ga (.0700")	#12	34.7/7	337	506	270	405	225	337	189	289	144	198	92	101	59	59	37	37	25	25
		#12	34.7/5	241	361	193	289	161	241	138	207	120	181	92	101	59	59	37	37	25	25
	16ga (.0590")	#12	34.7/7	284	426	227	341	190	284	162	244	142	198	92	101	59	59	37	37	25	25
		#12	34.7/5	203	305	162	244	135	203	116	174	102	152	81	101	59	59	37	37	25	25
	18ga (.0459")	#12	34.7/7	221	332	177	265	147	221	126	190	111	166	88	101	59	59	37	37	25	25
		#12	34.7/5	158	237	126	190	105	158	90	135	79	118	63	95	53	59	37	37	25	25
	20ga (.0354")	#12	34.7/7	171	256	136	205	114	171	97	146	85	128	68	101	57	59	37	37	25	25
		#12	34.7/5	122	183	97	146	81	122	70	104	61	91	49	73	41	59	35	37	25	25
	22ga (.0294")	#12	34.7/7	142	213	113	170	94	142	81	121	71	106	57	85	47	59	37	37	25	25
		#12	34.7/5	101	152	81	121	67	101	58	87	51	76	40	61	34	51	29	37	25	25
Steel (Gr 33 min.)	≥10ga (.1350")	#12	34.7/7	430	644	344	516	257	407	189	296	144	198	92	101	59	59	37	37	25	25
		#12	34.7/5	307	460	246	368	205	307	175	263	144	198	92	101	59	59	37	37	25	25
	12ga (.1050")	#12	34.7/7	350	525	280	420	234	350	189	296	144	198	92	101	59	59	37	37	25	25
		#12	34.7/5	250	375	200	300	167	250	143	214	125	188	92	101	59	59	37	37	25	25
	14ga (.0700")	#12	34.7/7	234	350	187	280	156	234	133	200	117	175	92	101	59	59	37	37	25	25
		#12	34.7/5	167	250	133	200	111	167	95	143	83	125	67	100	56	59	37	37	25	25
	16ga (.0590")	#12	34.7/7	197	295	157	236	131	197	112	169	98	148	79	101	59	59	37	37	25	25
		#12	34.7/5	141	211	112	169	94	141	80	121	70	105	56	84	47	59	37	37	25	25
	18ga (.0459")	#12	34.7/7	153	230	123	184	102	153	88	131	77	115	61	92	51	59	37	37	25	25
		#12	34.7/5	109	164	88	131	73	109	63	94	55	82	44	66	36	55	31	37	25	25
	20ga (.0354")	#12	34.7/7	118	177	94	142	79	118	67	101	59	89	47	71	39	59	34	37	25	25
		#12	34.7/5	84	127	67	101	56	84	48	72	42	63	34	51	28	42	24	36	21	25
	22ga (.0294")	#12	34.7/7	98	147	78	118	65	98	56	84	49	74	39	59	33	49	28	37	25	25
		#12	34.7/5	70	105	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	25
Plywood & OSB	15/32"	#14	34.7/7	127	171	102	137	85	114	73	98	63	86	51	69	42	57	36	37	25	25
		#14	34.7/5	91	122	73	98	60	82	52	70	45	61	36	49	30	41	26	35	23	25
	19/32"	#14	34.7/7	161	217	129	174	107	145	92	124	80	108	64	87	54	59	37	37	25	25
		#14	34.7/5	115	155	92	124	77	103	66	89	57	77	46	62	38	52	33	37	25	25
	23/32"	#14	34.7/7	195	263	156	210	130	175	111	150	97	131	78	101	59	59	37	37	25	25
		#14	34.7/5	139	188	111	150	93	125	79	107	69	94	56	75	46	59	37	37	25	25
Lumber (DFL)	1" min	#9	34.7/7	235	317	188	254	157	211	134	181	117	158	92	101	59	59	37	37	25	25
		#9	34.7/5	168	226	134	181	112	151	96	129	84	113	67	91	56	59	37	37	25	25
		#14	34.7/7	321	433	257	347	214	289	183	248	144	198	92	101	59	59	37	37	25	25
		#14	34.7/5	229	310	183	248	153	206	131	177	115	155	92	101	59	59	37	37	25	25

Note: Load table above based on 34.7" installation coverage. Values acceptable for use (conservative) for 32" installation coverage.



Table 10.5 - Outward (Negative) Uniform Allowable Loads (No. 24 gauge Nu-Wave Corrugated):

Nu-Wave Corrugated, 24ga																						
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																		
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																		
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"										
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD			
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	
Steel (Gr 50 min.)	≥10ga (.1350")	#12	34.7/7	457	685	307	487	213	338	157	248	120	190	77	122	53	79	39	50	30	33	
		#12	34.7/5	326	489	261	391	213	326	157	248	120	190	77	122	53	79	39	50	30	33	
	12ga (.1050")	#12	34.7/7	457	685	307	487	213	338	157	248	120	190	77	122	53	79	39	50	30	33	
		#12	34.7/5	326	489	261	391	213	326	157	248	120	190	77	122	53	79	39	50	30	33	
	14ga (.0700")	#12	34.7/7	337	506	270	405	213	337	157	248	120	190	77	122	53	79	39	50	30	33	
		#12	34.7/5	241	361	193	289	161	241	138	207	120	181	77	122	53	79	39	50	30	33	
	16ga (.0590")	#12	34.7/7	284	426	227	341	190	284	157	244	120	190	77	122	53	79	39	50	30	33	
		#12	34.7/5	203	305	162	244	135	203	116	174	102	152	77	122	53	79	39	50	30	33	
	18ga (.0459")	#12	34.7/7	221	332	177	265	147	221	126	190	111	166	77	122	53	79	39	50	30	33	
		#12	34.7/5	158	237	126	190	105	158	90	135	79	118	63	95	53	79	39	50	30	33	
	20ga (.0354")	#12	34.7/7	171	256	136	205	114	171	97	146	85	128	68	102	53	79	39	50	30	33	
		#12	34.7/5	122	183	97	146	81	122	70	104	61	91	49	73	41	61	35	50	30	33	
	22ga (.0294")	#12	34.7/7	142	213	113	170	94	142	81	121	71	106	57	85	47	71	39	50	30	33	
		#12	34.7/5	101	152	81	121	67	101	58	87	51	76	40	61	34	51	29	43	25	33	
	Steel (Gr 33 min.)	≥10ga (.1350")	#12	34.7/7	450	676	307	487	213	338	157	248	120	190	77	122	53	79	39	50	30	33
			#12	34.7/5	322	483	257	386	213	322	157	248	120	190	77	122	53	79	39	50	30	33
12ga (.1050")		#12	34.7/7	350	525	280	420	213	338	157	248	120	190	77	122	53	79	39	50	30	33	
		#12	34.7/5	250	375	200	300	167	250	143	214	120	188	77	122	53	79	39	50	30	33	
14ga (.0700")		#12	34.7/7	234	350	187	280	156	234	133	200	117	175	77	122	53	79	39	50	30	33	
		#12	34.7/5	167	250	133	200	111	167	95	143	83	125	67	100	53	79	39	50	30	33	
16ga (.0590")		#12	34.7/7	197	295	157	236	131	197	112	169	98	148	77	118	53	79	39	50	30	33	
		#12	34.7/5	141	211	112	169	94	141	80	121	70	105	56	84	47	70	39	50	30	33	
18ga (.0459")		#12	34.7/7	153	230	123	184	102	153	88	131	77	115	61	92	51	77	39	50	30	33	
		#12	34.7/5	109	164	88	131	73	109	63	94	55	82	44	66	36	55	31	47	27	33	
20ga (.0354")	#12	34.7/7	118	177	94	142	79	118	67	101	59	89	47	71	39	59	34	50	30	33		
	#12	34.7/5	84	127	67	101	56	84	48	72	42	63	34	51	28	42	24	36	21	32		
22ga (.0294")	#12	34.7/7	98	147	78	118	65	98	56	84	49	74	39	59	33	49	28	42	25	33		
	#12	34.7/5	70	105	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	26		
Plywood & OSB	15/32"	#14	34.7/7	127	171	102	137	85	114	73	98	63	86	51	69	42	57	36	49	30	33	
		#14	34.7/5	91	122	73	98	60	82	52	70	45	61	36	49	30	41	26	35	23	31	
	19/32"	#14	34.7/7	161	217	129	174	107	145	92	124	80	108	64	87	53	72	39	50	30	33	
		#14	34.7/5	115	155	92	124	77	103	66	89	57	77	46	62	38	52	33	44	29	33	
	23/32"	#14	34.7/7	195	263	156	210	130	175	111	150	97	131	77	105	53	79	39	50	30	33	
		#14	34.7/5	139	188	111	150	93	125	79	107	69	94	56	75	46	63	39	50	30	33	
Lumber (DFL)	1" min	#9	34.7/7	235	317	188	254	157	211	134	181	117	158	77	122	53	79	39	50	30	33	
		#9	34.7/5	168	226	134	181	112	151	96	129	84	113	67	91	53	75	39	50	30	33	
		#14	34.7/7	321	433	257	347	213	289	157	248	120	190	77	122	53	79	39	50	30	33	
		#14	34.7/5	229	310	183	248	153	206	131	177	115	155	77	122	53	79	39	50	30	33	

Note: Load table above based on 34.7" installation coverage. Values acceptable for use (conservative) for 32" installation coverage.



Table 10.6 - Outward (Negative) Uniform Allowable Loads (No. 22 gauge Nu-Wave Corrugated):

Nu-Wave Corrugated, 22ga																						
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																		
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																		
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"										
				ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW			
Material / Grade	Thick-ness																					
Steel (Gr 50 min.)	≥10ga (.1350")	#12	34.7/7	579	868	385	611	267	424	196	312	150	238	96	153	67	95	49	60	38	40	
		#12	34.7/5	413	620	331	496	267	413	196	312	150	238	96	153	67	95	49	60	38	40	
	12ga (.1050")	#12	34.7/7	506	759	385	607	267	424	196	312	150	238	96	153	67	95	49	60	38	40	
		#12	34.7/5	361	542	289	434	241	361	196	310	150	238	96	153	67	95	49	60	38	40	
	14ga (.0700")	#12	34.7/7	337	506	270	405	225	337	193	289	150	238	96	153	67	95	49	60	38	40	
		#12	34.7/5	241	361	193	289	161	241	138	207	120	181	96	145	67	95	49	60	38	40	
	16ga (.0590")	#12	34.7/7	284	426	227	341	190	284	162	244	142	213	96	153	67	95	49	60	38	40	
		#12	34.7/5	203	305	162	244	135	203	116	174	102	152	81	122	67	95	49	60	38	40	
	18ga (.0459")	#12	34.7/7	221	332	177	265	147	221	126	190	111	166	88	133	67	95	49	60	38	40	
		#12	34.7/5	158	237	126	190	105	158	90	135	79	118	63	95	53	79	45	60	38	40	
	20ga (.0354")	#12	34.7/7	171	256	136	205	114	171	97	146	85	128	68	102	57	85	49	60	38	40	
		#12	34.7/5	122	183	97	146	81	122	70	104	61	91	49	73	41	61	35	52	30	40	
	22ga (.0294")	#12	34.7/7	142	213	113	170	94	142	81	121	71	106	57	85	47	71	40	60	35	40	
		#12	34.7/5	101	152	81	121	67	101	58	87	51	76	40	61	34	51	29	43	25	38	
	Steel (Gr 33 min.)	≥10ga (.1350")	#12	34.7/7	450	676	360	540	267	424	196	312	150	238	96	153	67	95	49	60	38	40
			#12	34.7/5	322	483	257	386	214	322	184	276	150	238	96	153	67	95	49	60	38	40
12ga (.1050")		#12	34.7/7	350	525	280	420	234	350	196	300	150	238	96	153	67	95	49	60	38	40	
		#12	34.7/5	250	375	200	300	167	250	143	214	125	188	96	150	67	95	49	60	38	40	
14ga (.0700")		#12	34.7/7	234	350	187	280	156	234	133	200	117	175	93	140	67	95	49	60	38	40	
		#12	34.7/5	167	250	133	200	111	167	95	143	83	125	67	100	56	83	48	60	38	40	
16ga (.0590")		#12	34.7/7	197	295	157	236	131	197	112	169	98	148	79	118	66	95	49	60	38	40	
		#12	34.7/5	141	211	112	169	94	141	80	121	70	105	56	84	47	70	40	60	35	40	
18ga (.0459")		#12	34.7/7	153	230	123	184	102	153	88	131	77	115	61	92	51	77	44	60	38	40	
		#12	34.7/5	109	164	88	131	73	109	63	94	55	82	44	66	36	55	31	47	27	40	
20ga (.0354")	#12	34.7/7	118	177	94	142	79	118	67	101	59	89	47	71	39	59	34	51	30	40		
	#12	34.7/5	84	127	67	101	56	84	48	72	42	63	34	51	28	42	24	36	21	32		
22ga (.0294")	#12	34.7/7	98	147	78	118	65	98	56	84	49	74	39	59	33	49	28	42	25	37		
	#12	34.7/5	70	105	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	26		
Plywood & OSB	15/32"	#14	34.7/7	127	171	102	137	85	114	73	98	63	86	51	69	42	57	36	49	32	40	
		#14	34.7/5	91	122	73	98	60	82	52	70	45	61	36	49	30	41	26	35	23	31	
	19/32"	#14	34.7/7	161	217	129	174	107	145	92	124	80	108	64	87	54	72	46	60	38	40	
		#14	34.7/5	115	155	92	124	77	103	66	89	57	77	46	62	38	52	33	44	29	39	
	23/32"	#14	34.7/7	195	263	156	210	130	175	111	150	97	131	78	105	65	88	49	60	38	40	
		#14	34.7/5	139	188	111	150	93	125	79	107	69	94	56	75	46	63	40	54	35	40	
Lumber (DFL)	1" min	#9	34.7/7	235	317	188	254	157	211	134	181	117	158	94	127	67	95	49	60	38	40	
		#9	34.7/5	168	226	134	181	112	151	96	129	84	113	67	91	56	75	48	60	38	40	
		#14	34.7/7	321	433	257	347	214	289	183	248	150	217	96	153	67	95	49	60	38	40	
		#14	34.7/5	229	310	183	248	153	206	131	177	115	155	92	124	67	95	49	60	38	40	

Note: Load table above based on 34.7" installation coverage. Values acceptable for use (conservative) for 32" installation coverage.



Table 10.7 - Outward (Negative) Uniform Allowable Loads (No. 20 gauge Nu-Wave Corrugated):

Nu-Wave Corrugated, 20ga																						
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																		
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																		
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"										
				ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW			
Material / Grade	Thick-ness																					
Steel (Gr 50 min.)	≥10ga (.1350")	#12	34.7/7	574	884	367	582	255	404	187	297	143	228	92	146	64	101	47	74	36	50	
		#12	34.7/5	421	632	337	505	255	404	187	297	143	228	92	146	64	101	47	74	36	50	
	12ga (.1050")	#12	34.7/7	506	759	367	582	255	404	187	297	143	228	92	146	64	101	47	74	36	50	
		#12	34.7/5	361	542	289	434	241	361	187	297	143	228	92	146	64	101	47	74	36	50	
	14ga (.0700")	#12	34.7/7	337	506	270	405	225	337	187	289	143	228	92	146	64	101	47	74	36	50	
		#12	34.7/5	241	361	193	289	161	241	138	207	120	181	92	145	64	101	47	74	36	50	
	16ga (.0590")	#12	34.7/7	284	426	227	341	190	284	162	244	142	213	92	146	64	101	47	74	36	50	
		#12	34.7/5	203	305	162	244	135	203	116	174	102	152	81	122	64	101	47	74	36	50	
	18ga (.0459")	#12	34.7/7	221	332	177	265	147	221	126	190	111	166	88	133	64	101	47	74	36	50	
		#12	34.7/5	158	237	126	190	105	158	90	135	79	118	63	95	53	79	45	68	36	50	
	20ga (.0354")	#12	34.7/7	171	256	136	205	114	171	97	146	85	128	68	102	57	85	47	73	36	50	
		#12	34.7/5	122	183	97	146	81	122	70	104	61	91	49	73	41	61	35	52	30	46	
	22ga (.0294")	#12	34.7/7	142	213	113	170	94	142	81	121	71	106	57	85	47	71	40	61	35	50	
		#12	34.7/5	101	152	81	121	67	101	58	87	51	76	40	61	34	51	29	43	25	38	
	Steel (Gr 33 min.)	≥10ga (.1350")	#12	34.7/7	450	676	360	540	255	404	187	297	143	228	92	146	64	101	47	74	36	50
			#12	34.7/5	322	483	257	386	214	322	184	276	143	228	92	146	64	101	47	74	36	50
12ga (.1050")		#12	34.7/7	350	525	280	420	234	350	187	297	143	228	92	146	64	101	47	74	36	50	
		#12	34.7/5	250	375	200	300	167	250	143	214	125	188	92	146	64	101	47	74	36	50	
14ga (.0700")		#12	34.7/7	234	350	187	280	156	234	133	200	117	175	92	140	64	101	47	74	36	50	
		#12	34.7/5	167	250	133	200	111	167	95	143	83	125	67	100	56	83	47	71	36	50	
16ga (.0590")		#12	34.7/7	197	295	157	236	131	197	112	169	98	148	79	118	64	98	47	74	36	50	
		#12	34.7/5	141	211	112	169	94	141	80	121	70	105	56	84	47	70	40	60	35	50	
18ga (.0459")		#12	34.7/7	153	230	123	184	102	153	88	131	77	115	61	92	51	77	44	66	36	50	
		#12	34.7/5	109	164	88	131	73	109	63	94	55	82	44	66	36	55	31	47	27	41	
20ga (.0354")	#12	34.7/7	118	177	94	142	79	118	67	101	59	89	47	71	39	59	34	51	30	44		
	#12	34.7/5	84	127	67	101	56	84	48	72	42	63	34	51	28	42	24	36	21	32		
22ga (.0294")	#12	34.7/7	98	147	78	118	65	98	56	84	49	74	39	59	33	49	28	42	25	37		
	#12	34.7/5	70	105	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	26		
Plywood & OSB	15/32"	#14	34.7/7	127	171	102	137	85	114	73	98	63	86	51	69	42	57	36	49	32	43	
		#14	34.7/5	91	122	73	98	60	82	52	70	45	61	36	49	30	41	26	35	23	31	
	19/32"	#14	34.7/7	161	217	129	174	107	145	92	124	80	108	64	87	54	72	46	62	36	50	
		#14	34.7/5	115	155	92	124	77	103	66	89	57	77	46	62	38	52	33	44	29	39	
	23/32"	#14	34.7/7	195	263	156	210	130	175	111	150	97	131	78	105	64	88	47	74	36	50	
		#14	34.7/5	139	188	111	150	93	125	79	107	69	94	56	75	46	63	40	54	35	47	
Lumber (DFL)	1" min	#9	34.7/7	235	317	188	254	157	211	134	181	117	158	92	127	64	101	47	74	36	50	
		#9	34.7/5	168	226	134	181	112	151	96	129	84	113	67	91	56	75	47	65	36	50	
		#14	34.7/7	321	433	257	347	214	289	183	248	143	217	92	146	64	101	47	74	36	50	
		#14	34.7/5	229	310	183	248	153	206	131	177	115	155	92	124	64	101	47	74	36	50	

Note: Load table above based on 34.7" installation coverage. Values acceptable for use (conservative) for 32" installation coverage.



