

VULCRAFT

DOVETAIL ROOF DECK

Welded Support Connections



DECEMBER 2017



DOVETAIL ROOF DECKING

2.0DA Acoustic Dovetail Decking



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Note: For Diaphragm Tables with Screws, Hilti or Pnuektek Fasteners, see www.DoveTailDeck.com.

TECHNICAL GUIDELINES

DoveTail decks are offered with a variety of options to meet a broad range of project requirements. These options include acoustical as well as non-acoustical versions, a variety of finishes including galvanized or primer painted over galvanized. The 3½ inch DoveTail deck is offered in up to 14 gage, to provide the greatest possible capacity.

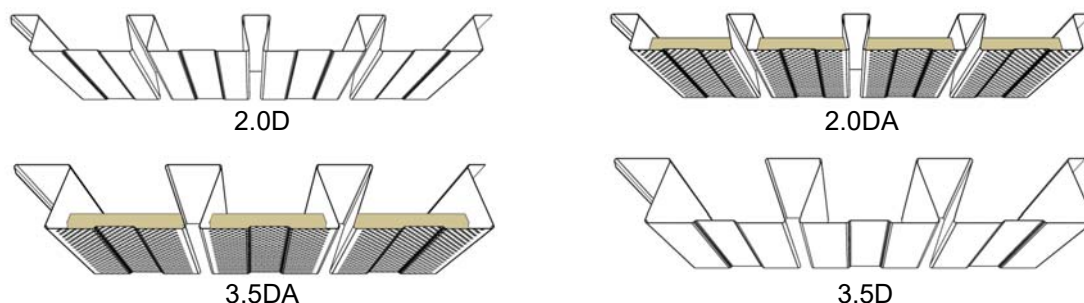
Information about the attachment of the DoveTail deck to supports with welds is included in this catalog and information about screws and power actuated fasteners (PAF's) is included in catalog supplements. IAPMO Report ER-0423 provides supplemental information about DoveTail deck properties and attachments. IAPMO Report ER-0423 and supplements to this catalog can be found at www.DoveTailDeck.com.

PROFILE DESIGNATIONS

Standard Profiles: 2.0DXX and 3.5DXX

Acoustical Profiles: 2.0DAXX and 3.5DAXX

Where XX is the gage of the material



MATERIAL

DoveTail fluted deck panels are formed from steel conforming to ASTM A653 or A1063 SS Grade 40 minimum.

FINISHES

DoveTail fluted deck panels are available in two finishes: galvanized and primer painted over galvanized.

Galvanized - galvanized deck panels are supplied from mill coated sheets and are offered with coating designation G90.

Primer painted - prior to applying an acrylic medium gray or white primer, the galvanized steel sheet is cleaned and treated.

Primer paint is intended to protect steel deck for a short period of exposure in ordinary atmospheric conditions. It should be considered as an impermanent and provisional coating.

Minor aesthetic irregularities and/or imperfections may appear in the paint coating as a result of the manufacturing, shipping, and handling process.

Due to varying job site conditions, application methods, coating formulations, environmental conditions and expectations, it is essential to conduct a field test to determine compatibility of the field applied top coat prior to full scale painting. It is the painter's responsibility to determine top coat compatibility.

EXPOSED PRODUCT APPEARANCE

Steel deck is a structural product. Minor dents and scratches which do not affect the structural capacity of deck are not grounds for rejection. Note that lighter gage material is more susceptible to the appearance of oil canning and minor dents during the shipping, handling and installation process. The appearance of oil canning does not affect the structural integrity of roof decks and is not grounds for rejection.

DECK PANEL LENGTHS

Steel deck panels are manufactured to length to meet the project requirements. Consider handling the weight of the deck during installation when evaluating long deck lengths, especially in heavier gages. The standard factory lengths are as follows. Inquire if longer or shorter sheet lengths are required.

Standard Factory Lengths

Minimum: 6'-0"

Maximum: 42'-0"

MANUFACTURING TOLERANCES

DoveTail steel deck is manufactured to Steel Deck Institute industry standard tolerances as follows:

- Length: $\pm 1/2"$
- Coverage Width: $-3/8", +3/4"$
- Sweep: $1/4"$ in 10' length
- Square: $1/8"$ per foot width

ACOUSTICAL ROOF DECK

Both 2" and 3.5" deep DoveTail roof decks are available as acoustical decks. Acoustical decks can provide sound attenuation within buildings where the decks are exposed to the interior. Acoustical deck is particularly suitable in structures such as auditoriums, schools, gymnasiums and theaters where sound control is desirable.

Acoustical perforations are located in the bottom flanges of the DoveTail roof deck panels. The performance of acoustical decks may be affected by the type of insulation installed above the deck. Acoustical performance data for DoveTail acoustical decks is provided with the historically used fiberglass insulation board and polyisocyanurate (poly-iso) insulation boards.

The insulation batts used in the decks are available plain or encapsulated (wrapped). A mesh spacer is provided to be installed between the insulation and the perforated bottom flange of the DoveTail deck panels. Acoustical insulation batts in the deck flutes must be installed before placement of the roof.

Table 1 summarizes the sound absorption coefficients for acoustical DoveTail decks at a number of frequencies. The complete acoustical test reports with the full range of absorption coefficients are available from www.DoveTailDeck.com. The noise reduction coefficient (NRC) historically reported is the average of the coefficients at 250, 500, 1000, and 2000 Hz expressed to the nearest integral multiple of 0.05. The sound absorption average (SAA) is the average of the sound absorption coefficients for the twelve one-third octave bands from 200 through 2500 Hz inclusive, rounded to the nearest 0.01. Testing was performed in accordance with ASTM C423-09a and ASTM E-795-05.

Table 1: Noise Reduction Coefficients of Acoustical DoveTail Deck

DoveTail Deck	Insulation Board	Insulation in Deck Flute (3.0 pcf Batt)	Absorption Coefficients						SSA	NRC	RAL Test No.
			125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz			
2.0DA	Poly-iso	Plain	0.19	0.54	1.15	1.07	1.01	0.79	0.95	0.95	A14-170
		Encapsulated	0.35	0.82	1.15	0.99	0.97	0.72	0.96	1.00	A14-167
	Fiberglass	Plain	0.74	1.40	1.25	1.03	0.98	0.80	1.14	1.15	A14-169
		Encapsulated	0.62	1.18	1.08	0.93	0.97	0.77	1.02	1.05	A14-168
3.5DA	Poly-iso	Plain	0.25	0.74	1.13	1.06	0.97	0.75	0.96	1.00	A14-186
		Encapsulated	0.38	0.86	1.18	1.03	0.93	0.65	0.98	1.00	A14-189
	Fiberglass	Plain	0.92	1.51	1.13	1.06	0.98	0.78	1.14	1.15	A14-187
		Encapsulated	0.97	1.50	1.09	1.00	0.91	0.67	1.10	1.15	A14-188

FIRE RATED DOVETAIL DECK (UL)

DoveTail roof decks may be used in assemblies which are required to meet hourly fire ratings. Hourly fire rated assemblies are a combination of specific proprietary materials as listed in the UL fire resistance directory. The fire resistance directory can be found at www.ul.com. Navigate to the Online Certifications Directory and search for Fire-resistance-rated Systems and Products.