Table 10.8 - Shear and Flexibility (No. 26 gauge Nu-Wave Corrugated, 34.7/5):

26ga Nu-Wave 34.67/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	511	830	511	831	504	819	505	821	500	812	453	725	315	503	231	370	177	283
	F	67.7		55.8		48.1		42.5		38.4		32.5		28.6		25.8		23.7	
8"	q	452	734	447	726	443	720	440	716	417	677	418	679	315	503	231	370	177	283
	F	68.7		57.0		49.2		43.7		39.9		34.0		30.4		27.6		25.7	
12"	q	410	666	413	671	377	612	384	625	357	580	343	558	315	503	231	370	177	283
	F	69.4		57.6		50.4		44.7		41.1		35.6		31.9		29.3		27.4	
24"	q	346	563	365	593	326	530	293	476	265	431	268	436	232	377	231	370	177	283
	F	70.4		58.4		51.4		46.6		43.3		37.5		35.0		32.1		31.2	
36"	q	346	563	298	485	260	423	293	476	265	431	221	360	189	307	203	330	177	283
	F	70.4		59.7		53.0		46.6		43.3		39.2		37.0		33.6		33.0	
48"	q	346	563	298	485	260	423	230	373	205	333	221	360	189	307	164	267	145	235
	F	70.4		59.7		53.0		48.5		45.4		39.2		37.0		35.9		35.6	
1 per span	q	346	563	298	485	260	423	230	373	205	333	168	273	141	229	120	195	104	169
	F	70.4		59.7		53.0		48.5		45.4		41.8		40.1		39.6		39.8	
none	q	250	406	207	337	176	287	153	249	133	217	106	172	87	141	74	120	64	104
	F	72.3		62.1		55.8		51.8		49.2		46.5		45.8		46.2		47.4	

Table 10.9 - Shear and Flexibility (No. 26 gauge Nu-Wave Corrugated, 34.7/7):

26ga Nu-Wave 34.67/7 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	674	1095	673	1094	657	1067	659	1071	647	1051	453	725	315	503	231	370	177	283
	F	37.7		31.8		28.1		25.3		23.3		20.5		18.6		17.2		16.2	
8"	q	572	929	559	909	550	895	544	884	505	821	453	725	315	503	231	370	177	283
	F	38.5		32.8		29.0		26.3		24.6		21.8		20.2		18.8		18.0	
12"	q	511	831	509	827	454	738	461	750	421	684	399	649	315	503	231	370	177	283
	F	39.0		33.2		29.9		27.1		25.6		23.1		21.5		20.3		19.5	
24"	q	429	698	445	723	390	634	346	562	310	504	308	500	263	427	231	370	177	283
	F	39.7		33.8		30.6		28.6		27.2		24.6		23.9		22.5		22.6	
36"	q	429	698	364	591	314	510	346	562	310	504	255	415	216	351	229	370	177	283
	F	39.7		34.7		31.7		28.6		27.2		25.8		25.3		23.8		24.0	
48"	q	429	698	364	591	314	510	275	446	244	396	255	415	216	351	187	304	163	265
	F	39.7		34.7		31.7		29.8		28.7		25.8		25.3		25.4		25.9	
1 per span	q	429	698	364	591	314	510	275	446	244	396	199	323	165	268	141	229	122	199
	F	39.7		34.7		31.7		29.8		28.7		27.6		27.5		27.9		28.7	
none	q	321	521	265	430	225	365	195	316	170	276	135	219	111	181	94	154	82	133
	F	40.8		36.1		33.4		31.8		30.9		30.4		30.9		31.9		33.3	



Table 10.10 - Shear and Flexibility (No. 24 gauge Nu-Wave Corrugated, 34.7/5):

24ga Nu-Wave 34.67/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	543	882	544	883	536	870	537	873	531	863	528	859	491	786	361	578	276	442
	F	34.9		29.3		25.6		22.9		21.0		18.2		16.4		15.0		14.0	
8"	q	480	780	475	771	471	765	468	761	443	720	444	722	427	695	361	578	276	442
	F	35.8		30.3		26.6		24.0		22.3		19.5		17.9		16.6		15.8	
12"	q	436	708	439	713	400	651	409	664	379	616	365	593	355	577	348	565	276	442
	F	36.4		30.8		27.6		24.8		23.3		20.8		19.2		18.1		17.2	
24"	q	368	598	388	631	347	564	312	506	282	458	285	463	246	400	254	413	227	369
	F	37.3		31.5		28.5		26.5		25.3		22.5		21.9		20.4		20.5	
36"	q	368	598	317	515	276	449	312	506	282	458	235	382	201	326	216	351	192	312
	F	37.3		32.6		29.8		26.5		25.3		24.0		23.6		21.8		22.0	
48"	q	368	598	317	515	276	449	244	397	218	354	235	382	201	326	175	284	155	251
	F	37.3		32.6		29.8		28.1		27.1		24.0		23.6		23.8		24.3	
1 per span	q	368	598	317	515	276	449	244	397	218	354	179	290	151	245	128	209	112	181
	F	37.3		32.6		29.8		28.1		27.1		26.2		26.3		26.9		27.9	
none	q	265	431	220	358	188	305	163	265	143	232	113	184	93	152	79	129	69	111
	F	38.9		34.7		32.3		31.0		30.3		30.3		31.2		32.7		34.5	

Table 10.11 - Shear and Flexibility (No. 24 gauge Nu-Wave Corrugated, 34.7/7):

24ga Nu-Wave 34.67/7 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	717	1164	716	1163	698	1135	700	1138	688	1117	681	1106	491	786	361	578	276	442
	F	20.5		17.7		16.0		14.6		13.7		12.4		11.5		10.9		10.4	
8"	q	608	988	595	966	585	951	578	939	537	873	536	871	491	786	361	578	276	442
	F	21.2		18.5		16.8		15.5		14.9		13.5		12.9		12.2		12.0	
12"	q	544	883	541	879	483	785	490	797	448	727	424	690	408	663	361	578	276	442
	F	21.6		18.9		17.6		16.2		15.7		14.6		14.0		13.6		13.2	
24"	q	456	742	473	768	415	674	368	598	330	535	327	532	279	454	285	463	253	411
	F	22.2		19.4		18.2		17.5		17.1		16.0		16.1		15.5		15.9	
36"	q	456	742	387	628	333	542	368	598	330	535	271	441	230	374	243	395	215	349
	F	22.2		20.2		19.1		17.5		17.1		17.0		17.4		16.5		17.1	
48"	q	456	742	387	628	333	542	292	475	259	421	271	441	230	374	199	324	174	283
	F	22.2		20.2		19.1		18.5		18.3		17.0		17.4		18.0		18.8	
1 per span	q	456	742	387	628	333	542	292	475	259	421	211	343	176	287	150	244	131	213
	F	22.2		20.2		19.1		18.5		18.3		18.5		19.2		20.1		21.2	
none	q	341	554	281	457	239	388	207	336	181	295	144	234	119	194	101	165	88	143
	F	23.2		21.4		20.6		20.3		20.3		21.0		22.1		23.6		25.2	



Table 10.12 - Shear and Flexibility (No. 22 gauge Nu-Wave Corrugated, 34.7/5):

22ga Nu-Wave 34.67/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	688	1118	689	1119	679	1103	681	1106	673	1094	670	1088	667	1077	494	791	379	606
	F	21.0		17.9		15.9		14.4		13.4		11.9		10.9		10.1		9.6	
8"	q	608	988	602	977	597	970	593	964	562	912	563	915	542	880	494	791	379	606
	F	21.8		18.8		16.8		15.4		14.6		13.0		12.3		11.5		11.1	
12"	q	552	897	556	904	507	825	518	842	480	781	463	752	450	731	441	716	379	606
	F	22.3		19.2		17.7		16.1		15.5		14.2		13.4		12.8		12.4	
24"	q	466	758	492	799	439	714	395	642	357	581	361	587	312	507	322	523	288	468
	F	23.1		19.9		18.4		17.6		17.2		15.7		15.8		14.9		15.3	
36"	q	466	758	402	653	350	569	395	642	357	581	298	484	255	414	274	445	244	396
	F	23.1		20.9		19.6		17.6		17.2		17.0		17.3		16.2		16.7	
48"	q	466	758	402	653	350	569	309	503	276	449	298	484	255	414	222	360	196	318
	F	23.1		20.9		19.6		19.0		18.8		17.0		17.3		17.9		18.7	
1 per span	q	466	758	402	653	350	569	309	503	276	449	226	368	191	311	163	265	142	231
	F	23.1		20.9		19.6		19.0		18.8		19.0		19.7		20.7		21.9	
none	q	336	546	279	454	238	386	206	335	182	295	144	234	119	193	101	164	88	143
	F	24.6		22.7		21.8		21.6		21.7		22.6		24.1		25.8		27.7	

Table 10.13 - Shear and Flexibility (No. 22 gauge Nu-Wave Corrugated, 34.7/7):

22ga Nu-Wave 34.67/7 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	908	1476	907	1474	885	1438	888	1442	871	1416	863	1402	673	1077	494	791	379	606
	F	13.0		11.4		10.5		9.8		9.3		8.6		8.2		7.8		7.6	
8"	q	770	1252	754	1225	742	1205	733	1190	681	1106	679	1103	643	1045	494	791	379	606
	F	13.6		12.2		11.3		10.6		10.4		9.7		9.4		9.0		9.0	
12"	q	689	1120	686	1114	612	995	621	1010	567	922	538	874	517	841	494	791	379	606
	F	14.0		12.5		12.0		11.2		11.1		10.6		10.4		10.2		10.1	
24"	q	578	940	599	973	526	854	466	758	418	679	415	674	354	575	361	587	320	521
	F	14.5		13.0		12.5		12.3		12.4		11.8		12.3		11.9		12.5	
36"	q	578	940	490	796	422	687	466	758	418	679	344	559	291	473	308	501	272	442
	F	14.5		13.6		13.3		12.3		12.4		12.7		13.4		12.8		13.5	
48"	q	578	940	490	796	422	687	370	601	329	534	344	559	291	473	252	410	221	359
	F	14.5		13.6		13.3		13.3		13.4		12.7		13.4		14.1		15.0	
1 per span	q	578	940	490	796	422	687	370	601	329	534	268	435	224	365	191	311	167	271
	F	14.5		13.6		13.3		13.3		13.4		14.1		15.0		16.0		17.2	
none	q	432	702	357	580	303	492	262	426	231	375	183	298	152	247	129	210	112	182
	F	15.4		14.7		14.6		14.8		15.2		16.3		17.6		19.1		20.7	



Table 10.14 - Shear and Flexibility (No. 20 gauge Nu-Wave Corrugated, 34.7/5):

20ga Nu-Wave 34.67/5 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	701	1139	702	1141	691	1124	694	1127	686	1115	682	1109	680	1105	672	1075	514	823
	F	14.4		12.4		11.2		10.3		9.7		8.7		8.1		7.7		7.3	
8"	q	620	1007	613	996	608	988	605	982	572	930	574	933	552	897	556	904	514	823
	F	15.1		13.3		12.0		11.1		10.8		9.8		9.4		8.9		8.7	
12"	q	563	914	567	921	517	840	528	857	490	796	471	766	459	745	449	730	442	717
	F	15.6		13.6		12.8		11.9		11.6		10.9		10.4		10.1		9.9	
24"	q	475	772	501	814	448	728	402	654	364	591	368	598	318	517	328	533	294	477
	F	16.3		14.2		13.5		13.2		13.1		12.2		12.6		12.0		12.5	
36"	q	475	772	409	665	357	580	402	654	364	591	304	494	259	421	279	454	248	403
	F	16.3		15.1		14.6		13.2		13.1		13.4		14.0		13.1		13.8	
48"	q	475	772	409	665	357	580	315	512	281	457	304	494	259	421	226	367	200	324
	F	16.3		15.1		14.6		14.5		14.6		13.4		14.0		14.7		15.6	
1 per span	q	475	772	409	665	357	580	315	512	281	457	231	375	195	317	167	271	145	236
	F	16.3		15.1		14.6		14.5		14.6		15.2		16.2		17.3		18.6	
none	q	343	557	284	462	242	393	210	342	186	302	147	239	122	198	104	168	90	146
	F	17.6		16.8		16.6		16.8		17.2		18.5		20.1		21.9		23.9	

Table 10.15 - Shear and Flexibility (No. 20 gauge Nu-Wave Corrugated, 34.7/7):

20ga Nu-Wave 34.67/7 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	925	1503	924	1502	902	1465	904	1470	888	1443	879	1428	873	1418	672	1075	514	823
	F	9.3		8.3		7.8		7.4		7.1		6.7		6.4		6.2		6.0	
8"	q	785	1276	768	1248	756	1228	746	1213	693	1127	692	1124	655	1065	660	1072	514	823
	F	9.9		9.0		8.5		8.1		8.0		7.6		7.5		7.3		7.3	
12"	q	702	1141	699	1135	624	1014	633	1029	578	939	548	891	527	857	512	832	500	812
	F	10.2		9.3		9.1		8.7		8.7		8.5		8.4		8.4		8.3	
24"	q	589	958	610	992	536	870	475	772	425	691	422	686	361	586	368	598	326	530
	F	10.7		9.7		9.6		9.7		9.8		9.6		10.1		9.9		10.5	
36"	q	589	958	499	811	430	699	475	772	425	691	350	569	297	482	314	510	277	451
	F	10.7		10.4		10.4		9.7		9.8		10.4		11.1		10.8		11.5	
48"	q	589	958	499	811	430	699	377	613	335	544	350	569	297	482	257	418	226	367
	F	10.7		10.4		10.4		10.5		10.8		10.4		11.1		11.9		12.8	
1 per span	q	589	958	499	811	430	699	377	613	335	544	273	443	229	372	196	318	170	277
	F	10.7		10.4		10.4		10.5		10.8		11.6		12.6		13.7		14.8	
none	q	440	715	363	590	308	501	267	434	235	383	187	304	155	252	132	215	115	187
	F	11.5		11.4		11.6		11.9		12.4		13.6		15.0		16.5		18.0	

11.0 PBR

Figure 11.1 - Basic Dimensions and Panel Attachment (PBR):

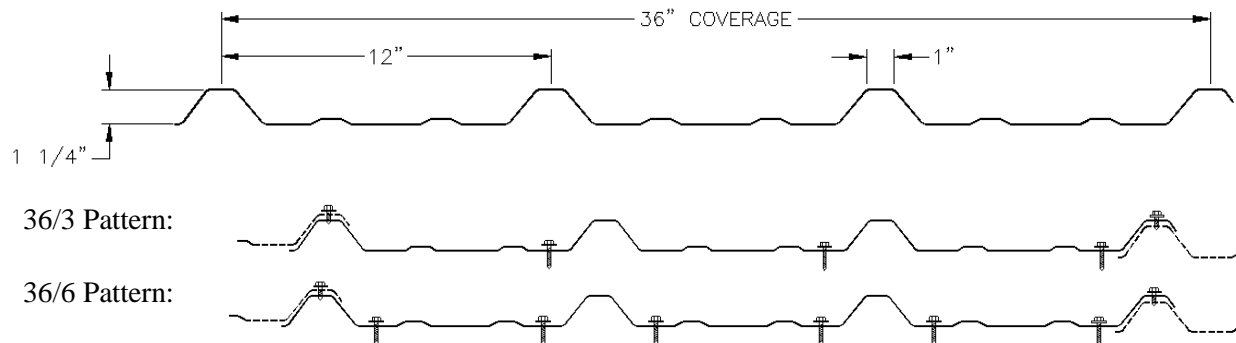


Table 11.1 - Section Properties (PBR):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
26	0.85	0.0173	80	82	0.2495	0.0483	0.33	0.0516	0.1479

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _{e+}	y _b	S _{e+}	I _{e-}	y _b	S _{e-}	I ₊	I ₋	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
26	0.0418	0.0453	0.28	0.0400	0.0350	0.58	0.0457	0.0463	0.0394



Table 11.2 - Inward (Positive) Uniform Allowable Loads (PBR):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"
26	Single Span	ASD, W/Ω	240	153	107	78	60	38	27	20	15
		LRFD, ϕW	380	243	169	124	95	61	42	31	24
		L/240	-	-	-	71	47	24	14	9	6
		L/180	-	-	-	-	-	32	19	12	8
		L/120	-	-	-	-	-	-	-	18	12
	Double Span	ASD, W/Ω	252	166	117	86	66	43	29	21	17
		LRFD, ϕW	380	250	176	130	100	64	45	33	25
		L/240	-	-	-	-	-	-	-	-	14
		L/180	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	307	203	144	107	82	53	38	27	21
		LRFD, ϕW	462	306	217	161	124	80	56	41	31
		L/240	-	-	-	-	-	46	27	17	11
		L/180	-	-	-	-	-	-	35	22	15
		L/120	-	-	-	-	-	-	-	-	-

Table 11.3 - Allowable Reactions at Supports (PBR):

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (P_n/Ω) (lbs/ft width)				LRFD (ϕP_n) (lbs/ft width)			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
26	End	126	145	161	187	193	222	246	286
	Interior	190	214	235	269	283	319	349	400



Table 11.4 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge PBR):

PBR, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	355	532	256	406	178	282	130	207	100	158	64	101	44	70	33	52	25	38
		#12	36/3	177	266	142	213	118	177	101	152	89	133	64	101	44	70	33	52	25	38
	12ga (.1050")	#12	36/6	355	532	256	406	178	282	130	207	100	158	64	101	44	70	33	52	25	38
		#12	36/3	177	266	142	213	118	177	101	152	89	133	64	101	44	70	33	52	25	38
	14ga (.0700")	#12	36/6	278	418	223	334	178	278	130	207	100	158	64	101	44	70	33	52	25	38
		#12	36/3	139	209	111	167	93	139	80	119	70	104	56	84	44	70	33	52	25	38
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	130	201	100	158	64	101	44	70	33	52	25	38
		#12	36/3	117	176	94	141	78	117	67	101	59	88	47	70	39	59	33	50	25	38
18ga (.0459")	#12	36/6	183	274	146	219	122	183	104	157	91	137	64	101	44	70	33	52	25	38	
	#12	36/3	91	137	73	110	61	91	52	78	46	68	37	55	30	46	26	39	23	34	
20ga (.0354")	#12	36/6	141	211	113	169	94	141	80	121	70	106	56	84	44	70	33	52	25	38	
	#12	36/3	70	106	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	26	
22ga (.0294")	#12	36/6	117	175	94	140	78	117	67	100	58	88	47	70	39	58	33	50	25	38	
	#12	36/3	58	88	47	70	39	58	33	50	29	44	23	35	19	29	17	25	15	22	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	355	532	256	406	178	282	130	207	100	158	64	101	44	70	33	52	25	38
		#12	36/3	177	266	142	213	118	177	101	152	89	133	64	101	44	70	33	52	25	38
	12ga (.1050")	#12	36/6	289	434	231	347	178	282	130	207	100	158	64	101	44	70	33	52	25	38
		#12	36/3	145	217	116	174	96	145	83	124	72	108	58	87	44	70	33	52	25	38
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	110	165	96	145	64	101	44	70	33	52	25	38
		#12	36/3	96	145	77	116	64	96	55	83	48	72	39	58	32	48	28	41	24	36
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	93	139	81	122	64	97	44	70	33	52	25	38
		#12	36/3	81	122	65	97	54	81	46	70	41	61	32	49	27	41	23	35	20	30
18ga (.0459")	#12	36/6	126	190	101	152	84	126	72	108	63	95	51	76	42	63	33	52	25	38	
	#12	36/3	63	95	51	76	42	63	36	54	32	47	25	38	21	32	18	27	16	24	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	56	84	49	73	39	58	32	49	28	42	24	37	
	#12	36/3	49	73	39	58	32	49	28	42	24	37	19	29	16	24	14	21	12	18	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	46	69	40	61	32	49	27	40	23	35	20	30	
	#12	36/3	40	61	32	49	27	40	23	35	20	30	16	24	13	20	12	17	10	15	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	60	81	52	71	42	57	35	47	30	40	25	35
		#14	36/3	52	71	42	57	35	47	30	40	26	35	21	28	17	24	15	20	13	18
	19/32"	#14	36/6	133	179	106	143	88	119	76	102	66	90	53	72	44	60	33	51	25	38
		#14	36/3	66	90	53	72	44	60	38	51	33	45	27	36	22	30	19	26	17	22
	23/32"	#14	36/6	161	217	128	173	107	145	92	124	80	108	64	87	44	70	33	52	25	38
		#14	36/3	80	108	64	87	54	72	46	62	40	54	32	43	27	36	23	31	20	27
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	111	149	97	131	64	101	44	70	33	52	25	38
		#9	36/3	97	131	78	105	65	87	55	75	48	65	39	52	32	44	28	37	24	33
		#14	36/6	265	358	212	286	177	238	130	204	100	158	64	101	44	70	33	52	25	38
		#14	36/3	132	179	106	143	88	119	76	102	66	89	53	72	44	60	33	51	25	38



Table 11.5 - Shear and Flexibility (No. 26 gauge PBR, 36/3):

26ga PBR 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	310	503	311	505	309	502	310	503	308	501	308	501	308	500	308	500	296	474
	F	18.2		16.1		14.9		13.8		13.2		12.1		11.5		11.0		10.6	
8"	q	284	461	285	463	286	465	286	465	277	451	280	455	275	447	277	451	273	444
	F	19.8		17.7		16.3		15.3		15.1		13.9		13.6		13.0		12.8	
12"	q	259	421	267	434	250	407	259	421	246	399	243	394	240	391	239	388	238	386
	F	20.9		18.6		18.1		16.7		16.7		16.0		15.5		15.1		14.8	
24"	q	207	337	236	384	215	349	196	319	180	292	191	311	169	274	180	292	163	265
	F	23.1		20.0		19.8		20.0		20.4		18.9		20.0		18.9		20.0	
36"	q	207	337	180	292	157	256	196	319	180	292	152	248	132	214	150	244	135	219
	F	23.1		22.7		23.1		20.0		20.4		21.8		23.5		21.3		22.8	
48"	q	207	337	180	292	157	256	139	226	125	203	152	248	132	214	115	187	100	162
	F	23.1		22.7		23.1		23.8		24.8		21.8		23.5		25.3		27.4	
1 per span	q	207	337	180	292	157	256	139	226	125	203	100	162	82	132	69	112	59	97
	F	23.1		22.7		23.1		23.8		24.8		27.3		30.0		33.0		36.1	
none	q	100	162	78	127	64	104	53	87	46	74	35	57	28	45	22	36	19	31
	F	29.0		30.2		32.0		34.2		36.7		42.1		47.8		53.8		59.9	

Table 11.6 - Shear and Flexibility (No. 26 gauge PBR, 36/6):

26ga PBR 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	568	923	570	927	559	909	563	914	555	901	552	897	527	843	387	619	296	474
	F	18.0		15.9		14.6		13.6		13.0		12.0		11.3		10.9		10.5	
8"	q	476	773	472	767	470	763	468	761	437	711	442	718	422	686	387	619	296	474
	F	19.0		17.0		15.7		14.8		14.5		13.5		13.1		12.6		12.5	
12"	q	415	674	424	689	379	616	392	638	359	584	346	563	338	549	331	538	296	474
	F	19.6		17.6		16.9		15.8		15.6		15.0		14.6		14.3		14.1	
24"	q	327	531	359	584	315	511	279	453	249	405	258	419	217	352	230	373	200	325
	F	20.7		18.4		17.9		17.7		17.8		16.9		17.6		17.0		17.8	
36"	q	327	531	274	446	235	382	279	453	249	405	199	323	163	265	183	298	159	259
	F	20.7		19.7		19.4		17.7		17.8		18.5		19.6		18.5		19.6	
48"	q	327	531	274	446	235	382	199	324	172	280	199	323	163	265	137	223	119	193
	F	20.7		19.7		19.4		19.5		19.9		18.5		19.6		20.8		22.2	
1 per span	q	327	531	274	446	235	382	199	324	172	280	134	218	109	177	91	148	78	127
	F	20.7		19.7		19.4		19.5		19.9		21.1		22.7		24.5		26.3	
none	q	200	325	156	254	127	207	107	174	91	148	70	113	55	90	45	73	38	62
	F	22.6		22.1		22.3		22.9		23.8		25.9		28.5		31.2		34.0	

12.0 Strata Rib®

Figure 12.1 - Basic Dimensions and Panel Attachment (Strata Rib):

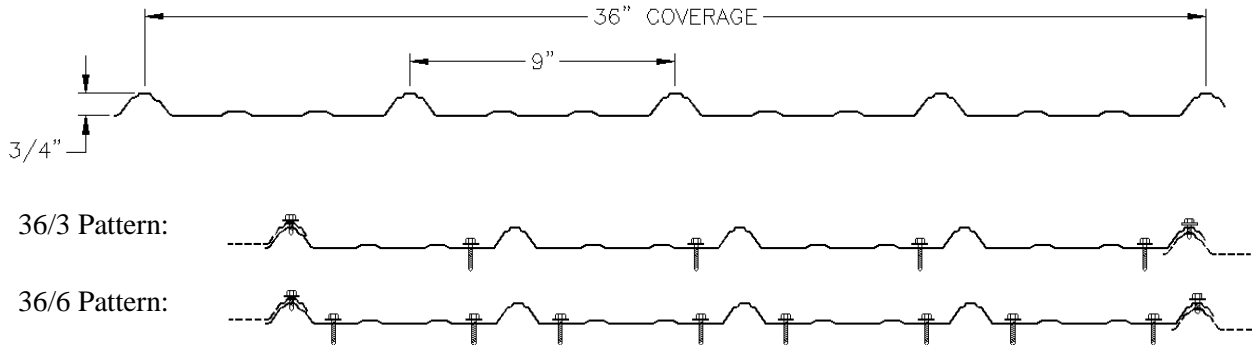


Table 12.1 - Section Properties (Strata Rib):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.65	0.0139	80	82	0.1914	0.0103	0.16	0.0170	0.0664
26	0.81	0.0173	80	82	0.2382	0.0130	0.16	0.0211	0.0817

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _{e+}	y _b	S _{e+}	I _{e-}	y _b	S _{e-}	I ₊	I ₋	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
29	0.0285	0.0103	0.16	0.0170	0.0070	0.34	0.0144	0.0103	0.0081
26	0.0379	0.0130	0.16	0.0211	0.0090	0.32	0.0181	0.0130	0.0103



Table 12.2 - Inward (Positive) Uniform Allowable Loads (Strata Rib):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			16"	2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	6' - 0"
29	Single Span	ASD, W/Ω	230	102	65	45	33	25	20	16	11
		LRFD, φW	365	162	103	72	53	40	32	26	18
		L/240	-	85	43	25	16	11	7	5	3
		L/180	-	-	58	33	21	14	10	7	4
		L/120	-	-	-	-	32	21	15	11	6
	Double Span	ASD, W/Ω	185	84	54	38	28	21	17	13	9
		LRFD, φW	279	126	81	57	42	32	25	20	13
		L/240	-	-	-	-	-	-	-	-	8
		L/180	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	227	104	67	47	35	26	20	17	12
		LRFD, φW	342	157	101	70	52	39	31	26	18
		L/240	-	-	-	-	30	20	14	10	6
		L/180	-	-	-	-	-	-	19	14	8
		L/120	-	-	-	-	-	-	-	-	-
26	Single Span	ASD, W/Ω	285	126	81	56	41	32	25	20	14
		LRFD, φW	453	200	128	89	65	50	40	32	22
		L/240	-	107	55	32	20	13	9	7	4
		L/180	-	-	73	42	27	18	12	9	5
		L/120	-	-	-	-	40	27	19	14	8
	Double Span	ASD, W/Ω	233	105	68	47	34	27	21	17	12
		LRFD, φW	350	159	102	71	52	40	32	26	18
		L/240	-	-	-	-	-	-	-	16	10
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	285	131	85	59	43	33	26	21	15
		LRFD, φW	429	197	128	89	65	50	40	32	23
		L/240	-	-	-	-	38	25	18	13	7
		L/180	-	-	-	-	-	-	24	17	10
		L/120	-	-	-	-	-	-	-	-	-

Table 12.3 - Allowable Reactions at Supports (Strata Rib):

Reactions at Supports based on Web Crippling							
Gauge	Condition	Bearing Length of Webs					
		ASD (Pn/Ω) (lbs/ft width)			LRFD (φPn) (lbs/ft width)		
		1"	1.5"	2"	1"	1.5"	2"
29	End	131	151	168	200	231	257
	Interior	187	212	233	278	315	346
26	End	196	224	249	299	343	380
	Interior	285	321	351	424	478	523



Table 12.4 - Outward (Negative) Uniform Allowable Loads (No. 29 gauge Strata Rib):

Strata Rib, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				16"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	6'-0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/8	382	606	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	285	427	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
	12ga (.1050")	#12	36/8	382	606	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	285	427	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
	14ga (.0700")	#12	36/8	382	606	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	278	418	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
	16ga (.0590")	#12	36/8	382	606	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	235	352	156	235	109	172	75	120	55	88	42	63	34	44	27	32	19	19
	18ga (.0459")	#12	36/8	365	548	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	183	274	122	183	97	146	75	120	55	88	42	63	34	44	27	32	19	19
	20ga (.0354")	#12	36/8	282	422	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	141	211	94	141	75	113	63	94	54	80	42	63	34	44	27	32	19	19
	22ga (.0294")	#12	36/8	234	351	156	234	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	117	175	78	117	62	94	52	78	45	67	39	58	34	44	27	32	19	19
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/8	382	606	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	285	427	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
	12ga (.1050")	#12	36/8	382	606	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	285	427	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
	14ga (.0700")	#12	36/8	382	578	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	193	289	129	193	103	154	75	120	55	88	42	63	34	44	27	32	19	19
	16ga (.0590")	#12	36/8	325	487	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	162	244	108	162	87	130	72	108	55	88	42	63	34	44	27	32	19	19
	18ga (.0459")	#12	36/8	253	379	169	253	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#12	36/4	126	190	84	126	67	101	56	84	48	72	42	63	34	44	27	32	19	19
20ga (.0354")	#12	36/8	195	292	130	195	104	156	75	120	55	88	42	63	34	44	27	32	19	19	
	#12	36/4	97	146	65	97	52	78	43	65	37	56	32	49	29	43	26	32	19	19	
22ga (.0294")	#12	36/8	162	243	108	162	86	130	72	108	55	88	42	63	34	44	27	32	19	19	
	#12	36/4	81	121	54	81	43	65	36	54	31	46	27	40	24	36	22	32	18	19	
Plywood & OSB	15/32"	#14	36/8	209	283	140	189	109	151	75	120	55	88	42	63	34	44	27	32	19	19
		#14	36/4	105	141	70	94	56	75	47	63	40	54	35	47	31	42	27	32	19	19
	19/32"	#14	36/8	265	358	170	239	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#14	36/4	133	179	88	119	71	96	59	80	51	68	42	60	34	44	27	32	19	19
	23/32"	#14	36/8	321	434	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#14	36/4	161	217	107	145	86	116	71	96	55	83	42	63	34	44	27	32	19	19
Lumber (DFL)	1" min	#9	36/8	382	523	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#9	36/4	194	262	129	174	103	140	75	116	55	88	42	63	34	44	27	32	19	19
		#14	36/8	382	606	170	269	109	172	75	120	55	88	42	63	34	44	27	32	19	19
		#14	36/4	265	358	170	238	109	172	75	120	55	88	42	63	34	44	27	32	19	19



Table 12.5 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge Strata Rib):

Strata Rib, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				16"	2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	6' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/8	473	751	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	355	532	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
	12ga (.1050")	#12	36/8	473	751	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	355	532	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
	14ga (.0700")	#12	36/8	473	751	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	278	418	186	278	135	213	93	148	69	109	53	80	42	56	34	41	23	24
	16ga (.0590")	#12	36/8	469	704	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	235	352	156	235	125	188	93	148	69	109	53	80	42	56	34	41	23	24
	18ga (.0459")	#12	36/8	365	548	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	183	274	122	183	97	146	81	122	69	104	53	80	42	56	34	41	23	24
	20ga (.0354")	#12	36/8	282	422	188	282	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	141	211	94	141	75	113	63	94	54	80	47	70	42	56	34	41	23	24
	22ga (.0294")	#12	36/8	234	351	156	234	125	187	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	117	175	78	117	62	94	52	78	45	67	39	58	35	52	31	41	23	24
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/8	473	751	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	355	532	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
	12ga (.1050")	#12	36/8	473	751	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	289	434	193	289	135	213	93	148	69	109	53	80	42	56	34	41	23	24
	14ga (.0700")	#12	36/8	386	578	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	193	289	129	193	103	154	86	129	69	109	53	80	42	56	34	41	23	24
	16ga (.0590")	#12	36/8	325	487	210	325	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	162	244	108	162	87	130	72	108	62	93	53	80	42	56	34	41	23	24
	18ga (.0459")	#12	36/8	253	379	169	253	135	202	93	148	69	109	53	80	42	56	34	41	23	24
		#12	36/4	126	190	84	126	67	101	56	84	48	72	42	63	37	56	34	41	23	24
	20ga (.0354")	#12	36/8	195	292	130	195	104	156	87	130	69	109	53	80	42	56	34	41	23	24
		#12	36/4	97	146	65	97	52	78	43	65	37	56	32	49	29	43	26	39	22	24
	22ga (.0294")	#12	36/8	162	243	108	162	86	130	72	108	62	93	53	80	42	56	34	41	23	24
		#12	36/4	81	121	54	81	43	65	36	54	31	46	27	40	24	36	22	32	18	24
Plywood & OSB	15/32"	#14	36/8	209	283	140	189	112	151	93	126	69	108	53	80	42	56	34	41	23	24
		#14	36/4	105	141	70	94	56	75	47	63	40	54	35	47	31	42	28	38	23	24
	19/32"	#14	36/8	265	358	177	239	135	191	93	148	69	109	53	80	42	56	34	41	23	24
		#14	36/4	133	179	88	119	71	96	59	80	51	68	44	60	39	53	34	41	23	24
	23/32"	#14	36/8	321	434	210	289	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#14	36/4	161	217	107	145	86	116	71	96	61	83	53	72	42	56	34	41	23	24
Lumber (DFL)	1" min	#9	36/8	388	523	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#9	36/4	194	262	129	174	103	140	86	116	69	100	53	80	42	56	34	41	23	24
		#14	36/8	473	715	210	334	135	213	93	148	69	109	53	80	42	56	34	41	23	24
		#14	36/4	265	358	177	238	135	191	93	148	69	109	53	80	42	56	34	41	23	24



Table 12.6 - Shear and Flexibility (No. 29 gauge Strata Rib, 36/4):

29ga Strata Rib 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n
4"	q	326	529	323	525	324	527	321	522	323	524	318	509	252	403	204	326	142	226
	F	18.1		15.2		14.0		13.3		12.7		12.4		12.0		11.8		11.4	
8"	q	295	480	286	465	286	465	287	466	287	466	274	445	252	403	204	326	142	226
	F	19.3		16.7		15.6		14.8		14.2		14.4		14.0		13.7		13.7	
12"	q	295	480	255	414	263	428	242	393	251	408	234	381	243	395	204	326	142	226
	F	19.3		17.8		16.4		16.5		15.7		16.0		15.4		15.7		15.6	
24"	q	253	411	201	326	227	369	203	330	183	297	165	269	189	307	175	284	142	226
	F	20.5		19.7		17.7		18.1		18.7		19.5		17.9		18.6		20.0	
36"	q	253	411	201	326	171	278	148	241	183	297	165	269	151	245	138	224	118	192
	F	20.5		19.7		20.1		20.9		18.7		19.5		20.3		21.2		23.2	
48"	q	253	411	201	326	171	278	148	241	130	212	116	189	151	245	138	224	118	192
	F	20.5		19.7		20.1		20.9		22.0		23.2		20.3		21.2		23.2	
1 per span	q	253	411	201	326	171	278	148	241	130	212	116	189	104	170	95	154	78	127
	F	20.5		19.7		20.1		20.9		22.0		23.2		24.6		25.9		28.9	
none	q	156	253	110	179	89	145	74	120	63	102	54	89	48	78	43	70	35	57
	F	23.4		24.0		25.5		27.4		29.6		31.9		34.3		36.8		41.9	

Table 12.7 - Shear and Flexibility (No. 26 gauge Strata Rib, 36/4):

26ga Strata Rib 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		16"		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		4' - 6"		5' - 0"		6' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n	S _r /Ω	φS _n
4"	q	405	659	402	654	404	656	400	650	401	652	398	648	352	563	285	456	198	317
	F	12.7		11.0		10.3		10.0		9.6		9.5		9.2		9.2		9.0	
8"	q	368	597	356	578	356	579	357	580	357	580	341	554	343	558	285	456	198	317
	F	13.7		12.4		11.7		11.3		11.0		11.3		11.0		10.9		11.0	
12"	q	368	597	317	515	328	532	301	489	312	507	292	474	302	491	285	456	198	317
	F	13.7		13.3		12.5		12.9		12.3		12.7		12.3		12.7		12.7	
24"	q	315	511	250	406	283	460	253	411	227	369	206	334	235	382	218	354	189	307
	F	14.8		15.0		13.7		14.3		15.0		15.8		14.6		15.2		16.7	
36"	q	315	511	250	406	213	346	185	300	227	369	206	334	187	305	172	279	147	238
	F	14.8		15.0		15.8		16.8		15.0		15.8		16.7		17.6		19.5	
48"	q	315	511	250	406	213	346	185	300	162	264	144	235	187	305	172	279	147	238
	F	14.8		15.0		15.8		16.8		18.0		19.2		16.7		17.6		19.5	
1 per span	q	315	511	250	406	213	346	185	300	162	264	144	235	130	211	118	192	98	159
	F	14.8		15.0		15.8		16.8		18.0		19.2		20.5		21.8		24.6	
none	q	194	315	137	223	112	182	92	150	79	128	68	111	60	98	54	87	44	72
	F	17.4		18.9		20.7		22.7		24.8		27.0		29.3		31.6		36.3	

Note: Shear Tables 12.6 & 12.7 based on 36/4 attachment pattern. Values acceptable for use (conservative) for 36/8 pattern.