Table 2 lists the UL fire-rated assemblies utilizing DoveTail roof deck profiles. For full details of construction including specific information about fill or fireproofing thickness and span limitations, refer to the particular UL assembly listed in Table 2. Note that P9XX series assemblies do not require fire proofing on the deck, only on the steel support members.

Table 2: DoveTail Deck Fire Resistance Rating

Restrained Rating Assembly (hr)	UL #	Deck Protected	Frame	System	Deck Type	
					2.0D	3.5D
1 - 2	P908	No	Beam /Joist	Insulating Concrete	Yes	Yes
1 - 2	P921	No	Beam /Joist	Insulating Concrete	Yes	Yes
1 - 3	P937	No	Beam /Joist	Insulating Concrete	Yes	Yes
1 - 2	P938	No	Beam /Joist	Insulating Concrete	Yes	Yes

FACTORY MUTUAL

All 2" and 3.5" DoveTail roof deck profiles meet Factory Mutual (FM) Approvals for: Steel Roof Decks; Class I fire; Class I-60, I-75, and I-90 Wind Uplift Rating; Live Load Deflections; and Foot Traffic Resistance of Insulation per FM Standard 4451.

Allowable spans for 2" and 3.5" DoveTail decks attached with approved steel deck fasteners, based upon the most conservative considerations of FM Standard 4451 for live load deflection, and Class I-60, I-75, and I-90 Wind Uplift Rating related to deck bending are shown in Table 3. Designs would be limited to the lesser of the spans in Table 3 or as specified within the listing of the FM Approved steel deck fasteners selected. Alternately, Table 4 show allowable spans based upon the most conservative considerations of FM Standard 4451 for live load deflection, and Class I-60, I-75, and I-90 Wind Uplift Rating related to deck bending and fastener pullover for arc spot welds.

For a complete listing of the allowable spans for each Wind Uplift Rating Class, the FM Approval Report is available from www.DoveTailDeck.com.

Note that approved spans are measured center-to-center of support members. FM Standard 4451 limits deflection to L/240 for a 200 lb. point load at mid-span. The specific FM Approved above deck components and their selected attachments must also be considered.

Table 3: Simplified FM Approved Spans (c-c) for DoveTail Decks Limited by Live Load Deflection and Deck Bending Due to Class I-60, I-75, and I-90 Wind Uplift Ratings

Gage	No. of Spans	Deck Type			
		2.0D	2.0DA	3.5D	3.5DA
22	1	9' - 1"	8' - 10"	-	-
	2	10' - 2"	9' - 11"	-	-
	3+	10' - 8"	10' - 5"	-	-
20	1	10' - 0"	9' - 9"	17' - 5"	17' - 0"
	2	11' - 6"	11' - 3"	16' - 0"	15' - 7"
	3+	11' - 10"	11' - 6"	17' - 11"	17' - 5"
18	1	11' - 7"	11' - 4"	21' - 0"	20' - 6"
	2	13' - 7"	13' - 3"	19' - 10"	19' - 4"
	3+	13' - 8"	13' - 4"	22' - 2"	21' - 7"
16	1	13' - 0"	12' - 8"	24' - 1"	23' - 5"
	2	15' - 4"	14' - 11"	23' - 3"	22' - 8"
	3+	15' - 4"	14' - 11"	26' - 0"	25' - 4"

Table 4: Simplified FM Approved Spans (c-c) for DoveTail Decks Limited by Live Load Deflection, Deck Bending, and Arc Spot Weld Pull-Over Due to Class I-60, I-75, and I-90 Wind Uplift Ratings

Gage	No. of Spans	3/4" Visible Weld Diameter			7/8" Visible Weld Diameter		
		Deck Type and Support Weld Spacing			Deck Type and Support Weld Spacing		
		2.0D		3.5D	2.0DA		3.5DA
		6 1/8" o.c.	12 1/4" o.c.	8" o.c.	6 1/8" o.c.	12 1/4" o.c.	8" o.c.
22	1	9' - 1"	9' - 1"	-	8' - 10"	8' - 10"	-
	2	10' - 2"	5' - 5"	-	9' - 11"	6' - 4"	-
	3+	10' - 8"	6' - 9"	-	10' - 5"	8' - 0"	-
20	1	10' - 0"	10' - 0"	17' - 5"	9' - 9"	9' - 9"	17' - 0"
	2	11' - 6"	6' - 7"	10' - 3"	11' - 3"	7' - 9"	12' - 1"
	3+	11' - 10"	8' - 3"	12' - 10"	11' - 6"	9' - 9"	15' - 1"
18	1	11' - 7"	11' - 7"	21' - 0"	11' - 4"	11' - 4"	20' - 6"
	2	13' - 7"	8' - 10"	13' - 9"	13' - 3"	10' - 4"	16' - 3"
	3+	13' - 8"	11' - 0"	17' - 3"	13' - 4"	13' - 0"	20' - 4"
16	1	13' - 0"	13' - 0"	24' - 1"	12' - 8"	12' - 8"	23' - 5"
	2	15' - 4"	11' - 2"	17' - 7"	14' - 11"	13' - 2"	20' - 9"
	3+	15' - 4"	13' - 11"	21' - 11"	14' - 11"	14' - 11"	25' - 4"

ATTACHMENT OF DOVETAIL DECK TO SUPPORTS

DoveTail fluted deck panels are fastened to supports using one of two types of fasteners: mechanical fasteners (power actuated fasteners or self-drilling, self-tapping screws) or welds.

Hilti Fasteners

The Hilti X-HSN 24 fastener has a dome style head, red guidance washer and a 0.472 inch diameter steel silver-colored top-hat washer. It may be used where substrate thickness is equal to or greater than 1/8" and less than or equal to 3/8".

The Hilti X-ENP-19 fastener has a fully knurled tip and tapered shank fitted with two 0.590 inch diameter steel cupped washers. It may be used where substrate thickness is equal to or greater than 1/4".



Hilti X-HSN 24 Fastener



Hilti X-ENP-19 L15 Fastener

Hilti X-HSN 24 and X-ENP-19 L15 fasteners are to be installed per manufacturer guidelines. Contact Hilti for additional information www.us.hilti.com.

Note that diaphragm tables for Hilti fasteners are available in the manufacturer specific supplement to this catalog which can be found online at www.DoveTailDeck.com.

Pneutek Fasteners

Pneutek SDK61, SDK63, K64, and K66 fasteners all have 1/2 inch diameter heads and must be driven with the Pneutek Air/Safe fastening system to ensure tight contact between the fastener head and attached deck.

Pneutek SDK61 fasteners may be used where substrate thickness is equal to or greater than 0.113" and less than or equal to 0.155".

Pneutek SDK63 fasteners may be used where substrate thickness is equal to or greater than 0.155" and less than or equal to 0.250".

Pneutek K64 fasteners may be used where substrate thickness is equal to or greater than 0.187" and less than or equal to 0.312".

Pneutek K66 fasteners may be used where substrate thickness is equal to or greater than 0.281".



Pneutek K66 Fastener

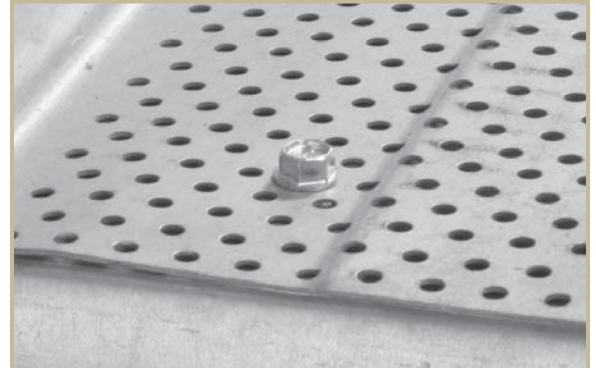
Pneutek fasteners are to be installed per manufacturer specific guidelines. Contact Pneutek for additional information at www.pneutek.com.

Note that diaphragm tables for Pneutek fasteners are available in the manufacturer supplement to this catalog which can be found online at www.DoveTailDeck.com.

Self-Drilling Screws

All #12 self-drilling, self-tapping screws must be compliant with ASTM C1513. Screws must meet the listed shear and tension strength requirements in Tables 1 and 2. It is assumed that screws are installed into supports at least 0.109" (7/64") thick which is the minimum thickness used on the top chord of Vulcraft joists. Support material thickness impacts the pull-out capacity of a screw subjected to tension loads. To evaluate diaphragms utilizing screws into supports other than 0.109" (7/64") thick, please contact your sales representative.

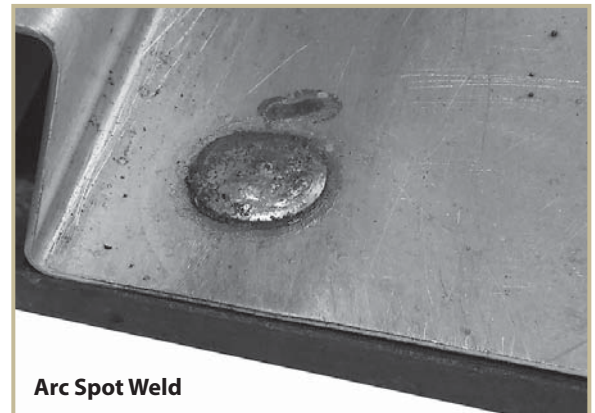
Note that diaphragm tables for Self-Drilling Screw fasteners are available in the supplement to this catalog which can be found online at www.DoveTailDeck.com.



Self-Drilling Screw

Arc Spot Welds

When DoveTail deck is to be welded to supports, the visible weld diameter is to be at least 3/4" for arc spot (puddle) welds. Arc spot welds in acoustical DoveTail deck require a minimum of 7/8" visible weld diameter.



Arc Spot Weld

Table 5: Nominal Shear Strength for Deck Panel Support Connections

Deck Type	Gage	3/4" Arc Spot Weld	7/8" Arc Spot Weld	Hilti X-HSN 24	Hilti X-ENP-19	Pneutek SDK61	Pneutek SDK63	Pneutek K64	Pneutek K66	#12 Screw
		(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
2.0D 3.5D	22	2062	-	1489	1603	1527	1711	1699	1814	946
	20	2949	-	1795	1933	1828	1973	2209	2251	1148
	18	4030	-	2348	2529	2345	2403	2985	3101	1520
	16	4994	-	2924	3149	2345	2812	3686	4076	1918
	14	6014	-	-	-	-	-	-	-	2396
2.0DA 3.5DA	22	-	1201	964	905	797	975	894	1109	721
	20	-	1872	1186	1099	1023	1211	1151	1330	966
	18	-	3108	1595	1457	1438	1646	1624	1736	1416
	16	-	4429	2033	1839	1881	2111	2130	2171	1897
	14	-	6014	-	-	-	-	-	-	2396

Notes:

1. Tensile Strength of Steel Deck, $F_u = 55$ ksi
2. The allowable shear strength of the individual screws, as published by their manufacturer, must meet or exceed the nominal screw connection shear strengths listed above.
3. The following minimum substrate thicknesses are required to obtain tabulated strength for #12 screw connections:

Gage	Minimum Assumed Substrate Thickness (in.)	
	$F_u = 45$ ksi	$F_u = 65$ ksi
22	0.0361	0.0250
20	0.0438	0.0303
18	0.0579	0.0401
16	0.0731	0.0506
14	0.0893	0.0635

ATTACHMENT OF DOVETAIL DECK SIDELAPS

Self-Drilling Screws

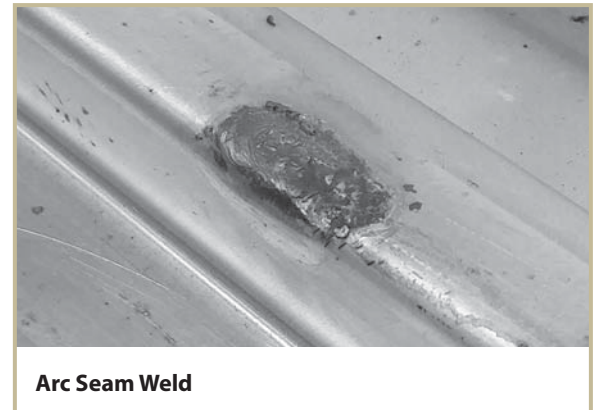
Self-drilling screws are the most common, easiest to install, and aesthetic method of connecting the sidelap of DoveTail deck. The deck may be lapped with the short leg on the top as shown, or with the short leg on the underside. In either orientation, the minimum edge distance for the screw must be 1-1/2 times the shank diameter of the screw.



Self-Drilling Screw

Arc Seam Welds

DoveTail deck sidelaps may be attached with arc seam welds. This is a high strength connection that may be used when high diaphragm shears are required. This is generally not the preferred sidelap connection due to the need for highly skilled welders and slow production rates. It is common to have burn through holes in the deck when installing arc seam welds at sidelaps.



Arc Seam Weld

Table 6: Nominal Shear Strength for Deck Panel Sidelap Connections

Deck Type	Gage	#8 Screw	#10 Screw	#12 Screw	#14 Screw	3/8" x 1" Arc Seam Weld
		(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
2.0D	22	474	510	544	585	925
	20	634	682	727	782	1102
2.0DA	18	965	1039	1108	1192	1409
3.5D	16	1368	1472	1570	1689	1711
3.5DA	14	1819	2056	2192	2358	-

Notes:

1. Tensile Strength of Steel Deck, $F_u = 55$ ksi
2. The allowable shear strength of the individual screws, as published by their manufacturer, must meet or exceed the nominal screw connection shear strengths listed above.

ALLOWABLE REACTIONS

Allowable reactions for DoveTail deck panels can be governed by web crippling or web shear capacity. In this catalog, both web crippling and web shear strength of DoveTail deck profiles are provided.

The allowable reactions governed by web crippling for one flange reactions and the allowable concentrated line loads based on web crippling for two-flange loading are provided in the tables on pages 28, 48, 68, and 88. Figure 1 illustrates the difference between one flange and two-flange loading for web crippling. A common application of two-flange loading capacity is the evaluation of the deck when mechanical curbs are located directly over supports. The allowable reactions governed by web shear are shown in the section property tables on pages 26, 46, 66, and 86.