13.0 Super-Span®

Figure 13.1 - Basic Dimensions and Panel Attachment (Super-Span):

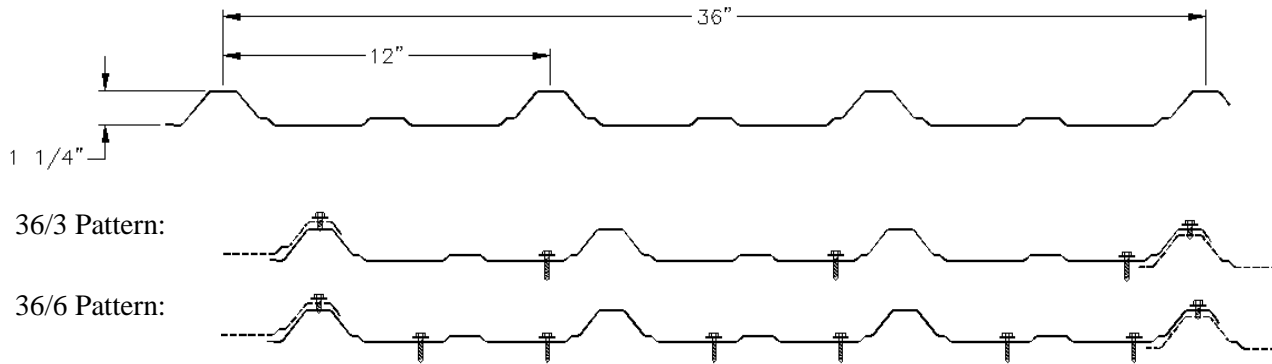


Table 13.1 - Section Properties (Super-Span):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _g ⁺	S _g ⁻
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
26	0.85	0.0173	80	82	0.2509	0.0483	0.34	0.0518	0.1435
24	1.15	0.0232	50	65	0.3365	0.0633	0.34	0.0692	0.1908
22	1.45	0.0294	50	65	0.4263	0.0833	0.34	0.0874	0.2395

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _e ⁺	y _b	S _e ⁺	I _e ⁻	y _b	S _e ⁻	I _d ⁺	I _d ⁻	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
26	0.0505	0.0480	0.28	0.0386	0.0343	0.58	0.0455	0.0481	0.0390
24	0.0849	0.0633	0.33	0.0653	0.0503	0.54	0.0625	0.0633	0.0547
22	0.1193	0.0833	0.35	0.0874	0.0667	0.51	0.0800	0.0833	0.0722



Table 13.2 - Inward (Positive) Uniform Allowable Loads (Super-Span):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"
26	Single Span	ASD, W/Ω	231	148	103	75	58	37	26	19	14
		LRFD, φW	366	234	163	120	92	59	41	30	23
		L/240	-	-	-	74	49	25	15	9	6
		L/180	-	-	-	-	-	34	19	12	8
		L/120	-	-	-	-	-	-	-	18	12
	Double Span	ASD, W/Ω	255	166	117	87	66	42	30	22	17
		LRFD, φW	384	251	176	130	100	64	45	33	25
		L/240	-	-	-	-	-	-	-	-	15
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	312	205	145	108	83	53	37	27	21
		LRFD, φW	469	309	218	162	125	80	56	41	32
		L/240	-	-	-	-	-	48	28	17	12
		L/180	-	-	-	-	-	-	37	23	15
		L/120	-	-	-	-	-	-	-	-	-
24	Single Span	ASD, W/Ω	326	209	145	106	82	52	36	27	20
		LRFD, φW	517	331	230	169	129	83	57	42	32
		L/240	-	-	-	97	65	33	19	12	8
		L/180	-	-	-	-	-	44	26	16	11
		L/120	-	-	-	-	-	-	-	24	16
	Double Span	ASD, W/Ω	297	193	135	100	76	49	34	25	19
		LRFD, φW	448	291	203	150	115	74	51	38	29
		L/240	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	366	239	168	124	96	61	43	31	24
		LRFD, φW	551	359	253	187	144	92	65	47	36
		L/240	-	-	-	-	-	-	36	23	15
		L/180	-	-	-	-	-	-	-	30	20
		L/120	-	-	-	-	-	-	-	-	-
22	Single Span	ASD, W/Ω	436	279	194	142	109	70	48	36	27
		LRFD, φW	692	443	307	226	173	111	77	56	43
		L/240	-	-	-	127	85	44	25	16	11
		L/180	-	-	-	-	-	58	34	21	14
		L/120	-	-	-	-	-	-	-	32	21
	Double Span	ASD, W/Ω	382	248	174	128	98	63	44	32	24
		LRFD, φW	574	373	261	193	148	95	66	49	37
		L/240	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	469	306	215	159	122	78	54	40	30
		LRFD, φW	706	461	324	239	184	118	82	61	46
		L/240	-	-	-	-	-	-	48	30	20
		L/180	-	-	-	-	-	-	-	-	27
		L/120	-	-	-	-	-	-	-	-	-



Table 13.3 - Allowable Reactions at Supports (Super-Span):

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (P_n/Ω) (lbs/ft width)				LRFD (ϕP_n) (lbs/ft width)			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
26	End	133	152	169	197	203	233	258	301
	Interior	204	230	251	288	303	342	374	428
24	End	191	218	240	278	292	333	367	425
	Interior	298	333	363	412	443	495	539	613
22	End	296	335	368	424	452	512	563	648
	Interior	466	519	562	636	694	771	837	946



Table 13.4 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge Super-Span):

Super-Span, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	355	532	246	391	171	271	126	199	96	153	62	98	43	68	31	50	24	38
		#12	36/3	177	266	142	213	118	177	101	152	89	133	62	98	43	68	31	50	24	38
	12ga (.1050")	#12	36/6	355	532	246	391	171	271	126	199	96	153	62	98	43	68	31	50	24	38
		#12	36/3	177	266	142	213	118	177	101	152	89	133	62	98	43	68	31	50	24	38
	14ga (.0700")	#12	36/6	278	418	223	334	171	271	126	199	96	153	62	98	43	68	31	50	24	38
		#12	36/3	139	209	111	167	93	139	80	119	70	104	56	84	43	68	31	50	24	38
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	126	199	96	153	62	98	43	68	31	50	24	38
		#12	36/3	117	176	94	141	78	117	67	101	59	88	47	70	39	59	31	50	24	38
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	104	157	91	137	62	98	43	68	31	50	24	38
		#12	36/3	91	137	73	110	61	91	52	78	46	68	37	55	30	46	26	39	23	34
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	80	121	70	106	56	84	43	68	31	50	24	38
		#12	36/3	70	106	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	26
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	67	100	58	88	47	70	39	58	31	50	24	38
		#12	36/3	58	88	47	70	39	58	33	50	29	44	23	35	19	29	17	25	15	22
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	355	532	246	391	171	271	126	199	96	153	62	98	43	68	31	50	24	38
		#12	36/3	177	266	142	213	118	177	101	152	89	133	62	98	43	68	31	50	24	38
	12ga (.1050")	#12	36/6	289	434	231	347	171	271	126	199	96	153	62	98	43	68	31	50	24	38
		#12	36/3	145	217	116	174	96	145	83	124	72	108	58	87	43	68	31	50	24	38
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	110	165	96	145	62	98	43	68	31	50	24	38
		#12	36/3	96	145	77	116	64	96	55	83	48	72	39	58	32	48	28	41	24	36
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	93	139	81	122	62	97	43	68	31	50	24	38
		#12	36/3	81	122	65	97	54	81	46	70	41	61	32	49	27	41	23	35	20	30
18ga (.0459")	#12	36/6	126	190	101	152	84	126	72	108	63	95	51	76	42	63	31	50	24	38	
	#12	36/3	63	95	51	76	42	63	36	54	32	47	25	38	21	32	18	27	16	24	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	56	84	49	73	39	58	32	49	28	42	24	37	
	#12	36/3	49	73	39	58	32	49	28	42	24	37	19	29	16	24	14	21	12	18	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	46	69	40	61	32	49	27	40	23	35	20	30	
	#12	36/3	40	61	32	49	27	40	23	35	20	30	16	24	13	20	12	17	10	15	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	60	81	52	71	42	57	35	47	30	40	24	35
		#14	36/3	52	71	42	57	35	47	30	40	26	35	21	28	17	24	15	20	13	18
	19/32"	#14	36/6	133	179	106	143	88	119	76	102	66	90	53	72	43	60	31	50	24	38
		#14	36/3	66	90	53	72	44	60	38	51	33	45	27	36	22	30	19	26	17	22
	23/32"	#14	36/6	161	217	128	173	107	145	92	124	80	108	62	87	43	68	31	50	24	38
		#14	36/3	80	108	64	87	54	72	46	62	40	54	32	43	27	36	23	31	20	27
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	111	149	96	131	62	98	43	68	31	50	24	38
		#9	36/3	97	131	78	105	65	87	55	75	48	65	39	52	32	44	28	37	24	33
		#14	36/6	265	358	212	286	171	238	126	199	96	153	62	98	43	68	31	50	24	38
		#14	36/3	132	179	106	143	88	119	76	102	66	89	53	72	43	60	31	50	24	38



Table 13.5 - Outward (Negative) Uniform Allowable Loads (No. 24 gauge Super-Span):

Super-Span, 24ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	377	566	261	414	181	287	133	211	102	162	65	103	45	72	33	53	25	40
		#12	36/3	189	283	151	226	126	189	108	162	94	141	65	103	45	72	33	53	25	40
	12ga (.1050")	#12	36/6	377	566	261	414	181	287	133	211	102	162	65	103	45	72	33	53	25	40
		#12	36/3	189	283	151	226	126	189	108	162	94	141	65	103	45	72	33	53	25	40
	14ga (.0700")	#12	36/6	278	418	223	334	181	278	133	211	102	162	65	103	45	72	33	53	25	40
		#12	36/3	139	209	111	167	93	139	80	119	70	104	56	84	45	70	33	53	25	40
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	133	201	102	162	65	103	45	72	33	53	25	40
		#12	36/3	117	176	94	141	78	117	67	101	59	88	47	70	39	59	33	50	25	40
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	104	157	91	137	65	103	45	72	33	53	25	40
		#12	36/3	91	137	73	110	61	91	52	78	46	68	37	55	30	46	26	39	23	34
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	80	121	70	106	56	84	45	70	33	53	25	40
		#12	36/3	70	106	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	26
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	67	100	58	88	47	70	39	58	33	50	25	40
		#12	36/3	58	88	47	70	39	58	33	50	29	44	23	35	19	29	17	25	15	22
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	261	414	181	287	133	211	102	162	65	103	45	72	33	53	25	40
		#12	36/3	186	279	149	223	124	186	106	159	93	139	65	103	45	72	33	53	25	40
	12ga (.1050")	#12	36/6	289	434	231	347	181	287	133	211	102	162	65	103	45	72	33	53	25	40
		#12	36/3	145	217	116	174	96	145	83	124	72	108	58	87	45	72	33	53	25	40
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	110	165	96	145	65	103	45	72	33	53	25	40
		#12	36/3	96	145	77	116	64	96	55	83	48	72	39	58	32	48	28	41	24	36
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	93	139	81	122	65	97	45	72	33	53	25	40
		#12	36/3	81	122	65	97	54	81	46	70	41	61	32	49	27	41	23	35	20	30
	18ga (.0459")	#12	36/6	126	190	101	152	84	126	72	108	63	95	51	76	42	63	33	53	25	40
		#12	36/3	63	95	51	76	42	63	36	54	32	47	25	38	21	32	18	27	16	24
20ga (.0354")	#12	36/6	97	146	78	117	65	97	56	84	49	73	39	58	32	49	28	42	24	37	
	#12	36/3	49	73	39	58	32	49	28	42	24	37	19	29	16	24	14	21	12	18	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	46	69	40	61	32	49	27	40	23	35	20	30	
	#12	36/3	40	61	32	49	27	40	23	35	20	30	16	24	13	20	12	17	10	15	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	60	81	52	71	42	57	35	47	30	40	25	35
		#14	36/3	52	71	42	57	35	47	30	40	26	35	21	28	17	24	15	20	13	18
	19/32"	#14	36/6	133	179	106	143	88	119	76	102	66	90	53	72	44	60	33	51	25	40
		#14	36/3	66	90	53	72	44	60	38	51	33	45	27	36	22	30	19	26	17	22
	23/32"	#14	36/6	161	217	128	173	107	145	92	124	80	108	64	87	45	72	33	53	25	40
		#14	36/3	80	108	64	87	54	72	46	62	40	54	32	43	27	36	23	31	20	27
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	111	149	97	131	65	103	45	72	33	53	25	40
		#9	36/3	97	131	78	105	65	87	55	75	48	65	39	52	32	44	28	37	24	33
		#14	36/6	265	358	212	286	177	238	133	204	102	162	65	103	45	72	33	53	25	40
		#14	36/3	132	179	106	143	88	119	76	102	66	89	53	72	44	60	33	51	25	40



Table 13.6 - Outward (Negative) Uniform Allowable Loads (No. 22 gauge Super-Span):

Super-Span, 22ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	478	717	349	553	242	384	178	282	136	216	87	138	61	96	44	71	34	54
		#12	36/3	239	358	191	287	159	239	137	205	119	179	87	138	61	96	44	71	34	54
	12ga (.1050")	#12	36/6	418	627	334	501	242	384	178	282	136	216	87	138	61	96	44	71	34	54
		#12	36/3	209	313	167	251	139	209	119	179	104	157	84	125	61	96	44	71	34	54
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	159	239	136	209	87	138	61	96	44	71	34	54
		#12	36/3	139	209	111	167	93	139	80	119	70	104	56	84	46	70	40	60	34	52
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	134	201	117	176	87	138	61	96	44	71	34	54
		#12	36/3	117	176	94	141	78	117	67	101	59	88	47	70	39	59	34	50	29	44
18ga (.0459")	#12	36/6	183	274	146	219	122	183	104	157	91	137	73	110	61	91	44	71	34	54	
	#12	36/3	91	137	73	110	61	91	52	78	46	68	37	55	30	46	26	39	23	34	
20ga (.0354")	#12	36/6	141	211	113	169	94	141	80	121	70	106	56	84	47	70	40	60	34	53	
	#12	36/3	70	106	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	26	
22ga (.0294")	#12	36/6	117	175	94	140	78	117	67	100	58	88	47	70	39	58	33	50	29	44	
	#12	36/3	58	88	47	70	39	58	33	50	29	44	23	35	19	29	17	25	15	22	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	242	372	178	282	136	216	87	138	61	96	44	71	34	54
		#12	36/3	186	279	149	223	124	186	106	159	93	139	74	112	61	93	44	71	34	54
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	165	248	136	216	87	138	61	96	44	71	34	54
		#12	36/3	145	217	116	174	96	145	83	124	72	108	58	87	48	72	41	62	34	54
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	110	165	96	145	77	116	61	96	44	71	34	54
		#12	36/3	96	145	77	116	64	96	55	83	48	72	39	58	32	48	28	41	24	36
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	93	139	81	122	65	97	54	81	44	70	34	54
		#12	36/3	81	122	65	97	54	81	46	70	41	61	32	49	27	41	23	35	20	30
18ga (.0459")	#12	36/6	126	190	101	152	84	126	72	108	63	95	51	76	42	63	36	54	32	47	
	#12	36/3	63	95	51	76	42	63	36	54	32	47	25	38	21	32	18	27	16	24	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	56	84	49	73	39	58	32	49	28	42	24	37	
	#12	36/3	49	73	39	58	32	49	28	42	24	37	19	29	16	24	14	21	12	18	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	46	69	40	61	32	49	27	40	23	35	20	30	
	#12	36/3	40	61	32	49	27	40	23	35	20	30	16	24	13	20	12	17	10	15	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	60	81	52	71	42	57	35	47	30	40	26	35
		#14	36/3	52	71	42	57	35	47	30	40	26	35	21	28	17	24	15	20	13	18
	19/32"	#14	36/6	133	179	106	143	88	119	76	102	66	90	53	72	44	60	38	51	33	45
		#14	36/3	66	90	53	72	44	60	38	51	33	45	27	36	22	30	19	26	17	22
23/32"	#14	36/6	161	217	128	173	107	145	92	124	80	108	64	87	54	72	44	62	34	54	
	#14	36/3	80	108	64	87	54	72	46	62	40	54	32	43	27	36	23	31	20	27	
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	111	149	97	131	78	105	61	87	44	71	34	54
		#9	36/3	97	131	78	105	65	87	55	75	48	65	39	52	32	44	28	37	24	33
		#14	36/6	265	358	212	286	177	238	151	204	132	179	87	138	61	96	44	71	34	54
		#14	36/3	132	179	106	143	88	119	76	102	66	89	53	72	44	60	38	51	33	45



Table 13.7 - Shear and Flexibility (No. 26 gauge Super-Span, 36/3):

26ga Super Span 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	310	503	311	505	309	502	310	503	308	501	308	501	308	500	308	500	296	474
	F	18.3		16.1		14.9		13.8		13.2		12.2		11.5		11.0		10.6	
8"	q	283	460	285	462	285	464	286	465	277	450	280	455	275	446	277	450	273	444
	F	19.8		17.7		16.4		15.4		15.1		14.0		13.6		13.0		12.9	
12"	q	257	418	266	433	249	405	258	419	245	398	242	393	240	390	238	387	237	385
	F	21.0		18.6		18.2		16.8		16.8		16.0		15.5		15.2		14.9	
24"	q	204	332	234	381	213	347	194	316	178	289	190	309	167	272	178	290	162	263
	F	23.3		20.1		19.9		20.1		20.6		19.0		20.1		19.0		20.1	
36"	q	204	332	177	287	154	251	194	316	178	289	151	245	130	211	149	242	134	217
	F	23.3		23.0		23.3		20.1		20.6		21.9		23.7		21.5		22.9	
48"	q	204	332	177	287	154	251	137	222	122	198	151	245	130	211	113	184	98	160
	F	23.3		23.0		23.3		24.1		25.1		21.9		23.7		25.6		27.6	
1 per span	q	204	332	177	287	154	251	137	222	122	198	97	158	79	129	67	109	58	94
	F	23.3		23.0		23.3		24.1		25.1		27.6		30.5		33.6		36.8	
none	q	94	152	73	119	60	97	50	81	42	69	32	52	25	41	21	34	17	28
	F	29.6		30.8		32.8		35.1		37.7		43.4		49.4		55.6		61.9	

Table 13.8 - Shear and Flexibility (No. 26 gauge Super-Span, 36/6):

26ga Super Span 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	567	921	569	925	558	907	562	913	554	900	551	895	532	851	391	625	299	479
	F	18.0		15.9		14.7		13.6		13.0		12.0		11.4		10.9		10.5	
8"	q	472	766	469	762	467	759	466	757	435	707	440	714	420	683	391	625	299	479
	F	19.0		17.1		15.8		14.8		14.6		13.5		13.2		12.6		12.5	
12"	q	409	664	420	682	375	609	389	632	355	578	343	558	335	544	329	534	299	479
	F	19.7		17.7		17.0		15.9		15.7		15.0		14.6		14.4		14.2	
24"	q	318	517	353	574	309	502	273	444	244	397	254	412	213	346	226	367	197	319
	F	20.8		18.5		18.0		17.9		18.0		17.0		17.8		17.1		17.9	
36"	q	318	517	267	433	227	369	273	444	244	397	194	315	159	258	180	292	156	254
	F	20.8		19.9		19.6		17.9		18.0		18.7		19.8		18.7		19.8	
48"	q	318	517	267	433	227	369	192	312	166	270	194	315	159	258	134	217	116	188
	F	20.8		19.9		19.6		19.8		20.2		18.7		19.8		21.1		22.5	
1 per span	q	318	517	267	433	227	369	192	312	166	270	129	210	105	170	87	142	75	122
	F	20.8		19.9		19.6		19.8		20.2		21.5		23.1		24.9		26.9	
none	q	187	304	146	238	119	193	100	162	85	138	65	105	51	83	41	67	35	57
	F	22.9		22.4		22.7		23.4		24.3		26.6		29.3		32.1		35.1	