The formulas used to determine the allowable reaction loads due to bearing (web crippling) and shear are as follows:

Design Formulas

Span	Reactions	Shear
Single	$R_e = 0.5 \cdot \omega \cdot L$	$V_e = 0.5 \cdot \omega \cdot L$
Double	$R_e = 0.375 \cdot \omega \cdot L$ $R_i = 1.25 \cdot \omega \cdot L$	$V_e = 0.375 \cdot \omega \cdot L$ $V_i = 0.625 \cdot \omega \cdot L$
Triple	$R_e = 0.4 \cdot \omega \cdot L$ $R_i = 1.1 \cdot \omega \cdot L$	$V_e = 0.4 \cdot \omega \cdot L$ $V_i = 0.6 \cdot \omega \cdot L$

R_e = End Reaction in lb/ft

R_i = Interior Reaction in lb/ft

V_e = Vertical Shear adjacent to end support in lb/ft

V_i = Vertical Shear adjacent to interior support in lb/ft

ω = Allowable Uniform Load in psf

L = Span Length in feet. Span lengths shown in tables are center-to-center spans

BEARING

DoveTail deck must bear on supports. Bearing length directly influences allowable reactions governed by web crippling. It is important to ensure that enough bearing length is provided to meet minimum end distance requirements for fasteners.

Sufficient bearing at parallel supports should be provided to make the specified connections.

WEB CRIPPLING: ONE VS. TWO FLANGE LOADING

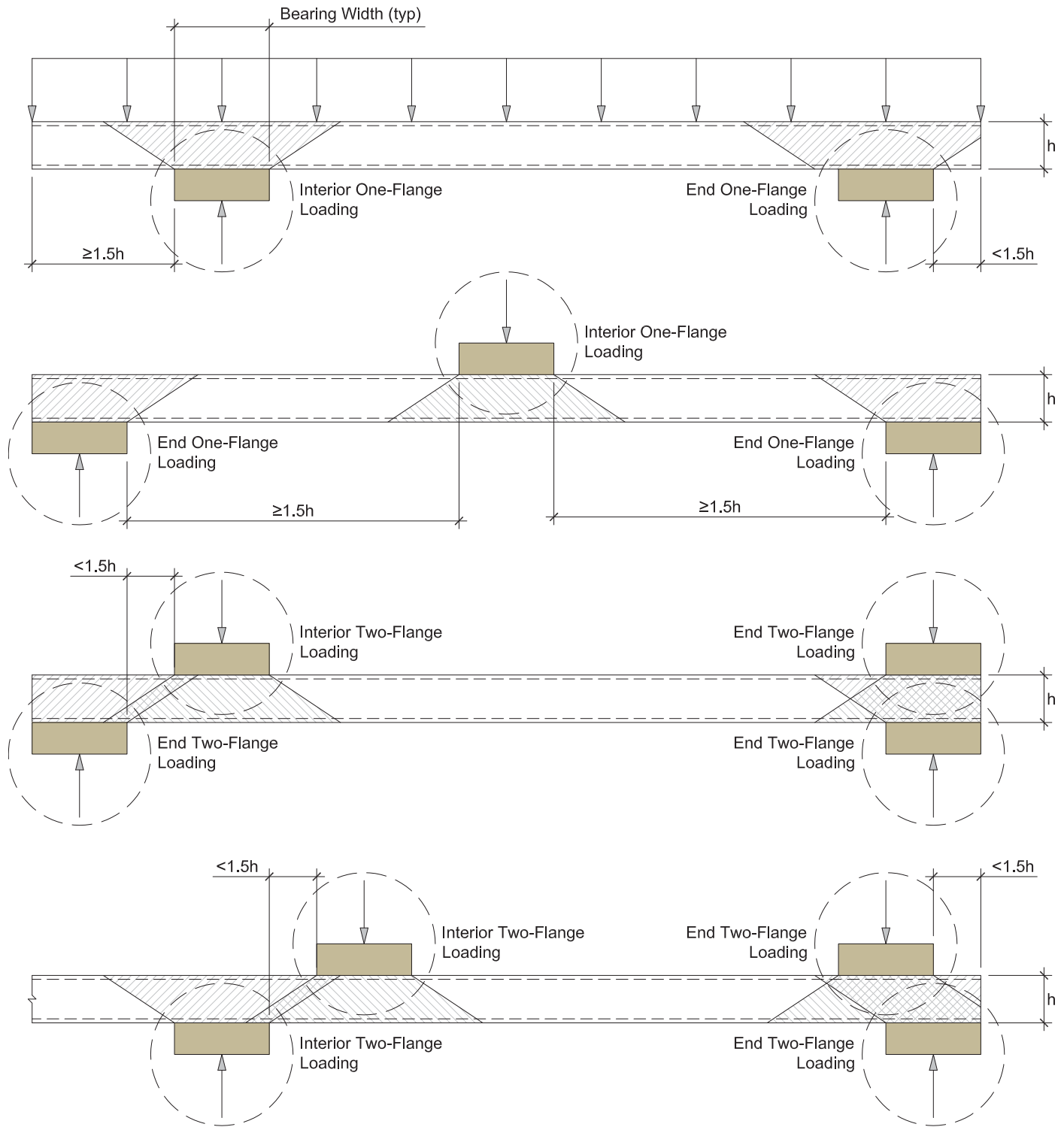


FIGURE 1

GRAVITY LOADS ON DOVETAIL DECK

Allowable uniform load values are based on the allowable bending moment (stress) and limiting deflection to L/360, L/240 or L/180. The self-weight of the deck should be included when determining dead load. Note the gravity load tables do not consider the impact of bearing and shear which must be checked separately. The formulas used to determine the allowable uniform loads due to flexure (stress) and deflection are as follows:

Design Formulas

Span	Bending Moment	Deflection
Single	$+M = 0.125 \cdot \omega \cdot L^2$	$\Delta = \frac{0.013 \cdot \omega \cdot L^4 \cdot 1728}{E \cdot I_{d+}}$
Double	$-M = 0.125 \cdot \omega \cdot L^2$	$\Delta = \frac{0.0054 \cdot \omega \cdot L^4 \cdot 1728}{E \cdot I_{d-}}$
Triple	$-M = 0.1 \cdot \omega \cdot L^2$	$\Delta = \frac{0.0069 \cdot \omega \cdot L^4 \cdot 1728}{E \cdot I_{d-}}$

+M = Positive Bending Moment in ft-lb/ft
 -M = Negative Bending Moment in ft-lb/ft
 Δ = Deflection in inches
 E = 29,500,000 psi
 ω = Allowable Uniform Load in psf
 L = Span Length in feet. Span lengths shown in tables are center-to-center spans
 I_{d+} = Positive Moment of Inertia for Deflection
 I_{d-} = Negative Moment of Inertia for Deflection

Deflection Limits

Deflection limitations for structural members are listed in IBC Table 1604.3. Excerpts from this table are listed below. See IBC for additional information.

IBC Table 1604.3 (Excerpt) – Deflection Limits

Construction	Live	Snow or Wind	Dead + Live
Roof members			
Supporting plaster or stucco ceiling	L / 360	L / 360	L / 240
Supporting nonplaster ceiling	L / 240	L / 240	L / 180
Not supporting ceiling	L / 180	L / 180	L / 120
Floor members	L / 360	-	L / 240

Notes:

- For structural roofing made of formed metal sheets, the total load deflection shall not exceed L / 60. For secondary roof structural members supporting formed metal roofing, the live load deflection shall not exceed L / 150. For roofs, these exceptions only apply when the metal sheets have no roofing.
- The above deflections do not ensure against ponding. Roofs that do not have sufficient slope or camber to assure adequate drainage shall be investigated for ponding.

UPLIFT LOADS ON DOVETAIL DECK

Allowable uniform uplift load values are based on the allowable bending moment (stress) and applying the appropriate deflection limit. Note that self-weight of the deck is not included and must be accounted for when determining resisting dead load. The formulas used to determine the allowable uniform uplift loads due to flexure (stress) and deflection are as follows:

Design Formulas

Span	Bending Moment	Deflection
Single	$-M = 0.125 \cdot \omega \cdot L^2$	$\Delta = \frac{0.013 \cdot \omega \cdot L^4 \cdot 1728}{E \cdot I_{d-}}$
Double	$+M = 0.125 \cdot \omega \cdot L^2$	$\Delta = \frac{0.0054 \cdot \omega \cdot L^4 \cdot 1728}{E \cdot I_{d+}}$
Triple	$+M = 0.1 \cdot \omega \cdot L^2$	$\Delta = \frac{0.0069 \cdot \omega \cdot L^4 \cdot 1728}{E \cdot I_{d+}}$

+M = Positive Bending Moment in ft-lb/ft
 -M = Negative Bending Moment in ft-lb/ft
 Δ = Deflection in inches
 E = 29,500,000 psi
 ω = Allowable Uniform Load in psf
 L = Span Length in feet. Span lengths shown in tables are center-to-center spans
 I_{d+} = Positive Moment of Inertia for Deflection
 I_{d-} = Negative Moment of Inertia for Deflection

DIAPHRAGM STRENGTH AND STIFFNESS

There are three parts in the diaphragm strength and stiffness tables: allowable diaphragm shear strength due to seismic loads, diaphragm stiffness, and allowable diaphragm shear strength due to wind loads. In certain parts of the country, it is unknown at the start of the design process whether seismic or wind will govern the diaphragm design. For this reason both seismic and wind tables have been published in this catalog. This saves the user from having to convert a wind table to seismic or vice versa. Allowable diaphragm shear strength is published based on span length and sidelap connection spacing.

Following the recommendations of the Steel Deck Institute, the diaphragm strength tables are based on a three span condition. The diaphragm stiffness tables are based on a three span condition unless the overall length of the three span sheet exceeds 42 feet. AISI S310 may be used to calculate diaphragm shear and stiffness for conditions outside the range of the published values in this catalog.

Sidelap Connection Locations

Sidelap fasteners may be specified by sidelap fastener spacing or number of sidelaps per span. How sidelap connection locations are specified may vary depending on local prevailing practices. It is important that whichever specification method is used, the proper number of sidelap fasteners are used and they are distributed within the span.

When specifying number of fasteners per span, the approximate uniform spacing of the fasteners can easily be determined by dividing the span length by the number of fasteners per span as shown in the following example:

Example

Span Length = 11'-0"

Number of sidelap fasteners per span = 8

Approximate sidelap connection spacing = $(11'-0") / 8 = 16.5"$

Recognize that this is an approximate dimension and not exact. It is also important to ensure that 8 fasteners are installed per span, the first and last fastener should be located approximately half the sidelap connection spacing from the support as shown in Figure 2:

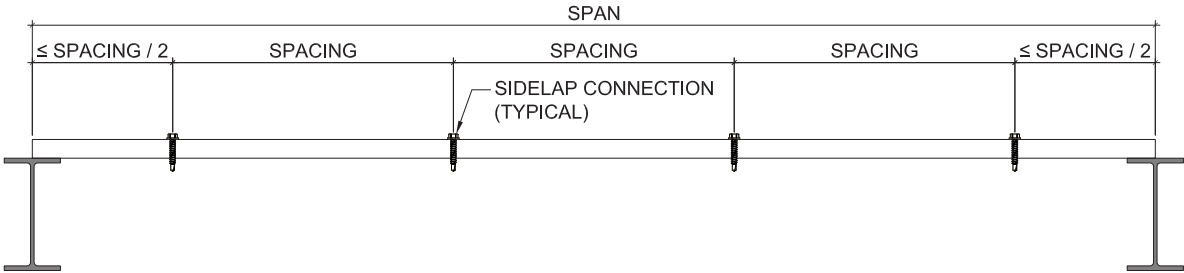


FIGURE 2

When specifying sidelap connections by spacing, the number of sidelap fasteners per span is determined by dividing the span length by sidelap spacing and rounding up to the nearest whole number as shown in the following example:

Example

Span Length = 11'-0"

Sidelap Spacing = 18" o.c.

Number of sidelap fasteners per span = $(11'-0") \times 12 / (18") = 7.33 \therefore$ round up to 8

The number of connections per span for some typical sidelap connection spacings are shown in Table 7:

Table 7: Number of Sidelap Connections per Span Based on Spacing

Spacing	Span (ft)																				
	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'	21'	22'	23'	24'	25'
36" o.c.	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9
30" o.c.	2	3	3	4	4	4	5	5	6	6	6	7	7	8	8	8	9	9	10	10	10
24" o.c.	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
18" o.c.	4	4	5	6	6	7	8	8	9	10	10	11	12	12	13	14	14	15	16	16	17
15" o.c.	4	5	6	7	8	8	9	10	11	12	12	13	14	15	16	16	17	18	19	20	20
12" o.c.	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
8" o.c.	8	9	11	12	14	15	17	18	20	21	23	24	26	27	29	30	32	33	35	36	38
6" o.c.	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
4" o.c.	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75
3" o.c.	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100

Allowable Diaphragm Shear Strength Due to Seismic Loads

The portion of the diaphragm shear tables for seismic loads incorporates a safety factor for seismic loading of 3.0 for diaphragms attached with welds and 2.5 for diaphragms attached with screws or PAF's. These are more conservative safety factors than those applied to diaphragms subject to wind loads.

Allowable Diaphragm Shear Strength Due to Wind Loads

The diaphragm shear tables for wind loads include a safety factor of 2.35. The tables also incorporate the combined effect of wind uplift and diaphragm shear. Often in high wind regions, wind uplift must be checked in conjunction with diaphragm shear due to wind loads. When support fasteners must resist a significant amount of tension load due to wind uplift, the allowable shear strength of those fasteners are reduced. For this reason, allowable diaphragm shear strength tables due to wind are published with and without net wind uplift. As net wind uplift increases, allowable diaphragm shear capacity decreases. The net wind uplift load is the resultant of the appropriate Allowable Stress Design (ASD) load combination.

Fastener Requirements at Parallel Collectors

The number of support attachments per span at diaphragm chords, struts, ties or other collector elements that are parallel to the deck flutes is based on the shear capacity of the connections used. It is assumed in the diaphragm tables that there are a sufficient number of attachments to develop the full shear capacity of the diaphragm and ensure that the parallel edge is not the weak link in the system. For wind loads, the uplift tributary area to each parallel edge fastener is generally very small and the effect of combined uplift and shear is not significant.

The number of required support attachments is determined by multiplying the nominal shear value in the seismic or wind without net uplift table by the span length and then dividing by the nominal shear strength of the support fastener. Remember that diaphragm table values are allowable and must be converted to nominal. Nominal shear strengths for Arc Spot Welds, Hilti Fasteners, Pneutek Fasteners, and #12 Screws are listed in Table 5.