Table 13.9 - Shear and Flexibility (No. 24 gauge Super-Span, 36/3):

24ga Super Span 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	329	535	330	537	328	533	329	535	328	533	327	532	327	532	327	532	327	531
	F	11.1		10.0		9.5		9.0		8.7		8.2		7.9		7.7		7.5	
8"	q	301	489	303	492	303	493	304	494	294	478	297	483	292	474	295	479	290	472
	F	12.4		11.4		10.8		10.3		10.4		9.8		9.7		9.4		9.4	
12"	q	274	445	283	460	265	431	274	446	260	423	257	418	255	414	253	412	252	410
	F	13.4		12.2		12.3		11.5		11.8		11.5		11.4		11.3		11.2	
24"	q	217	353	249	405	227	368	207	336	189	307	202	328	178	289	190	308	172	280
	F	15.4		13.5		13.8		14.4		15.1		14.1		15.4		14.6		15.7	
36"	q	217	353	188	305	164	267	207	336	189	307	160	260	138	224	158	257	142	231
	F	15.4		15.9		16.8		14.4		15.1		16.7		18.4		16.7		18.1	
48"	q	217	353	188	305	164	267	145	236	130	211	160	260	138	224	121	197	105	171
	F	15.4		15.9		16.8		17.8		19.0		16.7		18.4		20.3		22.2	
1 per span	q	217	353	188	305	164	267	145	236	130	211	104	170	86	139	72	117	62	101
	F	15.4		15.9		16.8		17.8		19.0		21.6		24.3		27.2		30.1	
none	q	101	164	79	128	64	105	54	88	46	75	36	58	28	46	23	38	19	31
	F	20.8		22.7		24.9		27.4		29.9		35.2		40.6		46.2		51.8	

Table 13.10 - Shear and Flexibility (No. 24 gauge Super-Span, 36/6):

24ga Super Span 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	602	979	605	983	594	965	597	970	589	957	586	952	584	948	582	941	450	720
	F	10.8		9.8		9.3		8.8		8.5		8.1		7.8		7.6		7.4	
8"	q	501	815	498	810	497	807	495	804	462	751	467	759	447	726	453	736	439	713
	F	11.7		10.8		10.3		9.8		9.9		9.4		9.4		9.1		9.1	
12"	q	435	706	446	725	398	647	413	671	378	614	365	593	356	579	349	568	344	560
	F	12.3		11.3		11.3		10.7		10.9		10.7		10.6		10.6		10.6	
24"	q	339	550	376	611	328	534	290	472	260	422	270	438	229	371	242	393	210	342
	F	13.3		12.1		12.2		12.5		12.9		12.4		13.3		13.0		13.8	
36"	q	339	550	283	461	243	394	290	472	260	422	209	339	171	278	194	315	168	272
	F	13.3		13.3		13.6		12.5		12.9		13.9		15.1		14.3		15.4	
48"	q	339	550	283	461	243	394	207	336	179	291	209	339	171	278	145	235	125	202
	F	13.3		13.3		13.6		14.1		14.7		13.9		15.1		16.4		17.7	
1 per span	q	339	550	283	461	243	394	207	336	179	291	140	227	114	185	95	155	82	133
	F	13.3		13.3		13.6		14.1		14.7		16.3		17.9		19.7		21.5	
none	q	201	327	158	257	129	210	108	176	93	151	71	116	57	92	46	75	39	63
	F	15.0		15.5		16.2		17.2		18.3		20.7		23.2		25.9		28.6	



Table 13.11 - Shear and Flexibility (No. 22 gauge Super-Span, 36/3):

22ga Super Span 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	417	678	418	680	416	676	417	678	415	675	415	674	415	674	415	674	414	673
	F	7.7		7.1		6.9		6.6		6.5		6.2		6.1		5.9		5.8	
8"	q	382	620	383	623	385	625	385	626	373	606	377	613	370	601	373	607	368	598
	F	8.9		8.4		8.0		7.8		8.0		7.6		7.7		7.5		7.5	
12"	q	347	564	359	583	336	546	348	565	330	536	326	529	323	525	321	522	320	519
	F	9.8		9.1		9.4		8.9		9.2		9.2		9.1		9.1		9.1	
24"	q	275	447	316	513	287	467	262	425	239	389	256	416	226	367	240	391	218	355
	F	11.6		10.2		10.7		11.4		12.1		11.5		12.7		12.0		13.1	
36"	q	275	447	238	387	208	338	262	425	239	389	203	330	175	284	201	326	180	293
	F	11.6		12.4		13.4		11.4		12.1		13.7		15.4		14.0		15.3	
48"	q	275	447	238	387	208	338	184	299	165	267	203	330	175	284	153	249	134	219
	F	11.6		12.4		13.4		14.5		15.6		13.7		15.4		17.1		18.9	
1 per span	q	275	447	238	387	208	338	184	299	165	267	133	217	110	178	93	151	80	130
	F	11.6		12.4		13.4		14.5		15.6		18.1		20.6		23.2		25.9	
none	q	129	209	101	164	83	135	70	113	60	97	46	75	37	60	30	50	26	42
	F	16.4		18.4		20.6		22.9		25.3		30.2		35.1		40.1		45.2	

Table 13.12 - Shear and Flexibility (No. 22 gauge Super-Span, 36/6):

22ga Super Span 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	763	1240	767	1246	752	1222	757	1230	746	1212	742	1206	740	1202	738	1199	643	1029
	F	7.5		7.0		6.7		6.4		6.3		6.1		6.0		5.8		5.8	
8"	q	635	1033	632	1027	629	1022	627	1019	586	952	592	962	566	920	574	933	556	904
	F	8.3		7.9		7.6		7.4		7.5		7.3		7.3		7.2		7.3	
12"	q	551	895	565	919	505	820	524	851	479	778	462	752	451	733	443	720	437	709
	F	8.8		8.3		8.5		8.1		8.4		8.4		8.5		8.5		8.5	
24"	q	429	697	476	774	416	676	368	598	329	535	342	555	292	474	307	498	269	437
	F	9.7		9.0		9.3		9.7		10.2		9.9		10.9		10.6		11.4	
36"	q	429	697	359	584	307	500	368	598	329	535	267	433	219	356	248	402	214	349
	F	9.7		10.0		10.5		9.7		10.2		11.2		12.4		11.8		12.9	
48"	q	429	697	359	584	307	500	264	429	229	372	267	433	219	356	185	301	160	260
	F	9.7		10.0		10.5		11.1		11.8		11.2		12.4		13.7		14.9	
1 per span	q	429	697	359	584	307	500	264	429	229	372	179	292	147	238	123	200	106	172
	F	9.7		10.0		10.5		11.1		11.8		13.3		14.9		16.6		18.3	
none	q	257	418	202	329	166	269	139	227	120	195	92	150	74	120	61	99	51	83
	F	11.2		12.0		12.9		13.9		15.0		17.3		19.7		22.1		24.6	



14.0 Reversed Super-Span®

Figure 14.1 - Basic Dimensions and Panel Attachment (Reversed Super-Span):

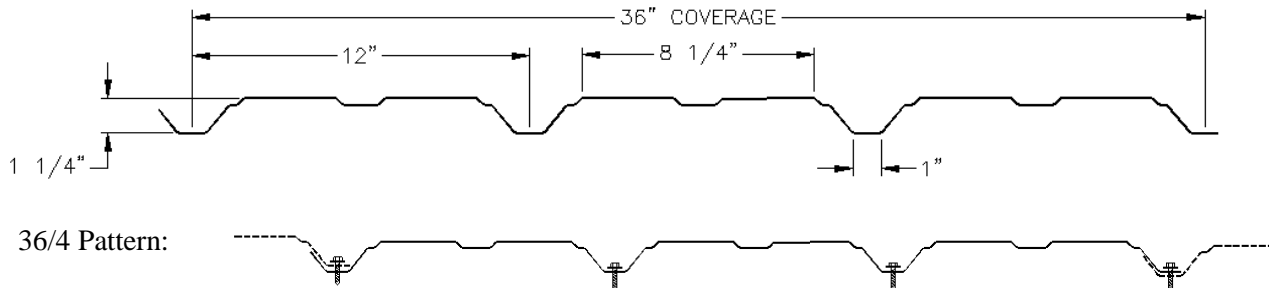


Table 14.1 - Section Properties (Reversed Super-Span):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
26	0.82	0.0173	80	82	0.2421	0.0460	0.94	0.1392	0.0493
24	1.10	0.0232	50	65	0.3246	0.0633	0.94	0.1850	0.0659
22	1.40	0.0294	50	65	0.4113	0.0800	0.94	0.2322	0.0832

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
	A _e /ft in ²	I _{e+} in ⁴ /ft	y _b in	S _{e+} in ³ /ft	I _{e-} in ⁴ /ft	y _b in	S _{e-} in ³ /ft	I ₊ in ⁴ /ft	I ₋ in ⁴ /ft
26	0.0382	0.0337	0.69	0.0432	0.0433	1.02	0.0304	0.0378	0.0442
24	0.0629	0.0477	0.73	0.0593	0.0600	0.99	0.0513	0.0529	0.0611
22	0.0895	0.0633	0.75	0.0760	0.0767	0.94	0.0777	0.0689	0.0778



Table 14.2 - Inward (Positive) Uniform Allowable Loads (Reversed Super-Span):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"
26	Single Span	ASD, W/Ω	259	166	115	84	65	41	29	21	16
		LRFD, φW	410	263	182	134	103	66	46	34	26
		L/240	-	158	92	58	39	20	11	7	5
		L/180	-	-	-	77	52	26	15	10	6
		L/120	-	-	-	-	-	40	23	14	10
	Double Span	ASD, W/Ω	176	114	79	58	45	28	20	14	11
		LRFD, φW	265	171	119	88	67	43	30	22	17
		L/240	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	217	141	98	72	56	36	25	18	13
		LRFD, φW	326	212	148	109	84	54	37	27	21
L/240		-	-	-	-	-	-	22	14	9	
L/180		-	-	-	-	-	-	-	-	12	
L/120		-	-	-	-	-	-	-	-	-	
24	Single Span	ASD, W/Ω	296	189	132	97	74	47	33	24	19
		LRFD, φW	470	301	209	153	117	75	52	38	29
		L/240	-	-	128	81	54	28	16	10	7
		L/180	-	-	-	-	72	37	21	13	9
		L/120	-	-	-	-	-	-	32	20	14
	Double Span	ASD, W/Ω	247	159	112	82	63	41	27	20	16
		LRFD, φW	372	240	168	124	95	61	42	31	24
		L/240	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	305	198	138	102	78	51	35	25	19
		LRFD, φW	459	298	208	154	118	76	53	39	29
L/240		-	-	-	-	-	-	30	19	13	
L/180		-	-	-	-	-	-	-	-	17	
L/120		-	-	-	-	-	-	-	-	-	
22	Single Span	ASD, W/Ω	379	243	168	124	95	61	42	31	24
		LRFD, φW	601	385	267	196	150	96	67	49	38
		L/240	-	-	167	105	71	36	21	13	9
		L/180	-	-	-	-	94	48	28	18	12
		L/120	-	-	-	-	-	-	42	26	18
	Double Span	ASD, W/Ω	369	240	168	124	96	61	42	31	24
		LRFD, φW	556	361	253	187	144	92	64	47	36
		L/240	-	-	-	-	-	-	-	-	21
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	452	296	209	154	118	76	53	39	30
		LRFD, φW	681	446	314	232	178	114	80	59	45
L/240		-	-	-	-	-	68	39	25	17	
L/180		-	-	-	-	-	-	53	33	22	
L/120		-	-	-	-	-	-	-	-	-	



Table 14.3 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge Reversed Super-Span):

Reversed Super-Span, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/4	236	355	189	284	158	236	124	196	95	150	61	96	42	67	31	49	24	38
	12ga (.1050")	#12	36/4	236	355	189	284	158	236	124	196	95	150	61	96	42	67	31	49	24	38
	14ga (.0700")	#12	36/4	186	278	149	223	124	186	106	159	93	139	61	96	42	67	31	49	24	38
	16ga (.0590")	#12	36/4	156	235	125	188	104	156	89	134	78	117	61	94	42	67	31	49	24	38
	18ga (.0459")	#12	36/4	122	183	97	146	81	122	70	104	61	91	49	73	41	61	31	49	24	38
	20ga (.0354")	#12	36/4	94	141	75	113	63	94	54	80	47	70	38	56	31	47	27	40	23	35
	22ga (.0294")	#12	36/4	78	117	62	94	52	78	45	67	39	58	31	47	26	39	22	33	19	29
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/4	236	355	189	284	158	236	124	196	95	150	61	96	42	67	31	49	24	38
	12ga (.1050")	#12	36/4	193	289	154	231	129	193	110	165	95	145	61	96	42	67	31	49	24	38
	14ga (.0700")	#12	36/4	129	193	103	154	86	129	73	110	64	96	51	77	42	64	31	49	24	38
	16ga (.0590")	#12	36/4	108	162	87	130	72	108	62	93	54	81	43	65	36	54	31	46	24	38
	18ga (.0459")	#12	36/4	84	126	67	101	56	84	48	72	42	63	34	51	28	42	24	36	21	32
	20ga (.0354")	#12	36/4	65	97	52	78	43	65	37	56	32	49	26	39	22	32	19	28	16	24
	22ga (.0294")	#12	36/4	54	81	43	65	36	54	31	46	27	40	22	32	18	27	15	23	13	20
Plywood & OSB	15/32"	#14	36/4	70	94	56	75	47	63	40	54	35	47	28	38	23	31	20	27	17	24
	19/32"	#14	36/4	88	119	71	96	59	80	51	68	44	60	35	48	29	40	25	34	22	30
	23/32"	#14	36/4	107	145	86	116	71	96	61	83	54	72	43	58	36	48	31	41	24	36
Lumber (DFL)	1" min	#9	36/4	129	174	103	140	86	116	74	100	65	87	52	70	42	58	31	49	24	38
		#14	36/4	177	238	141	191	118	159	101	136	88	119	61	95	42	67	31	49	24	38



Table 14.4 - Outward (Negative) Uniform Allowable Loads (No. 24 gauge Reversed Super-Span):

Reversed Super-Span, 24ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
				ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW		
Material / Grade	Thick-ness																				
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/4	251	377	201	302	164	251	121	192	93	147	59	94	41	65	30	48	23	37
	12ga (.1050")	#12	36/4	251	377	201	302	164	251	121	192	93	147	59	94	41	65	30	48	23	37
	14ga (.0700")	#12	36/4	186	278	149	223	124	186	106	159	93	139	59	94	41	65	30	48	23	37
	16ga (.0590")	#12	36/4	156	235	125	188	104	156	89	134	78	117	59	94	41	65	30	48	23	37
	18ga (.0459")	#12	36/4	122	183	97	146	81	122	70	104	61	91	49	73	41	61	30	48	23	37
	20ga (.0354")	#12	36/4	94	141	75	113	63	94	54	80	47	70	38	56	31	47	27	40	23	35
	22ga (.0294")	#12	36/4	78	117	62	94	52	78	45	67	39	58	31	47	26	39	22	33	19	29
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/4	248	372	198	297	164	248	121	192	93	147	59	94	41	65	30	48	23	37
	12ga (.1050")	#12	36/4	193	289	154	231	129	193	110	165	93	145	59	94	41	65	30	48	23	37
	14ga (.0700")	#12	36/4	129	193	103	154	86	129	73	110	64	96	51	77	41	64	30	48	23	37
	16ga (.0590")	#12	36/4	108	162	87	130	72	108	62	93	54	81	43	65	36	54	30	46	23	37
	18ga (.0459")	#12	36/4	84	126	67	101	56	84	48	72	42	63	34	51	28	42	24	36	21	32
	20ga (.0354")	#12	36/4	65	97	52	78	43	65	37	56	32	49	26	39	22	32	19	28	16	24
	22ga (.0294")	#12	36/4	54	81	43	65	36	54	31	46	27	40	22	32	18	27	15	23	13	20
Plywood & OSB	15/32"	#14	36/4	70	94	56	75	47	63	40	54	35	47	28	38	23	31	20	27	17	24
	19/32"	#14	36/4	88	119	71	96	59	80	51	68	44	60	35	48	29	40	25	34	22	30
	23/32"	#14	36/4	107	145	86	116	71	96	61	83	54	72	43	58	36	48	30	41	23	36
Lumber (DFL)	1" min	#9	36/4	129	174	103	140	86	116	74	100	65	87	52	70	41	58	30	48	23	37
		#14	36/4	177	238	141	191	118	159	101	136	88	119	59	94	41	65	30	48	23	37



Table 14.5 - Outward (Negative) Uniform Allowable Loads (No. 22 gauge Reversed Super-Span):

Reversed Super-Span, 22ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
				ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW	ASD W/Ω	LRFD φW		
Material / Grade	Thick-ness																				
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/4	319	478	255	382	211	319	155	245	118	188	76	120	53	84	39	61	30	47
	12ga (.1050")	#12	36/4	278	418	223	334	186	278	155	239	118	188	76	120	53	84	39	61	30	47
	14ga (.0700")	#12	36/4	186	278	149	223	124	186	106	159	93	139	74	111	53	84	39	61	30	47
	16ga (.0590")	#12	36/4	156	235	125	188	104	156	89	134	78	117	63	94	52	78	39	61	30	47
	18ga (.0459")	#12	36/4	122	183	97	146	81	122	70	104	61	91	49	73	41	61	35	52	30	46
	20ga (.0354")	#12	36/4	94	141	75	113	63	94	54	80	47	70	38	56	31	47	27	40	23	35
	22ga (.0294")	#12	36/4	78	117	62	94	52	78	45	67	39	58	31	47	26	39	22	33	19	29
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/4	248	372	198	297	165	248	142	212	118	186	76	120	53	84	39	61	30	47
	12ga (.1050")	#12	36/4	193	289	154	231	129	193	110	165	96	145	76	116	53	84	39	61	30	47
	14ga (.0700")	#12	36/4	129	193	103	154	86	129	73	110	64	96	51	77	43	64	37	55	30	47
	16ga (.0590")	#12	36/4	108	162	87	130	72	108	62	93	54	81	43	65	36	54	31	46	27	41
	18ga (.0459")	#12	36/4	84	126	67	101	56	84	48	72	42	63	34	51	28	42	24	36	21	32
	20ga (.0354")	#12	36/4	65	97	52	78	43	65	37	56	32	49	26	39	22	32	19	28	16	24
	22ga (.0294")	#12	36/4	54	81	43	65	36	54	31	46	27	40	22	32	18	27	15	23	13	20
Plywood & OSB	15/32"	#14	36/4	70	94	56	75	47	63	40	54	35	47	28	38	23	31	20	27	17	24
	19/32"	#14	36/4	88	119	71	96	59	80	51	68	44	60	35	48	29	40	25	34	22	30
	23/32"	#14	36/4	107	145	86	116	71	96	61	83	54	72	43	58	36	48	31	41	27	36
Lumber (DFL)	1" min	#9	36/4	129	174	103	140	86	116	74	100	65	87	52	70	43	58	37	50	30	44
		#14	36/4	177	238	141	191	118	159	101	136	88	119	71	95	53	79	39	61	30	47



Table 14.6 - Shear and Flexibility (No. 26 gauge Reversed Super-Span, 36/4):