Diaphragm Stiffness

Diaphragm stiffness is a property of the diaphragm that predicts how much a diaphragm will deflect in plane under load. The diaphragm stiffness tables list the diaphragm stiffness for a three span condition. As the number of spans increase, so does diaphragm stiffness. Likewise, as the numbers of spans decrease so does diaphragm stiffness.

Diaphragm stiffness can be determined for any span condition using the following equations:

$$G' = \frac{E \cdot t}{2.6 \cdot \frac{s}{d} + \rho \cdot D_n + C} \quad D_n = \frac{D}{L} \quad C = E \cdot \frac{t}{w} \cdot S_f \cdot \left(\frac{2}{2 \cdot \alpha_1 + n_p \cdot \alpha_2 + 2 \cdot n_s \cdot \frac{S_f}{S_s}} \right) \cdot L$$

Where:

G' = Diaphragm Stiffness (k/in)

E = Modulus of Elasticity = 29,500 ksi

t = Base Metal Thickness (in) See Section Properties Table on pages 26, 46, 66, and 86.

s = developed flute per width (in)

d = panel corrugation pitch (in)

Deck Profile	s (in)	d (in)
2.0D	10.945	6.125
2.0DA	13.443	6.125
3.5D	17.603	8
3.5DA	21.117	8

ρ = Support Factor for Warping

Spans	1	2	3	4	5	6	7
ρ	1.00	1.00	0.90	0.80	0.71	0.64	0.58

D_n = Warping Coefficient

D = Warping Constant

Warping Constant, D				
Deck Gage	Deck Profile			
	2.0D	2.0DA	3.D	3.DA
22	1343	1639		
20	1005	1226	6189	7559
18	660	805	4062	4962
16	465	568	2867	3502
14			2041	2791

L = Panel Length (in)

C = Slip Coefficient

w = Panel Width (in)

S_f = Structural Connection Flexibility (in/k)

S_s = Sidelap Connector Flexibility (in/k)

Diaphragm Stiffness (Continued)

Structural Connection Flexibility, S_f and Sidelap Connector Flexibility, S_s											
Deck Type	Gage	S_f (in/k)								S_s (in/k)	
		Arc Spot Weld	Hilti X-HSN 24	Hilti X-ENP-19	Pneutek SDK61	Pneutek SDK63	Pneutek K64	Pneutek K66	#12 Screw	#8 thru #14 Sidelap Screw	3/8" x 1" Arc Seam Weld
2.0D 3.5D	22	0.0067	0.0073	0.0044	0.0175	0.0175	0.0175	0.0175	0.0076	0.0175	0.0073
	20	0.0061	0.0066	0.0040	0.0159	0.0159	0.0159	0.0159	0.0069	0.0159	0.0066
	18	0.0053	0.0057	0.0034	0.0138	0.0138	0.0138	0.0138	0.0060	0.0138	0.0057
	16	0.0047	0.0051	0.0031	0.0123	0.0123	0.0123	0.0123	0.0053	0.0123	0.0051
	14	0.0042	-	-	-	-	-	-	0.0048	0.0110	-
2.0DA 3.5DA	22	0.0338	0.0325	0.0418	0.0506	0.0308	0.0368	0.0399	0.1009	0.0175	0.0073
	20	0.0349	0.0308	0.0368	0.0498	0.0302	0.0366	0.0380	0.0471	0.0159	0.0066
	18	0.0310	0.0302	0.0313	0.0482	0.0293	0.0362	0.0345	0.0529	0.0138	0.0057
	16	0.0261	0.0332	0.0307	0.0465	0.0283	0.0358	0.0307	0.0511	0.0123	0.0051
	14	0.0326	-	-	-	-	-	-	0.0925	0.0110	-

α_1 = End Distribution Factor

α_2 = Purlin Distribution Factor

n_p = Number of Purlins excluding those at Ends of Panel = Number of Spans - 1

n_s = Number of Sidelap Connectors within the Panel Length = Number of Spans x Number of Sidelap Fasteners per Span

Deck Profile and Attachment Pattern	End Distribution Factor, α_1	Purlin Distribution Factor, α_2
2.0D & 2.0DA – 24.5/4	1.255	1.255
2.0D & 2.0DA – 24.5/8	2.000	2.000
3.5D & 3.5DA – 24/4	0.958	0.958
3.5D & 3.5DA – 24/6	1.479	1.479

Example

Calculate the stiffness for a 2 span condition for the following:

Deck Profile =	2.0D18
Span Length =	11'-0" (132")
Support Fastener =	#12 Screws
Support Fastener Attachment Pattern =	24.5/4
Sidelap Fastener =	Sidelap Screw
Number of Sidelap Fasteners per Span =	8

Four Span Condition:

$$C = E \cdot \frac{t}{w} \cdot S_f \cdot \left(\frac{2}{2 \cdot \alpha_1 + n_p \cdot \alpha_2 + 2 \cdot n_s \cdot \frac{S_f}{S_s}} \right) \cdot L$$

$$C = 29,500 \cdot \frac{0.0474}{24.5} \cdot 0.0060 \cdot \left(\frac{2}{2 \cdot 1.255 + 1 \cdot 1.255 + 2 \cdot 16 \cdot \frac{0.0060}{0.0138}} \right) \cdot 264 = 10.23$$

$$D_n = \frac{D}{L} = \frac{660}{264} = 2.5$$

$$G' = \frac{E \cdot t}{2.6 \cdot \frac{s}{d} + \rho \cdot D_n + C}$$

$$G' = \frac{29,500 \cdot 0.0474}{2.6 \cdot \frac{10.945}{6} + 1.00 \cdot 2.5 + 10.23} \cong 80 \text{ k/in}$$

SPECIFICATION SECTION 05 31 23 - STEEL ROOF DECKING

Specifications utilizing DoveTail deck from Vulcraft or Verco Decking, Inc. formatted in accordance with MasterFormat 2012, Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC) are available for download from the DoveTail deck website (www.DoveTailDeck.com).

DESIGN EXAMPLE

The focus of this design example is to illustrate how to use this catalog. This design example illustrates the basic issues involved in the design of DoveTail deck and is not intended to address all of the possible options.

Design Criteria

The objective is to select the deck system for the roof of an auditorium. The roof structure is made of steel joists. The deck is acoustic and does not support a ceiling. The joist spacing is 11'-0" oc. The designer has requested 2" deep deck be used and that an arc spot weld be specified for the support fastener. Selection is based on the ASD method. The design criteria are as follows:

Deck Type =	2.0DA
Deck Span =	11'-0"
Roof Dead Load, ω_{DL} =	10 psf
Roof Live Load, ω_{LL} =	<u>20 psf</u>
Total Vertical Load, ω_{TL} =	30 psf
Net Wind Uplift Load =	50 psf
(Based on Appropriate ASD Load Combination)	
Deflection Criteria (Live) =	L / 180
Deflection Criteria (Wind) =	L / 180
Required Diaphragm Strength (Seismic) =	300 plf
Required Diaphragm Strength (Wind) =	190 plf
Required Diaphragm Stiffness =	60 k/in

STEP 1: Check Vertical Gravity Load Capacity and Deflection of Deck

The first step in the deck selection process is to check the vertical strength (due to gravity loads) of the deck itself based on bending stress and deflection criteria. For this example a design must be selected that meets the following criteria:

Deck Span =	11'-0"
Roof Dead Load =	10 psf
Roof Live Load =	<u>20 psf</u>
Total Vertical Load =	30 psf
Deflection Criteria (Live) =	L / 180

Use the Allowable Uniform Gravity Loads Based on Bending Stress and Deflection Tables for 2.0DA on page 47. *It is suggested that the vertical load information section and all footnotes be read before using tables.* Assume for the purpose of this example that a triple span condition will be used. From the tables, the 22 gage 2.0DA deck satisfies the design criteria as follows:

Deck Type =	2.0DA22
Allowable Uniform Load based on Stress =	43 psf > 30 psf ∴ OK
Allowable Uniform Live Load based on L / 180 =	42 psf > 20 psf ∴ OK

STEP 2: Check Allowable Reactions and Shear Due to Vertical Gravity Loads

The second step is to check the allowable reactions due to web crippling and determine the minimum required bearing for the deck selected in Step 1. While it will rarely ever govern design, web shear capacity of the deck should also be checked. Both end and interior conditions must be checked for both bearing and web shear. First determine the required reaction and shear capacity. Note: applicable equations are listed on page 10. For a triple span condition:

Bearing

$$R_e = 0.4 \cdot \omega_{TL} \cdot L = 0.4 \cdot 30 \text{ psf} \cdot 11.00 \text{ ft} = 132 \text{ plf}$$

$$R_i = 1.1 \cdot \omega_{TL} \cdot L = 1.1 \cdot 30 \text{ psf} \cdot 11.00 \text{ ft} = 363 \text{ plf}$$

Shear

$$V_e = 0.4 \cdot \omega_{TL} \cdot L = 0.4 \cdot 30 \text{ psf} \cdot 11.00 \text{ ft} = 132 \text{ plf}$$

$$V_i = 0.6 \cdot \omega_{TL} \cdot L = 0.6 \cdot 30 \text{ psf} \cdot 11.00 \text{ ft} = 198 \text{ plf}$$

Because the contractor has requested the specification of a #12 screw for the support fastener, enough bearing length should also be specified to ensure that minimum end distance requirements are met. Typically, a 1" distance to end of sheet is recommended for mechanical support fasteners, therefore a 2" bearing length will be the starting point for design. Use the allowable reaction tables for 2.0DA deck on page 48. Note that standard reactions used for uniform load conditions are one flange loading conditions. The web shear capacity of the deck can be found in the section properties table on page 46. Based on the previously selected 22 gage 2.0DA deck:

Deck Type = 2.0DA22

Allowable End Reaction (2" Bearing) = 718 plf > 132 plf ∴ **OK**

Allowable Interior Reaction (2" Bearing) = 1133 plf > 363 plf ∴ **OK**

Allowable Web Shear Strength = 2944 plf > 198 plf ∴ **OK**

STEP 3: Check Vertical Uplift Load Capacity and Deflection of Deck

The third step in the deck selection process is to check the vertical strength (due to wind uplift loads) of the deck itself based on bending stress and deflection criteria. *Note: Uplift capacity of connections will be considered in step 4.* For this example a design must be selected that meets the following criteria:

Deck Span = 11'-0"

Net Wind Uplift Load = 50 psf

Deflection Criteria (Wind) = L / 180

Turn to the Allowable Uniform Uplift Loads Based on Bending Stress and Deflection Tables for 2.0DA on page 49. *It is suggested that the uplift load information section and all footnotes be read before using tables.* Verify that the profile selected in step 1 meets the uplift strength and deflection criteria.

Deck Type = 2.0DA22

Allowable Uniform Load base on Stress = 43 psf < 50 psf ∴ **NO GOOD**

Allowable Uniform Load base on L / 180 = 42 psf < 50 psf ∴ **NO GOOD**

The required uplift strength exceeds the capacity of 2.0DA22. Try 2.0DA20:

Deck Type = 2.0DA20
 Allowable Uniform Load base on Stress = 54 psf > 50 psf ∴ **OK**
 Allowable Uniform Load base on $L / 180$ = 51 psf > 50 psf ∴ **OK**

STEP 4: Check Diaphragm Capacity and Stiffness

Note: It is recommended that the diaphragm section of this manual and table footnotes be reviewed before using the diaphragm tables. The first part of checking the diaphragm strength and stiffness involves selecting the appropriate support fastener for the project. In this case, the designer has requested that an arc spot weld be specified. For this project, consider:

Selected Fastener = 7/8" Arc Spot Weld

Now that a fastener has been selected, use the diaphragm tables for 2.0DA20 with 7/8" Arc Spot Welds on page 52. First we will check Seismic:

Deck Type = 2.0DA20
 Deck Span = 11'-0"
 Selected Fastener = 7/8" Arc Spot Welds
 Required Diaphragm Strength (Seismic) = 300 plf
 Support Fastener Attachment Pattern = 24.5/4
 Spacing of #12 Sidelap Screws = 12" o.c. (11 per span)
 Allowable Diaphragm Shear Strength = 302 plf > 300 plf ∴ **OK**

Now check for the wind condition. Note that when checking for wind, uplift should also be considered. In this example, the roof has a significant net wind uplift pressure; therefore shear/tension interaction must be checked (from page 53):

Deck Type = 2.0DA20
 Deck Span = 11'-0"
 Selected Fastener = 7/8" Arc Spot Welds
 Support Fastener Attachment Pattern = 24.5/4
 Net Wind Uplift Load = 50 psf
 Required Diaphragm Strength (Wind) = 190 plf

Upon inspection, there are no values in the diaphragm shear / wind uplift tables that describe the condition above (see page 53). This means that the uplift requirement may exceed the capacity of the fasteners or the deck. The first option is to increase the support fastener pattern to 24.5/8, however there are no values in this table as well (see page 61). Another option is to increase the gage, try 2.0DA18 (see page 55):

Deck Type = 2.0DA18
 Deck Span = 11'-0"
 Selected Fastener = 7/8" Arc Spot Welds
 Support Fastener Attachment Pattern = 24.5/4
 Net Wind Uplift Load = 50 psf
 Required Diaphragm Strength (Wind) = 190 plf
 Spacing of #12 Sidelap Screws = 36" o.c. (4 per span)
 Allowable Diaphragm Shear Strength = 204 plf > 190 plf ∴ **OK**

Since the design has been modified, seismic must be checked again (see page 54):

Required Diaphragm Strength (Seismic) = 300 plf
Spacing of #12 Sidelap Screws = 24" o.c. (6 per span)
Allowable Diaphragm Shear Strength = 312 plf > 300 plf ∴ **OK**

Since this design will govern the design, it will be used to verify that the diaphragm meets the stiffness requirements of the project:

Deck Type = 2.0DA18
Deck Span = 11'-0"
Selected Fastener = 7/8" Arc Spot Welds
Support Fastener Attachment Pattern = 24.5/4
Spacing of #12 Sidelap Screws = 24" o.c. (6 per span)
Required Diaphragm Stiffness = 60 k/in
Diaphragm Stiffness, G' = 61 k/in > 60 k/in ∴ **OK**

STEP 5: Determine Parallel Edge Attachment Requirements

Next the number of parallel edge attachments per span is determined in order to develop the full capacity of the diaphragm. This is done by multiplying the nominal diaphragm shear strength by the span length and dividing by the nominal fastener shear strength. Nominal shear strength for the diaphragm must first be determined by multiplying the allowable shear strength by the appropriate safety factor. Use the seismic or wind with no uplift shear strength for the conversion and not the wind shear capacity that is impacted by wind uplift. Support fastener spacing must not exceed 36 inches.