26ga Reverse Super Span 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	406	660	407	661	403	655	404	656	401	652	400	650	399	648	373	596	285	457
	F	205.8		166.2		139.9		121.0		106.9		87.2		74.0		64.6		57.5	
8"	q	371	602	368	599	367	596	366	595	351	571	353	573	343	557	345	561	285	457
	F	207.0		167.4		141.1		122.2		108.5		88.7		75.8		66.3		59.5	
12"	q	342	556	346	562	322	523	328	534	309	502	301	488	295	479	290	471	285	457
	F	207.7		168.0		142.3		123.3		109.8		90.3		77.4		68.1		61.2	
24"	q	294	477	311	506	283	460	258	419	236	383	241	391	211	342	218	355	197	320
	F	208.9		169.0		143.5		125.5		112.3		92.5		80.7		71.1		65.2	
36"	q	294	477	258	418	227	369	258	419	236	383	200	324	172	280	187	303	167	271
	F	208.9		170.5		145.3		125.5		112.3		94.3		83.0		72.8		67.2	
48"	q	294	477	258	418	227	369	202	329	182	296	200	324	172	280	151	245	133	216
	F	208.9		170.5		145.3		127.7		114.7		94.3		83.0		75.4		70.2	
1 per span	q	294	477	258	418	227	369	202	329	182	296	150	244	125	203	106	172	92	150
	F	208.9		170.5		145.3		127.7		114.7		97.4		86.7		79.7		75.1	
none	q	209	340	175	285	150	243	128	209	111	181	87	142	71	116	60	97	52	84
	F	211.4		173.5		149.0		131.9		119.6		103.5		93.9		88.2		84.8	

Table 14.7 - Shear and Flexibility (No. 24 gauge Reversed Super-Span, 36/4):

24ga Reverse Super Span 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	432	702	432	703	428	696	429	698	426	693	425	691	424	689	423	688	423	687
	F	101.0		82.0		69.4		60.4		53.7		44.2		37.9		33.4		30.0	
8"	q	394	640	392	636	390	634	389	632	373	607	375	609	364	592	367	597	359	584
	F	102.0		83.1		70.5		61.4		55.1		45.5		39.5		34.9		31.7	
12"	q	364	591	368	598	342	556	349	567	329	534	320	519	313	509	308	501	305	495
	F	102.7		83.6		71.6		62.4		56.1		46.9		40.8		36.5		33.2	
24"	q	312	507	331	538	301	489	274	445	251	407	256	416	224	364	232	377	210	340
	F	103.7		84.4		72.5		64.3		58.3		48.8		43.7		39.0		36.7	
36"	q	312	507	274	445	242	393	274	445	251	407	212	345	183	297	198	322	178	289
	F	103.7		85.7		74.1		64.3		58.3		50.4		45.6		40.5		38.4	
48"	q	312	507	274	445	242	393	215	350	193	314	212	345	183	297	160	260	142	230
	F	103.7		85.7		74.1		66.1		60.4		50.4		45.6		42.7		40.9	
1 per span	q	312	507	274	445	242	393	215	350	193	314	160	260	134	218	114	185	99	161
	F	103.7		85.7		74.1		66.1		60.4		53.0		48.8		46.4		45.2	
none	q	223	362	186	303	159	259	138	224	119	194	94	153	77	125	65	106	56	91
	F	105.8		88.4		77.3		69.8		64.6		58.3		55.1		53.8		53.6	



Table 14.8 - Shear and Flexibility (No. 22 gauge Reversed Super-Span, 36/4):

22ga Reverse Super Span 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v	ASD S _v /Ω	LRFD φS _v		
4"	q	547	889	548	891	543	882	544	884	540	878	539	875	537	873	537	872	536	871
	F	57.4		46.9		40.0		35.0		31.3		26.1		22.6		20.1		18.3	
8"	q	499	811	496	807	494	803	493	801	473	769	475	772	462	750	465	756	456	740
	F	58.3		47.8		40.9		35.9		32.5		27.3		24.0		21.5		19.8	
12"	q	461	749	466	757	433	704	442	719	416	677	405	658	397	645	391	635	386	627
	F	58.9		48.3		41.9		36.8		33.5		28.5		25.2		22.9		21.1	
24"	q	396	643	420	682	381	620	347	564	318	516	324	527	284	461	294	478	266	431
	F	59.8		49.0		42.7		38.4		35.4		30.1		27.8		25.1		24.2	
36"	q	396	643	347	564	306	498	347	564	318	516	269	437	232	377	251	409	225	366
	F	59.8		50.2		44.1		38.4		35.4		31.6		29.5		26.4		25.7	
48"	q	396	643	347	564	306	498	273	443	245	398	269	437	232	377	203	330	180	293
	F	59.8		50.2		44.1		40.1		37.3		31.6		29.5		28.4		28.0	
1 per span	q	396	643	347	564	306	498	273	443	245	398	203	329	171	278	146	237	126	205
	F	59.8		50.2		44.1		40.1		37.3		33.9		32.3		31.7		31.8	
none	q	282	458	236	383	202	328	176	285	153	248	120	195	99	160	83	136	72	117
	F	61.7		52.5		46.9		43.3		41.0		38.6		37.9		38.2		39.2	

Table 14.9 - Allowable Reactions at Supports (Reversed Super-Span):

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (P _v /Ω) (lbs/ft width)				LRFD (φP _v) (lbs/ft width)			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
26	End	133	152	169	197	203	233	258	301
	Interior	204	230	251	288	303	342	374	428
24	End	191	218	240	278	292	333	367	425
	Interior	298	333	363	412	443	495	539	613
22	End	296	335	368	424	452	512	563	648
	Interior	466	519	562	636	694	771	837	946

15.0 U-Panel

Figure 15.1 - Basic Dimensions and Panel Attachment (U-Panel):

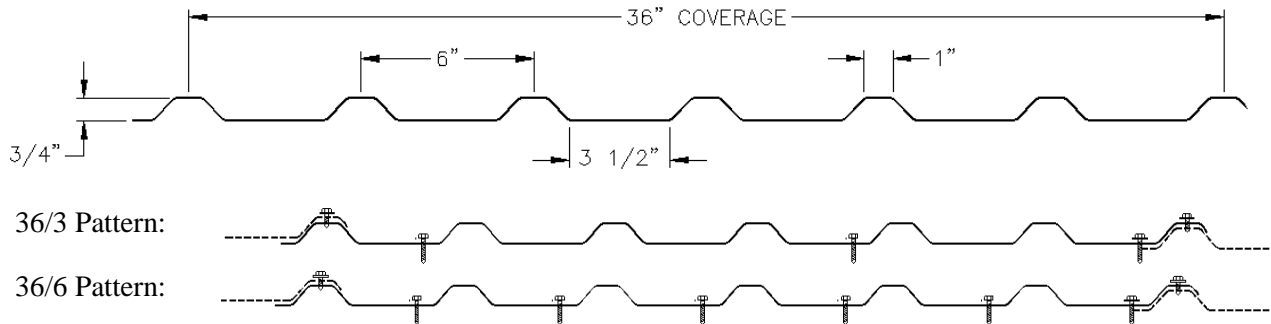


Table 15.1 - Section Properties (U-Panel):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _{g+}	S _{g-}
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.68	0.0139	80	82	0.2000	0.0210	0.27	0.0388	0.0772
26	0.85	0.0173	80	82	0.2490	0.0260	0.27	0.0482	0.0954
24	1.14	0.0232	50	65	0.3338	0.0333	0.28	0.0643	0.1266
22	1.44	0.0294	50	65	0.4230	0.0433	0.28	0.0810	0.1587

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _{e+}	y _b	S _{e+}	I _{e-}	y _b	S _{e-}	I ₊	I ₋	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
29	0.0261	0.0203	0.21	0.0264	0.0133	0.46	0.0245	0.0206	0.0159
26	0.0420	0.0260	0.25	0.0410	0.0177	0.43	0.0357	0.0260	0.0204
24	0.0703	0.0333	0.27	0.0618	0.0273	0.41	0.0566	0.0333	0.0293
22	0.0988	0.0433	0.27	0.0810	0.0400	0.39	0.0736	0.0433	0.0411



Table 15.2 - Inward (Positive) Uniform Allowable Loads (U-Panel):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"
29	Single Span	ASD, W/Ω	158	101	70	52	39	25	18	13	10
		LRFD, φW	250	160	111	82	63	40	28	20	16
		L/240	-	86	50	31	21	11	6	4	3
		L/180	-	-	67	42	28	14	8	5	4
		L/120	-	-	-	-	-	22	12	8	5
	Double Span	ASD, W/Ω	142	92	64	47	36	23	15	12	8
		LRFD, φW	214	138	96	70	54	35	23	18	13
		L/240	-	-	-	-	-	-	15	9	6
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	175	114	79	59	45	29	20	15	11
		LRFD, φW	264	172	120	89	68	43	30	22	17
		L/240	-	-	-	-	40	20	12	7	5
		L/180	-	-	-	-	-	27	16	10	7
		L/120	-	-	-	-	-	-	-	-	10
26	Single Span	ASD, W/Ω	246	157	109	80	61	39	27	20	15
		LRFD, φW	390	249	173	127	97	62	43	32	24
		L/240	213	109	63	40	27	14	8	5	3
		L/180	-	145	84	53	36	18	11	7	4
		L/120	-	-	-	80	53	27	16	10	7
	Double Span	ASD, W/Ω	207	134	93	69	53	33	23	17	13
		LRFD, φW	312	202	141	103	80	50	35	26	20
		L/240	-	-	-	-	-	33	19	12	8
		L/180	-	-	-	-	-	-	-	16	11
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	257	166	116	85	65	42	29	21	16
		LRFD, φW	386	250	175	129	99	64	44	32	24
		L/240	-	-	-	75	50	26	15	9	6
		L/180	-	-	-	-	-	34	20	13	8
		L/120	-	-	-	-	-	-	-	19	13
24	Single Span	ASD, W/Ω	308	197	137	101	77	49	34	25	19
		LRFD, φW	489	313	217	160	122	78	54	40	31
		L/240	273	140	81	51	34	17	10	6	4
		L/180	-	186	108	68	46	23	13	8	6
		L/120	-	-	-	-	68	35	20	13	9
	Double Span	ASD, W/Ω	273	177	123	91	70	44	31	22	17
		LRFD, φW	410	266	186	137	105	67	46	34	26
		L/240	-	-	-	-	-	42	24	15	10
		L/180	-	-	-	-	-	-	-	20	14
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	336	219	153	113	87	56	38	29	21
		LRFD, φW	505	329	230	170	130	84	58	43	32
		L/240	-	-	153	96	64	33	19	12	8
		L/180	-	-	-	-	86	44	25	16	11
		L/120	-	-	-	-	-	-	38	24	16



Table 15.3 (Cont'd) - Inward (Positive) Uniform Allowable Loads (U-Panel):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"
22	Single Span	ASD, W/Ω	404	259	180	132	101	65	45	33	25
		LRFD, ϕW	641	410	285	209	160	103	71	52	40
		L/240	355	182	105	66	44	23	13	8	6
		L/180	-	242	140	88	59	30	18	11	7
		L/120	-	-	-	-	89	45	26	17	11
	Double Span	ASD, W/Ω	353	229	160	118	91	57	40	29	22
		LRFD, ϕW	532	345	241	178	137	87	60	44	34
		L/240	-	-	-	-	-	55	32	20	13
		L/180	-	-	-	-	-	-	-	27	18
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	435	284	199	147	113	73	50	37	28
		LRFD, ϕW	655	427	300	221	170	109	76	56	43
		L/240	-	-	199	125	84	43	25	16	10
		L/180	-	-	-	-	112	57	33	21	14
		L/120	-	-	-	-	-	-	50	31	21

Table 15.4 - Allowable Reactions at Supports (U-Panel):

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (P_n/Ω) (lbs/ft width)				LRFD (ϕP_n) (lbs/ft width)			
		1"	1.5"	2"	2.5"	1"	1.5"	2"	2.5"
29	End	170	196	218	237	260	300	333	363
	Interior	237	269	295	319	353	400	439	474
26	End	256	293	325	353	391	449	497	540
	Interior	366	412	451	486	544	613	671	722
24	End	367	418	461	499	561	639	705	763
	Interior	540	604	658	706	803	899	979	1050
22	End	567	643	706	763	868	983	1081	1167
	Interior	853	948	1029	1100	1269	1411	1530	1636



Table 15.5 - Outward (Negative) Uniform Allowable Loads (29ga U-Panel):

U-Panel, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
Material / Grade	Thick-ness	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	263	417	168	267	117	186	86	136	66	104	42	63	29	36	21	23	15	15
		#12	36/3	142	214	114	171	95	142	81	122	66	104	42	63	29	36	21	23	15	15
	12ga (.1050")	#12	36/6	263	417	168	267	117	186	86	136	66	104	42	63	29	36	21	23	15	15
		#12	36/3	142	214	114	171	95	142	81	122	66	104	42	63	29	36	21	23	15	15
	14ga (.0700")	#12	36/6	263	417	168	267	117	186	86	136	66	104	42	63	29	36	21	23	15	15
		#12	36/3	139	209	111	167	93	139	80	119	66	104	42	63	29	36	21	23	15	15
	16ga (.0590")	#12	36/6	235	352	168	267	117	186	86	136	66	104	42	63	29	36	21	23	15	15
		#12	36/3	117	176	94	141	78	117	67	101	59	88	42	63	29	36	21	23	15	15
	18ga (.0459")	#12	36/6	183	274	146	219	117	183	86	136	66	104	42	63	29	36	21	23	15	15
		#12	36/3	91	137	73	110	61	91	52	78	46	68	37	55	29	36	21	23	15	15
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	80	121	66	104	42	63	29	36	21	23	15	15
		#12	36/3	70	106	56	84	47	70	40	60	35	53	28	42	23	35	20	23	15	15
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	67	100	58	88	42	63	29	36	21	23	15	15
		#12	36/3	58	88	47	70	39	58	33	50	29	44	23	35	19	29	17	23	15	15
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	263	417	168	267	117	186	86	136	66	104	42	63	29	36	21	23	15	15
		#12	36/3	142	214	114	171	95	142	81	122	66	104	42	63	29	36	21	23	15	15
	12ga (.1050")	#12	36/6	263	417	168	267	117	186	86	136	66	104	42	63	29	36	21	23	15	15
		#12	36/3	142	214	114	171	95	142	81	122	66	104	42	63	29	36	21	23	15	15
	14ga (.0700")	#12	36/6	193	289	154	231	117	186	86	136	66	104	42	63	29	36	21	23	15	15
		#12	36/3	96	145	77	116	64	96	55	83	48	72	39	58	29	36	21	23	15	15
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	86	136	66	104	42	63	29	36	21	23	15	15
		#12	36/3	81	122	65	97	54	81	46	70	41	61	32	49	27	36	21	23	15	15
18ga (.0459")	#12	36/6	126	190	101	152	84	126	72	108	63	95	42	63	29	36	21	23	15	15	
	#12	36/3	63	95	51	76	42	63	36	54	32	47	25	38	21	32	18	23	15	15	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	56	84	49	73	39	58	29	36	21	23	15	15	
	#12	36/3	49	73	39	58	32	49	28	42	24	37	19	29	16	24	14	21	12	15	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	46	69	40	61	32	49	27	36	21	23	15	15	
	#12	36/3	40	61	32	49	27	40	23	35	20	30	16	24	13	20	12	17	10	15	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	60	81	52	71	42	57	29	36	21	23	15	15
		#14	36/3	52	71	42	57	35	47	30	40	26	35	21	28	17	24	15	20	13	15
	19/32"	#14	36/6	133	179	106	143	88	119	76	102	66	90	42	63	29	36	21	23	15	15
		#14	36/3	66	90	53	72	44	60	38	51	33	45	27	36	22	30	19	23	15	15
	23/32"	#14	36/6	161	217	128	173	107	145	86	124	66	104	42	63	29	36	21	23	15	15
		#14	36/3	80	108	64	87	54	72	46	62	40	54	32	43	27	36	21	23	15	15
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	117	174	86	136	66	104	42	63	29	36	21	23	15	15
		#9	36/3	97	131	78	105	65	87	55	75	48	65	39	52	29	36	21	23	15	15
		#14	36/6	263	358	168	267	117	186	86	136	66	104	42	63	29	36	21	23	15	15
		#14	36/3	132	179	106	143	88	119	76	102	66	89	42	63	29	36	21	23	15	15



Table 15.6 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge U-Panel):

U-Panel, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	355	532	262	415	182	289	134	212	102	158	65	81	45	47	29	29	20	20
		#12	36/3	177	266	142	213	118	177	101	152	89	133	65	81	45	47	29	29	20	20
	12ga (.1050")	#12	36/6	355	532	262	415	182	289	134	212	102	158	65	81	45	47	29	29	20	20
		#12	36/3	177	266	142	213	118	177	101	152	89	133	65	81	45	47	29	29	20	20
	14ga (.0700")	#12	36/6	278	418	223	334	182	278	134	212	102	158	65	81	45	47	29	29	20	20
		#12	36/3	139	209	111	167	93	139	80	119	70	104	56	81	45	47	29	29	20	20
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	134	201	102	158	65	81	45	47	29	29	20	20
		#12	36/3	117	176	94	141	78	117	67	101	59	88	47	70	39	47	29	29	20	20
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	104	157	91	137	65	81	45	47	29	29	20	20
		#12	36/3	91	137	73	110	61	91	52	78	46	68	37	55	30	46	26	29	20	20
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	80	121	70	106	56	81	45	47	29	29	20	20
		#12	36/3	70	106	56	84	47	70	40	60	35	53	28	42	23	35	20	29	18	20
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	67	100	58	88	47	70	39	47	29	29	20	20
		#12	36/3	58	88	47	70	39	58	33	50	29	44	23	35	19	29	17	25	15	20
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	355	532	262	415	182	289	134	212	102	158	65	81	45	47	29	29	20	20
		#12	36/3	177	266	142	213	118	177	101	152	89	133	65	81	45	47	29	29	20	20
	12ga (.1050")	#12	36/6	289	434	231	347	182	289	134	212	102	158	65	81	45	47	29	29	20	20
		#12	36/3	145	217	116	174	96	145	83	124	72	108	58	81	45	47	29	29	20	20
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	110	165	96	145	65	81	45	47	29	29	20	20
		#12	36/3	96	145	77	116	64	96	55	83	48	72	39	58	32	47	28	29	20	20
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	93	139	81	122	65	81	45	47	29	29	20	20
		#12	36/3	81	122	65	97	54	81	46	70	41	61	32	49	27	41	23	29	20	20
18ga (.0459")	#12	36/6	126	190	101	152	84	126	72	108	63	95	51	76	42	47	29	29	20	20	
	#12	36/3	63	95	51	76	42	63	36	54	32	47	25	38	21	32	18	27	16	20	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	56	84	49	73	39	58	32	47	28	29	20	20	
	#12	36/3	49	73	39	58	32	49	28	42	24	37	19	29	16	24	14	21	12	18	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	46	69	40	61	32	49	27	40	23	29	20	20	
	#12	36/3	40	61	32	49	27	40	23	35	20	30	16	24	13	20	12	17	10	15	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	60	81	52	71	42	57	35	47	29	29	20	20
		#14	36/3	52	71	42	57	35	47	30	40	26	35	21	28	17	24	15	20	13	18
	19/32"	#14	36/6	133	179	106	143	88	119	76	102	66	90	53	72	44	47	29	29	20	20
		#14	36/3	66	90	53	72	44	60	38	51	33	45	27	36	22	30	19	26	17	20
	23/32"	#14	36/6	161	217	128	173	107	145	92	124	80	108	64	81	45	47	29	29	20	20
		#14	36/3	80	108	64	87	54	72	46	62	40	54	32	43	27	36	23	29	20	20
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	111	149	97	131	65	81	45	47	29	29	20	20
		#9	36/3	97	131	78	105	65	87	55	75	48	65	39	52	32	44	28	29	20	20
		#14	36/6	265	358	212	286	177	238	134	204	102	158	65	81	45	47	29	29	20	20
		#14	36/3	132	179	106	143	88	119	76	102	66	89	53	72	44	47	29	29	20	20



Table 15.7 - Outward (Negative) Uniform Allowable Loads (No. 24 gauge U-Panel):

U-Panel, 24ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
Material / Grade	Thick-ness	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	377	566	247	391	171	272	126	200	96	153	62	98	43	67	31	42	24	28
		#12	36/3	189	283	151	226	126	189	108	162	94	141	62	98	43	67	31	42	24	28
	12ga (.1050")	#12	36/6	377	566	247	391	171	272	126	200	96	153	62	98	43	67	31	42	24	28
		#12	36/3	189	283	151	226	126	189	108	162	94	141	62	98	43	67	31	42	24	28
	14ga (.0700")	#12	36/6	278	418	223	334	171	272	126	200	96	153	62	98	43	67	31	42	24	28
		#12	36/3	139	209	111	167	93	139	80	119	70	104	56	84	43	67	31	42	24	28
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	126	200	96	153	62	98	43	67	31	42	24	28
		#12	36/3	117	176	94	141	78	117	67	101	59	88	47	70	39	59	31	42	24	28
18ga (.0459")	#12	36/6	183	274	146	219	122	183	104	157	91	137	62	98	43	67	31	42	24	28	
	#12	36/3	91	137	73	110	61	91	52	78	46	68	37	55	30	46	26	39	23	28	
20ga (.0354")	#12	36/6	141	211	113	169	94	141	80	121	70	106	56	84	43	67	31	42	24	28	
	#12	36/3	70	106	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	26	
22ga (.0294")	#12	36/6	117	175	94	140	78	117	67	100	58	88	47	70	39	58	31	42	24	28	
	#12	36/3	58	88	47	70	39	58	33	50	29	44	23	35	19	29	17	25	15	22	
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	247	391	171	272	126	200	96	153	62	98	43	67	31	42	24	28
		#12	36/3	186	279	149	223	124	186	106	159	93	139	62	98	43	67	31	42	24	28
	12ga (.1050")	#12	36/6	289	434	231	347	171	272	126	200	96	153	62	98	43	67	31	42	24	28
		#12	36/3	145	217	116	174	96	145	83	124	72	108	58	87	43	67	31	42	24	28
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	110	165	96	145	62	98	43	67	31	42	24	28
		#12	36/3	96	145	77	116	64	96	55	83	48	72	39	58	32	48	28	41	24	28
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	93	139	81	122	62	97	43	67	31	42	24	28
		#12	36/3	81	122	65	97	54	81	46	70	41	61	32	49	27	41	23	35	20	28
18ga (.0459")	#12	36/6	126	190	101	152	84	126	72	108	63	95	51	76	42	63	31	42	24	28	
	#12	36/3	63	95	51	76	42	63	36	54	32	47	25	38	21	32	18	27	16	24	
20ga (.0354")	#12	36/6	97	146	78	117	65	97	56	84	49	73	39	58	32	49	28	42	24	28	
	#12	36/3	49	73	39	58	32	49	28	42	24	37	19	29	16	24	14	21	12	18	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	46	69	40	61	32	49	27	40	23	35	20	28	
	#12	36/3	40	61	32	49	27	40	23	35	20	30	16	24	13	20	12	17	10	15	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	60	81	52	71	42	57	35	47	30	40	24	28
		#14	36/3	52	71	42	57	35	47	30	40	26	35	21	28	17	24	15	20	13	18
	19/32"	#14	36/6	133	179	106	143	88	119	76	102	66	90	53	72	43	60	31	42	24	28
		#14	36/3	66	90	53	72	44	60	38	51	33	45	27	36	22	30	19	26	17	22
	23/32"	#14	36/6	161	217	128	173	107	145	92	124	80	108	62	87	43	67	31	42	24	28
		#14	36/3	80	108	64	87	54	72	46	62	40	54	32	43	27	36	23	31	20	27
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	111	149	96	131	62	98	43	67	31	42	24	28
		#9	36/3	97	131	78	105	65	87	55	75	48	65	39	52	32	44	28	37	24	28
		#14	36/6	265	358	212	286	171	238	126	200	96	153	62	98	43	67	31	42	24	28
		#14	36/3	132	179	106	143	88	119	76	102	66	89	53	72	43	60	31	42	24	28



Table 15.8 - Outward (Negative) Uniform Allowable Loads (No. 22 gauge U-Panel):

U-Panel, 22ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD		
		W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW		
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/6	478	717	323	513	224	356	165	262	126	200	81	128	56	89	41	59	32	40
		#12	36/3	239	358	191	287	159	239	137	205	119	179	81	128	56	89	41	59	32	40
	12ga (.1050")	#12	36/6	418	627	323	501	224	356	165	262	126	200	81	128	56	89	41	59	32	40
		#12	36/3	209	313	167	251	139	209	119	179	104	157	81	125	56	89	41	59	32	40
	14ga (.0700")	#12	36/6	278	418	223	334	186	278	159	239	126	200	81	128	56	89	41	59	32	40
		#12	36/3	139	209	111	167	93	139	80	119	70	104	56	84	46	70	40	59	32	40
	16ga (.0590")	#12	36/6	235	352	188	282	156	235	134	201	117	176	81	128	56	89	41	59	32	40
		#12	36/3	117	176	94	141	78	117	67	101	59	88	47	70	39	59	34	50	29	40
	18ga (.0459")	#12	36/6	183	274	146	219	122	183	104	157	91	137	73	110	56	89	41	59	32	40
		#12	36/3	91	137	73	110	61	91	52	78	46	68	37	55	30	46	26	39	23	34
	20ga (.0354")	#12	36/6	141	211	113	169	94	141	80	121	70	106	56	84	47	70	40	59	32	40
		#12	36/3	70	106	56	84	47	70	40	60	35	53	28	42	23	35	20	30	18	26
	22ga (.0294")	#12	36/6	117	175	94	140	78	117	67	100	58	88	47	70	39	58	33	50	29	40
		#12	36/3	58	88	47	70	39	58	33	50	29	44	23	35	19	29	17	25	15	22
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/6	372	558	297	446	224	356	165	262	126	200	81	128	56	89	41	59	32	40
		#12	36/3	186	279	149	223	124	186	106	159	93	139	74	112	56	89	41	59	32	40
	12ga (.1050")	#12	36/6	289	434	231	347	193	289	165	248	126	200	81	128	56	89	41	59	32	40
		#12	36/3	145	217	116	174	96	145	83	124	72	108	58	87	48	72	41	59	32	40
	14ga (.0700")	#12	36/6	193	289	154	231	129	193	110	165	96	145	77	116	56	89	41	59	32	40
		#12	36/3	96	145	77	116	64	96	55	83	48	72	39	58	32	48	28	41	24	36
	16ga (.0590")	#12	36/6	162	244	130	195	108	162	93	139	81	122	65	97	54	81	41	59	32	40
		#12	36/3	81	122	65	97	54	81	46	70	41	61	32	49	27	41	23	35	20	30
	18ga (.0459")	#12	36/6	126	190	101	152	84	126	72	108	63	95	51	76	42	63	36	54	32	40
		#12	36/3	63	95	51	76	42	63	36	54	32	47	25	38	21	32	18	27	16	24
20ga (.0354")	#12	36/6	97	146	78	117	65	97	56	84	49	73	39	58	32	49	28	42	24	37	
	#12	36/3	49	73	39	58	32	49	28	42	24	37	19	29	16	24	14	21	12	18	
22ga (.0294")	#12	36/6	81	121	65	97	54	81	46	69	40	61	32	49	27	40	23	35	20	30	
	#12	36/3	40	61	32	49	27	40	23	35	20	30	16	24	13	20	12	17	10	15	
Plywood & OSB	15/32"	#14	36/6	105	141	84	113	70	94	60	81	52	71	42	57	35	47	30	40	26	35
		#14	36/3	52	71	42	57	35	47	30	40	26	35	21	28	17	24	15	20	13	18
	19/32"	#14	36/6	133	179	106	143	88	119	76	102	66	90	53	72	44	60	38	51	32	40
		#14	36/3	66	90	53	72	44	60	38	51	33	45	27	36	22	30	19	26	17	22
	23/32"	#14	36/6	161	217	128	173	107	145	92	124	80	108	64	87	54	72	41	59	32	40
		#14	36/3	80	108	64	87	54	72	46	62	40	54	32	43	27	36	23	31	20	27
Lumber (DFL)	1" min	#9	36/6	194	262	155	209	129	174	111	149	97	131	78	105	56	87	41	59	32	40
		#9	36/3	97	131	78	105	65	87	55	75	48	65	39	52	32	44	28	37	24	33
		#14	36/6	265	358	212	286	177	238	151	204	126	179	81	128	56	89	41	59	32	40
		#14	36/3	132	179	106	143	88	119	76	102	66	89	53	72	44	60	38	51	32	40



Table 15.9 - Shear and Flexibility (No. 29 gauge U-Panel, 36/3):

29ga U-Panel 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	249	404	250	406	248	403	249	404	248	403	248	402	238	381	175	280	134	214
	F	155.8		126.5		107.2		93.2		82.8		68.3		58.5		51.6		46.4	
8"	q	228	370	229	372	229	373	230	374	223	362	225	366	221	359	175	280	134	214
	F	157.5		128.3		108.8		94.9		85.0		70.3		60.9		53.8		48.8	
12"	q	207	337	214	348	201	326	208	337	197	320	195	316	193	313	175	280	134	214
	F	158.8		129.3		110.8		96.5		86.8		72.5		63.0		56.2		51.1	
24"	q	165	269	189	307	172	279	157	255	143	233	153	249	135	219	144	234	131	212
	F	161.3		130.9		112.7		100.1		91.0		75.8		68.1		60.4		56.8	
36"	q	165	269	143	232	125	203	157	255	143	233	122	198	105	171	120	195	108	175
	F	161.3		134.0		116.5		100.1		91.0		79.1		72.0		63.2		60.0	
48"	q	165	269	143	232	125	203	111	180	99	161	122	198	105	171	92	149	81	132
	F	161.3		134.0		116.5		104.5		96.0		79.1		72.0		67.7		65.2	
1 per span	q	165	269	143	232	125	203	111	180	99	161	81	131	66	108	56	91	49	79
	F	161.3		134.0		116.5		104.5		96.0		85.3		79.5		76.5		75.2	
none	q	79	129	62	102	51	83	43	70	37	60	29	47	23	38	19	31	16	26
	F	168.1		142.5		126.7		116.4		109.7		102.4		100.0		100.4		102.5	

Table 15.10 - Shear and Flexibility (No. 29 gauge U-Panel, 36/6):

29ga U-Panel 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	456	741	458	744	449	730	452	734	445	724	343	548	238	381	175	280	134	214
	F	16.8		15.3		14.4		13.7		13.3		12.6		12.1		11.8		11.6	
8"	q	380	618	378	614	376	611	375	609	350	569	343	548	238	381	175	280	134	214
	F	17.9		16.6		15.7		15.0		15.0		14.3		14.1		13.7		13.7	
12"	q	331	537	339	550	303	492	314	510	287	466	277	450	238	381	175	280	134	214
	F	18.7		17.2		17.0		16.2		16.3		15.9		15.8		15.6		15.6	
24"	q	259	420	286	465	250	407	221	360	198	322	205	333	175	285	175	280	134	214
	F	19.9		18.1		18.1		18.4		18.8		18.1		19.2		18.7		19.8	
36"	q	259	420	217	352	186	302	221	360	198	322	163	264	138	224	152	248	134	214
	F	19.9		19.6		19.9		18.4		18.8		20.0		21.4		20.5		21.8	
48"	q	259	420	217	352	186	302	162	263	143	233	163	264	138	224	117	191	102	166
	F	19.9		19.6		19.9		20.4		21.2		20.0		21.4		23.1		24.7	
1 per span	q	259	420	217	352	186	302	162	263	143	233	114	186	95	154	80	131	70	113
	F	19.9		19.6		19.9		20.4		21.2		23.0		25.0		27.2		29.5	
none	q	160	260	130	211	107	175	91	148	79	129	62	102	51	83	43	70	37	60
	F	22.1		22.4		23.2		24.3		25.6		28.5		31.7		35.0		38.4	



Table 15.11 - Shear and Flexibility (No. 26 gauge U-Panel, 36/3):

26ga U-Panel 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	310	503	311	505	309	502	310	503	308	501	308	501	308	500	242	387	185	296
	F	92.5		75.5		64.4		56.3		50.3		41.9		36.3		32.3		29.3	
8"	q	284	461	285	463	286	464	286	465	277	450	280	455	275	446	242	387	185	296
	F	94.0		77.1		65.9		57.8		52.3		43.7		38.4		34.3		31.5	
12"	q	258	419	267	434	250	406	258	420	245	398	242	394	240	390	239	387	185	296
	F	95.2		78.0		67.6		59.2		53.9		45.7		40.3		36.4		33.5	
24"	q	206	334	235	382	214	348	195	317	179	290	191	310	168	273	179	291	162	264
	F	97.4		79.5		69.4		62.5		57.7		48.7		44.9		40.2		38.7	
36"	q	206	334	178	289	156	253	195	317	179	290	151	246	131	212	149	243	134	218
	F	97.4		82.3		72.7		62.5		57.7		51.6		48.4		42.7		41.5	
48"	q	206	334	178	289	156	253	138	224	123	200	151	246	131	212	114	186	102	165
	F	97.4		82.3		72.7		66.4		62.2		51.6		48.4		46.8		46.1	
1 per span	q	206	334	178	289	156	253	138	224	123	200	101	164	83	135	71	115	61	99
	F	97.4		82.3		72.7		66.4		62.2		57.2		55.1		54.6		55.1	
none	q	99	161	78	127	64	105	54	88	47	76	36	59	29	48	24	40	21	34
	F	103.6		89.9		81.9		77.1		74.4		72.5		73.5		76.0		79.6	

Table 15.12 - Shear and Flexibility (No. 26 gauge U-Panel, 36/6):

26ga U-Panel 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	567	922	570	926	559	908	562	913	554	901	474	759	329	527	242	387	185	296
	F	12.0		11.1		10.7		10.2		10.0		9.7		9.4		9.2		9.1	
8"	q	473	769	470	764	468	761	467	759	436	708	440	716	329	527	242	387	185	296
	F	13.0		12.2		11.8		11.4		11.6		11.2		11.2		11.0		11.0	
12"	q	411	668	422	685	377	612	390	634	357	580	345	560	329	527	242	387	185	296
	F	13.7		12.8		12.9		12.4		12.7		12.7		12.7		12.7		12.7	
24"	q	322	523	356	579	311	506	276	448	246	400	255	415	218	354	229	372	185	296
	F	14.7		13.6		13.9		14.4		15.0		14.6		15.8		15.4		16.4	
36"	q	322	523	270	439	231	376	276	448	246	400	203	329	171	278	190	308	168	273
	F	14.7		15.0		15.5		14.4		15.0		16.3		17.8		17.0		18.3	
48"	q	322	523	270	439	231	376	202	328	178	290	203	329	171	278	147	239	128	208
	F	14.7		15.0		15.5		16.3		17.1		16.3		17.8		19.3		20.9	
1 span	q	322	523	270	439	231	376	202	328	178	290	143	232	118	192	101	164	87	142
	F	14.7		15.0		15.5		16.3		17.1		19.0		21.0		23.0		25.2	
none	q	199	324	162	264	134	218	114	186	99	161	78	127	64	105	54	88	47	76
	F	16.7		17.5		18.5		19.8		21.1		23.9		26.9		30.0		33.2	



Table 15.13 - Shear and Flexibility (No. 24 gauge U-Panel, 36/3):

24ga U-Panel 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	329	535	330	537	328	533	329	535	328	533	327	532	327	532	327	532	278	445
	F	46.7		38.6		33.3		29.4		26.6		22.5		19.9		17.9		16.5	
8"	q	301	490	303	492	304	493	304	494	295	479	298	484	292	474	295	479	278	445
	F	48.1		40.0		34.6		30.7		28.2		24.1		21.7		19.6		18.4	
12"	q	274	446	284	461	266	432	275	446	261	423	257	418	255	415	254	412	252	410
	F	49.1		40.7		36.1		31.9		29.7		25.8		23.3		21.5		20.1	
24"	q	219	355	250	406	228	370	207	337	190	308	203	329	179	290	190	309	173	281
	F	51.0		42.0		37.6		34.8		32.9		28.4		27.3		24.8		24.6	
36"	q	219	355	189	308	166	269	207	337	190	308	161	261	139	226	159	258	143	232
	F	51.0		44.4		40.5		34.8		32.9		30.9		30.3		26.9		27.1	
48"	q	219	355	189	308	166	269	146	238	131	213	161	261	139	226	122	198	108	176
	F	51.0		44.4		40.5		38.1		36.8		30.9		30.3		30.4		31.1	
1 per span	q	219	355	189	308	166	269	146	238	131	213	108	175	89	145	76	123	66	107
	F	51.0		44.4		40.5		38.1		36.8		35.7		36.1		37.2		38.8	
none	q	106	172	84	137	69	113	59	95	51	82	40	64	32	52	27	44	23	37
	F	56.3		51.0		48.4		47.4		47.3		49.0		51.9		55.7		59.9	

Table 15.14 - Shear and Flexibility (No. 24 gauge U-Panel, 36/6):

24ga U-Panel 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	603	980	606	984	594	965	598	971	589	957	586	952	494	791	363	581	278	445
	F	8.0		7.5		7.4		7.2		7.1		7.0		6.9		6.8		6.8	
8"	q	503	818	500	812	498	809	496	806	463	753	468	761	448	728	363	581	278	445
	F	8.8		8.5		8.4		8.2		8.5		8.3		8.4		8.3		8.4	
12"	q	437	711	448	728	400	651	415	674	380	617	366	595	357	581	351	570	278	445
	F	9.4		9.0		9.4		9.1		9.5		9.6		9.7		9.8		9.9	
24"	q	342	556	378	615	331	538	293	476	262	426	271	441	232	377	243	395	216	351
	F	10.3		9.8		10.2		10.8		11.4		11.3		12.4		12.1		13.1	
36"	q	342	556	287	466	246	399	293	476	262	426	215	350	182	296	202	328	178	290
	F	10.3		10.9		11.6		10.8		11.4		12.7		14.1		13.5		14.7	
48"	q	342	556	287	466	246	399	214	348	190	308	215	350	182	296	157	255	137	222
	F	10.3		10.9		11.6		12.4		13.2		12.7		14.1		15.5		17.0	
1 per span	q	342	556	287	466	246	399	214	348	190	308	153	248	127	206	108	175	94	152
	F	10.3		10.9		11.6		12.4		13.2		15.0		16.9		18.7		20.7	
none	q	212	344	173	280	144	233	122	199	106	173	84	137	69	113	59	95	51	82
	F	12.1		13.1		14.2		15.4		16.7		19.3		22.0		24.8		27.5	



Table 15.15 - Shear and Flexibility (No. 22 gauge U-Panel, 36/3):

22ga U-Panel 36/3 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	417	678	419	680	416	676	417	678	415	675	415	674	415	674	415	674	404	647
	F	27.5		22.9		20.1		17.9		16.4		14.2		12.7		11.6		10.8	
8"	q	382	621	384	624	385	625	386	626	373	607	377	613	370	601	373	607	368	598
	F	28.7		24.2		21.2		19.1		17.9		15.5		14.3		13.1		12.5	
12"	q	348	565	359	584	337	547	348	566	330	537	326	530	323	526	321	522	320	520
	F	29.5		24.9		22.6		20.2		19.1		17.1		15.7		14.8		14.1	
24"	q	277	450	317	515	288	469	263	427	241	391	257	417	226	368	241	392	219	356
	F	31.3		26.0		23.9		22.7		22.0		19.4		19.3		17.7		18.0	
36"	q	277	450	240	390	210	341	263	427	241	391	204	331	176	286	201	327	181	294
	F	31.3		28.1		26.5		22.7		22.0		21.6		21.9		19.6		20.2	
48"	q	277	450	240	390	210	341	186	302	166	270	204	331	176	286	154	251	137	222
	F	31.3		28.1		26.5		25.7		25.4		21.6		21.9		22.7		23.8	
1 per span	q	277	450	240	390	210	341	186	302	166	270	136	222	114	185	97	158	84	137
	F	31.3		28.1		26.5		25.7		25.4		25.9		27.1		28.7		30.6	
none	q	134	218	107	174	88	144	75	122	65	106	51	83	41	67	35	56	30	48
	F	36.0		34.0		33.5		33.9		34.8		37.6		41.2		45.2		49.4	

Table 15.16 - Shear and Flexibility (No. 22 gauge U-Panel, 36/6):

22ga U-Panel 36/6 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		2' - 6"		3' - 0"		3' - 6"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n	S _v /Ω	φS _n
4"	q	764	1242	767	1247	753	1223	757	1231	747	1213	743	1207	719	1150	528	845	404	647
	F	5.9		5.7		5.7		5.6		5.6		5.5		5.5		5.4		5.4	
8"	q	638	1036	634	1030	631	1025	629	1022	587	954	593	964	567	922	528	845	404	647
	F	6.7		6.6		6.5		6.5		6.7		6.6		6.8		6.8		6.9	
12"	q	554	901	568	923	507	824	526	854	481	782	464	754	453	736	444	722	404	647
	F	7.2		7.0		7.4		7.3		7.6		7.8		8.0		8.1		8.2	
24"	q	434	705	480	779	420	682	371	603	332	539	344	559	294	477	308	501	274	445
	F	8.1		7.7		8.2		8.8		9.4		9.3		10.3		10.2		11.0	
36"	q	434	705	364	591	311	506	371	603	332	539	273	443	231	375	256	415	226	367
	F	8.1		8.7		9.4		8.8		9.4		10.6		11.9		11.4		12.4	
48"	q	434	705	364	591	311	506	272	441	240	391	273	443	231	375	200	324	174	283
	F	8.1		8.7		9.4		10.2		11.0		10.6		11.9		13.2		14.5	
1 per span	q	434	705	364	591	311	506	272	441	240	391	194	316	161	262	137	223	119	194
	F	8.1		8.7		9.4		10.2		11.0		12.6		14.3		16.0		17.7	
none	q	269	437	219	355	183	297	156	253	136	220	107	174	88	144	75	122	65	106
	F	9.6		10.6		11.7		12.9		14.0		16.5		18.9		21.4		23.9	

16.0 X-Span® / Alta Rib

Figure 16.1 - Basic Dimensions and Panel Attachment (X-Span / Alta Rib):

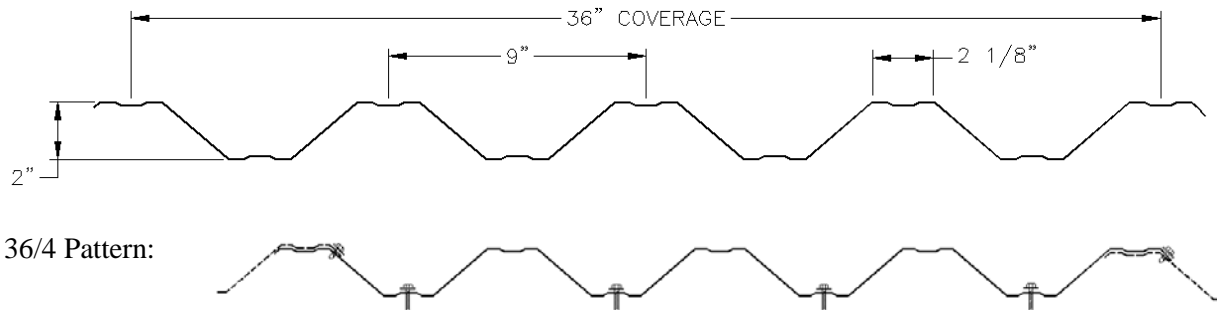


Table 16.1 - Section Properties (X-Span / Alta Rib):

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Positive Section Modulus	Negative Section Modulus
	w	t	F _y	F _u	A _g	I _g	y _b	S _g ⁺	S _g ⁻
	psf	in	ksi	ksi	in ² /ft	in ⁴ /ft	in	in ³ /ft	in ³ /ft
29	0.73	0.0139	80	82	0.2135	0.1233	1.08	0.1314	0.1145
26	0.90	0.0173	80	82	0.2657	0.1533	1.08	0.1633	0.1422

Gauge	Effective Section Properties							Uniform Load Only	
	Area	Positive			Negative			I _d = (2I _e +I _g)/3	
		Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus		
A _e /ft	I _e ⁺	y _b	S _e ⁺	I _e ⁻	y _b	S _e ⁻	I _d ⁺	I _d ⁻	
in ²	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in	in ³ /ft	in ⁴ /ft	in ⁴ /ft	
29	0.1091	0.1183	1.08	0.1145	0.1117	1.22	0.0852	0.1200	0.1156
26	0.1490	0.1493	1.08	0.1422	0.1433	1.19	0.1151	0.1507	0.1467



Table 16.2 - Inward (Positive) Uniform Allowable Loads (X-Span / Alta Rib):

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			2' - 0"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"	12' - 0"
29	Single Span	ASD, W/Ω	685	305	171	110	76	56	43	27	19
		LRFD, φW	1087	483	272	174	121	89	68	43	30
		L/240	-	291	123	63	36	23	15	8	5
		L/180	-	-	164	84	49	31	20	10	6
		L/120	-	-	-	-	73	46	31	16	9
	Double Span	ASD, W/Ω	274	156	100	68	49	38	29	19	13
		LRFD, φW	415	236	151	103	75	57	44	29	20
		L/240	-	-	-	-	-	-	-	-	11
		L/180	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	299	176	116	81	60	45	36	24	17
		LRFD, φW	454	267	175	122	90	69	54	36	25
L/240		-	-	-	-	-	43	29	15	9	
L/180		-	-	-	-	-	-	-	20	11	
L/120		-	-	-	-	-	-	-	-	-	
26	Single Span	ASD, W/Ω	852	379	213	136	95	70	53	34	24
		LRFD, φW	1351	601	338	216	150	110	84	54	38
		L/240	-	366	154	79	46	29	19	10	6
		L/180	-	-	206	105	61	38	26	13	8
		L/120	-	-	-	-	91	58	39	20	11
	Double Span	ASD, W/Ω	396	222	140	95	68	52	40	26	18
		LRFD, φW	600	336	212	144	103	78	61	40	28
		L/240	-	-	-	-	-	-	-	24	14
		L/180	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-
	Triple Span	ASD, W/Ω	435	253	164	114	83	62	49	32	23
		LRFD, φW	659	382	247	172	125	94	74	49	34
L/240		-	-	-	-	-	54	36	19	11	
L/180		-	-	-	-	-	-	49	25	14	
L/120		-	-	-	-	-	-	-	-	22	

Table 16.3 - Allowable Reactions at Supports (X-Span / Alta Rib):

Reactions at Supports based on Web Crippling					
Gauge	Condition	Bearing Length of Webs			
		ASD (Pn/Ω) (lbs/ft width)		LRFD (φPn) (lbs/ft width)	
		1.5"	3"	1.5"	3"
29	End	75	n/a	120	n/a
	Interior	207	n/a	332	n/a
26	End	121	172	194	276
	Interior	179	292	286	467



Table 16.4 - Outward (Negative) Uniform Allowable Loads (No. 29 gauge X-Span / Alta Rib):

X-Span / Alta Rib, 29ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"	12' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/4	190	285	127	190	95	142	76	114	63	95	54	81	47	71	38	57	30	33
	12ga (.1050")	#12	36/4	190	285	127	190	95	142	76	114	63	95	54	81	47	71	38	57	30	33
	14ga (.0700")	#12	36/4	186	278	124	186	93	139	74	111	62	93	53	80	46	70	37	56	30	33
	16ga (.0590")	#12	36/4	156	235	104	156	78	117	63	94	52	78	45	67	39	59	31	47	26	33
	18ga (.0459")	#12	36/4	122	183	81	122	61	91	49	73	41	61	35	52	30	46	24	37	20	30
	20ga (.0354")	#12	36/4	94	141	63	94	47	70	38	56	31	47	27	40	23	35	19	28	16	23
	22ga (.0294")	#12	36/4	78	117	52	78	39	58	31	47	26	39	22	33	19	29	16	23	13	19
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/4	190	285	127	190	95	142	76	114	63	95	54	81	47	71	38	57	30	33
	12ga (.1050")	#12	36/4	190	285	127	190	95	142	76	114	63	95	54	81	47	71	38	57	30	33
	14ga (.0700")	#12	36/4	129	193	86	129	64	96	51	77	43	64	37	55	32	48	26	39	21	32
	16ga (.0590")	#12	36/4	108	162	72	108	54	81	43	65	36	54	31	46	27	41	22	32	18	27
	18ga (.0459")	#12	36/4	84	126	56	84	42	63	34	51	28	42	24	36	21	32	17	25	14	21
	20ga (.0354")	#12	36/4	65	97	43	65	32	49	26	39	22	32	19	28	16	24	13	19	11	16
	22ga (.0294")	#12	36/4	54	81	36	54	27	40	22	32	18	27	15	23	13	20	11	16	9	13
Plywood & OSB	15/32"	#14	36/4	70	94	47	63	35	47	28	38	23	31	20	27	17	24	14	19	12	16
	19/32"	#14	36/4	88	119	59	80	44	60	35	48	29	40	25	34	22	30	18	24	15	20
	23/32"	#14	36/4	107	145	71	96	54	72	43	58	36	48	31	41	27	36	21	29	18	24
Lumber (DFL)	1" min	#9	36/4	129	174	86	116	65	87	52	70	43	58	37	50	32	44	26	35	22	29
		#14	36/4	177	238	118	159	88	119	71	95	59	79	50	68	44	60	35	48	29	33



Table 16.5 - Outward (Negative) Uniform Allowable Loads (No. 26 gauge X-Span / Alta Rib):

X-Span / Alta Rib, 26ga																					
Substrate		Fastener		Panel System Negative (Outward) Uniform Load Capacity, (lbs/ft ²)																	
		Nom. Size	Attach. Pattern	Attachment Spacing, (ft-in)																	
				2' - 0"	3' - 0"	4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	10' - 0"	12' - 0"									
Material / Grade	Thick-ness			ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
				W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW	W/Ω	φW
Steel (Gr 50 min.)	≥10ga (.1350")	#12	36/4	236	355	158	236	118	177	95	142	79	118	68	101	59	89	47	71	39	42
	12ga (.1050")	#12	36/4	236	355	158	236	118	177	95	142	79	118	68	101	59	89	47	71	39	42
	14ga (.0700")	#12	36/4	186	278	124	186	93	139	74	111	62	93	53	80	46	70	37	56	31	42
	16ga (.0590")	#12	36/4	156	235	104	156	78	117	63	94	52	78	45	67	39	59	31	47	26	39
	18ga (.0459")	#12	36/4	122	183	81	122	61	91	49	73	41	61	35	52	30	46	24	37	20	30
	20ga (.0354")	#12	36/4	94	141	63	94	47	70	38	56	31	47	27	40	23	35	19	28	16	23
	22ga (.0294")	#12	36/4	78	117	52	78	39	58	31	47	26	39	22	33	19	29	16	23	13	19
Steel (Gr 33 min.)	≥10ga (.1350")	#12	36/4	236	355	158	236	118	177	95	142	79	118	68	101	59	89	47	71	39	42
	12ga (.1050")	#12	36/4	193	289	129	193	96	145	77	116	64	96	55	83	48	72	39	58	32	42
	14ga (.0700")	#12	36/4	129	193	86	129	64	96	51	77	43	64	37	55	32	48	26	39	21	32
	16ga (.0590")	#12	36/4	108	162	72	108	54	81	43	65	36	54	31	46	27	41	22	32	18	27
	18ga (.0459")	#12	36/4	84	126	56	84	42	63	34	51	28	42	24	36	21	32	17	25	14	21
	20ga (.0354")	#12	36/4	65	97	43	65	32	49	26	39	22	32	19	28	16	24	13	19	11	16
	22ga (.0294")	#12	36/4	54	81	36	54	27	40	22	32	18	27	15	23	13	20	11	16	9	13
Plywood & OSB	15/32"	#14	36/4	70	94	47	63	35	47	28	38	23	31	20	27	17	24	14	19	12	16
	19/32"	#14	36/4	88	119	59	80	44	60	35	48	29	40	25	34	22	30	18	24	15	20
	23/32"	#14	36/4	107	145	71	96	54	72	43	58	36	48	31	41	27	36	21	29	18	24
Lumber (DFL)	1" min	#9	36/4	129	174	86	116	65	87	52	70	43	58	37	50	32	44	26	35	22	29
		#14	36/4	177	238	118	159	88	119	71	95	59	79	50	68	44	60	35	48	29	40



Table 16.6 - Shear and Flexibility (No. 29 gauge X-Span / Alta Rib, 36/4):

29ga X-Span 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"		12' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	324	526	322	523	321	521	320	520	319	519	319	518	319	518	318	512	222	356
	F	30.8		23.9		20.5		18.4		17.0		16.1		15.3		14.3		13.6	
8"	q	288	468	288	468	275	448	278	452	270	439	273	444	268	435	266	432	222	356
	F	32.3		25.4		22.4		20.3		19.2		18.1		17.6		16.7		16.1	
12"	q	259	420	245	398	237	385	232	376	228	370	225	366	223	363	220	358	218	355
	F	33.2		27.0		24.0		22.2		21.1		20.3		19.7		18.9		18.3	
24"	q	207	337	207	337	169	275	178	289	155	251	163	265	147	239	142	231	139	225
	F	34.9		28.4		27.2		24.9		25.3		23.9		24.6		24.3		24.1	
36"	q	207	337	154	251	169	275	142	230	121	196	136	221	121	197	121	197	103	168
	F	34.9		30.9		27.2		27.3		28.2		26.1		27.1		26.5		28.7	
48"	q	207	337	154	251	117	190	142	230	121	196	104	168	91	147	98	160	82	133
	F	34.9		30.9		30.5		27.3		28.2		29.5		31.0		29.6		32.5	
1 per span	q	207	337	154	251	117	190	93	151	78	126	66	108	58	94	47	76	39	63
	F	34.9		30.9		30.5		31.5		33.3		35.4		37.7		42.9		48.5	
none	q	116	189	73	119	52	85	41	67	34	56	29	48	26	42	21	33	17	28
	F	38.6		36.4		37.9		40.7		44.2		48.2		52.4		61.2		70.5	

Table 16.7 - Shear and Flexibility (No. 26 gauge X-Span / Alta Rib, 36/4):

26ga X-Span 36/4 Attachment Pattern

Support Screw: #12 HWH Side Lap Screw: #12 SD

Diaphragm Shear Capacities, q (plf) and Flexibility Factors, F (10 ⁻⁶ in/lbs)																			
Side Seam Spacing		Attachment Spacing, (ft-in)																	
		2' - 0"		3' - 0"		4' - 0"		5' - 0"		6' - 0"		7' - 0"		8' - 0"		10' - 0"		12' - 0"	
		ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD
		S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v	S _v /Ω	φS _v
4"	q	403	655	400	651	399	648	398	647	397	646	397	645	397	644	396	644	308	493
	F	20.2		16.3		14.3		13.1		12.3		11.8		11.4		10.8		10.4	
8"	q	359	583	359	583	343	557	346	563	337	547	340	553	333	542	331	538	308	493
	F	21.5		17.5		16.0		14.8		14.3		13.6		13.4		12.9		12.6	
12"	q	322	523	305	495	295	479	288	468	284	461	280	456	278	452	274	446	272	442
	F	22.3		19.0		17.4		16.5		15.9		15.6		15.3		14.9		14.6	
24"	q	258	419	258	420	211	343	221	360	192	313	203	330	183	297	177	287	173	281
	F	23.8		20.3		20.3		18.9		19.7		18.8		19.7		19.7		19.8	
36"	q	258	419	192	312	211	343	176	287	150	244	170	275	151	245	151	246	128	209
	F	23.8		22.6		20.3		21.1		22.3		20.7		21.9		21.7		24.0	
48"	q	258	419	192	312	147	239	176	287	150	244	129	209	113	183	123	199	102	166
	F	23.8		22.6		23.3		21.1		22.3		23.8		25.4		24.5		27.4	
1 per span	q	258	419	192	312	147	239	116	188	96	157	83	134	72	118	58	94	48	78
	F	23.8		22.6		23.3		24.9		26.9		29.1		31.5		36.4		41.7	
none	q	146	238	93	151	66	108	51	83	43	69	36	59	32	52	26	42	21	35
	F	27.1		27.5		29.9		33.1		36.7		40.6		44.6		52.9		61.4	



CALIFORNIA SUPPLEMENT

ASC PROFILES LLC

AEP SPAN AND ASC BUILDING PRODUCTS: SINGLE SKIN STEEL ROOF AND WALL PANELS WITH EXPOSED FASTENERS

CSI Section:

- 07 61 00 Sheet Metal Roofing
- 07 64 00 Sheet Metal Wall Cladding

1.0 RECOGNITION

ASC Profiles LLC Single Skin Steel Roof and Wall Panels with Exposed Fasteners described in ER-0550 have been evaluated for use as exterior roof and wall covering panels. The structural and fire-resistance properties of the panels have been evaluated for compliance with the following codes:

- 2016 California Building Code® (CBC)
- 2013 California Building Code® (CBC)

2.0 ADDITIONAL REQUIREMENTS

2.1 Roof panels may be used in “new buildings located in any Fire Hazard Severity Zone or any Wildland-Urban Interface Fire Area designated by the enforcing agency constructed after the application date stipulated in CBC Section 701A.3.1 shall comply with the provisions” in accordance with Sections 701A.3 and 705A of the CBC and with the 2015 IBC as presented in ER-550.

2.2 Pertaining to structures under the jurisdiction of DSA and OSHPD, designs for the transfer of anchorage forces into the diaphragm shall comply with CBC Section 1613A.5.1 of the 2016 CBC.

3.0 SUBSTANTIATING DATA

Data submitted in conformance with IAPMO-UES Evaluation Criteria Single Skin Steel Roof and Wall Panels, EC-011, revised June 2015. Any product testing is from laboratories in compliance with ISO/IEC 17025.

4.0 CONTACT INFORMATION

ASC Profiles LLC
2110 Enterprise Blvd.
West Sacramento, CA 95691
(800) 360-2477
www.ascprofiles.com

For additional information about this evaluation report please visit www.uniform-es.org or email at us info@uniform-es.org