Deck Type = 2.0DA18
Deck Span = 11'-0"
Support Fastener = 7/8" Arc Spot Welds
Support Fastener Attachment Pattern = 24.5/4
Spacing of #12 Sidelap Screws = 24" o.c. (6 per span)
Allowable Diaphragm Strength (Seismic) = 312 plf
Safety Factor, Ω_d = 3.0 (See footnote 4, page 25)
Nominal Diaphragm Shear Capacity = $(312 \text{ plf})(3.0) = 936 \text{ plf}$
Nominal Fastener Shear Strength = 3108 lb. (see Table 5, page 8)
Number of Fasteners Required per Span = $(936 \text{ plf})(11'-0") / (3108 \text{ lb.}) = 3.3$
∴ 4 - 7/8" Arc Spot Welds required per span

STEP 6: Summarize Design

The following design will be used for this project:

Deck Span =	11'-0"
Deck Type =	2.0DA18
Selected Fastener =	7/8" Arc Spot Welds
Support Fastener Attachment Pattern =	24.5/4
Spacing of #12 Sidelap Screws =	24" o.c. (6 per span)
Number of 7/8" Arc Spot Welds Required per Span =	4
(@ parallel collectors)	

Requests for Information (RFI)

The erector is requesting the use of #10 Sidelap Screws instead of the specified #12 Sidelap Screws that were specified on the contract documents. How many #10 Sidelap Screws per span are required to provide equivalent diaphragm performance to the original design?

For 2.0DA18:

#12 Sidelap Screw Shear Strength = 1108 lbs (Ref. Table 6, page 9)

#10 Sidelap Screw Shear Strength = 1039 lbs (Ref. Table 6, page 9)

$$\text{Number of \#10 Sidelap Screws per span} = \frac{(1108 \text{ lbs})(6 \text{ Screws per span})}{1039 \text{ lbs}} = 6.4 \text{ Screws per span}$$

$$\text{Number of \#10 Sidelap Screws per span} = 7$$

From page 17 of this document, note that a #10 and #12 Sidelap Screw have equivalent flexibility. Therefore Stiffness performance is OK by inspection.

TABLE FOOTNOTES

Gravity Load Table Footnotes

1. This table does not account for web-crippling. Allowable reactions must be checked separately using the allowable reaction tables (See pages 28, 48, 68, and 88).
2. Stress = Allowable uniform load based on maximum allowable flexural stress in deck.
3. L/360, L/240 or L/180 = Uniform load which produces selected deflection in deck.
4. The symbol ♦♦ indicates allowable uniform load based on deflection exceeds allowable uniform load based on stress.
5. Nominal uniform loads governed by stress may be determined by multiplying the allowable values in the table by $\Omega_b = 1.67$. LRFD loads may be determined by multiplying nominal loads by $\phi_b = 0.90$.

Uplift Load Table Footnotes

1. This table does not account for the uplift capacity of fasteners. Allowable shear / uplift interaction must be checked separately using the allowable diaphragm strength tables (See pages 30-45, 50-65, 70-85, and 90-105).
2. Stress = Allowable uniform load based on maximum allowable flexural stress in deck.
3. L/360, L/240 or L/180 = Uniform load which produces selected deflection in deck.
4. The symbol ♦♦ indicates allowable uniform load based on deflection exceeds allowable uniform load based on stress.
5. Nominal uniform loads governed by stress may be determined by multiplying the allowable values in the table by $\Omega_b = 1.67$. LRFD loads may be determined by multiplying nominal loads by $\phi_b = 0.90$.

Allowable Reactions Due to Web Crippling Table Footnotes

1. Nominal reactions governed by one flange end bearing may be determined by multiplying the allowable values in the table by $\Omega_w = 1.70$. LRFD loads may be determined by multiplying nominal loads by $\phi_w = 0.90$.
2. Nominal reactions governed by one flange interior bearing may be determined by multiplying the allowable values in the table by $\Omega_w = 1.75$. LRFD loads may be determined by multiplying nominal loads by $\phi_w = 0.85$.
3. Nominal reactions governed by two flange end bearing may be determined by multiplying the allowable values in the table by $\Omega_w = 1.80$. LRFD loads may be determined by multiplying nominal loads by $\phi_w = 0.85$.
4. Nominal reactions governed by two flange interior bearing may be determined by multiplying the allowable values in the table by $\Omega_w = 1.75$. LRFD loads may be determined by multiplying nominal loads by $\phi_w = 0.85$.

Footnotes for Allowable Diaphragm Shear Strength and Stiffness Tables

1. X-ENP-19 = Hilti X-ENP-19 L15 fastener
K66 = Pneutek K66062 fastener
K64 = Pneutek K64062 fastener
SDK63 = Pneutek SDK63075 fastener
SDK61 = Pneutek SDK61075 fastener
2. For deck attached with #12 screws, select appropriate screw based on actual substrate thickness.
The following table is provided as a guide, proper selection should be verified based on specific fasteners used:

Support Thickness	Fastener Designation
0.0385" to 3/16"	#3 Drill Point
1/8" to 1/4"	#4 Drill Point
1/8" to 1/2"	#5 Drill Point

3. Interpolation of diaphragm shear strength between adjacent span lengths is permissible. For interpolation of diaphragm stiffness between adjacent span lengths, use the stiffness for the closest adjacent span length.
4. The allowable diaphragm shear values in the tables are ASD values. Factors of safety are based on AISI S100-12 Table D5 (see below). The gray shaded values in the table indicate where panel buckling is the limit state rather than the connections. To convert from ASD to LRFD or LSD for each connection type, the published allowable diaphragm shear strength may be multiplied by the applicable conversion factor, $C = \Omega_d \cdot \phi_d$

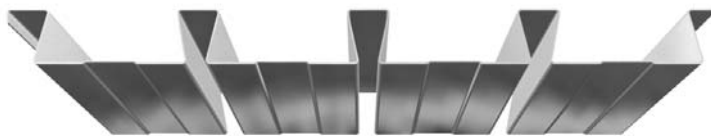
AISI S100-12 Table D5: Safety Factors and Resistance Factors for Diaphragms

Load Type or Combinations Including	Connection Type	Limit State					
		Connection Related			Panel Buckling ^a		
		Ω_d (ASD)	ϕ_d (LRFD)	ϕ_d (LSD)	Ω_d (ASD)	ϕ_d (LRFD)	ϕ_d (LSD)
Earthquake	Welds	3.00	0.55	0.50			
	Screws ^{b,c}	2.50	0.65	0.60			
Wind	Welds	2.35	0.70	0.65	2.00	0.80	0.75
	Screws ^{b,c}						
All Others	Welds	2.65	0.60	0.55			
	Screws ^{b,c}	2.50	0.65	0.60			

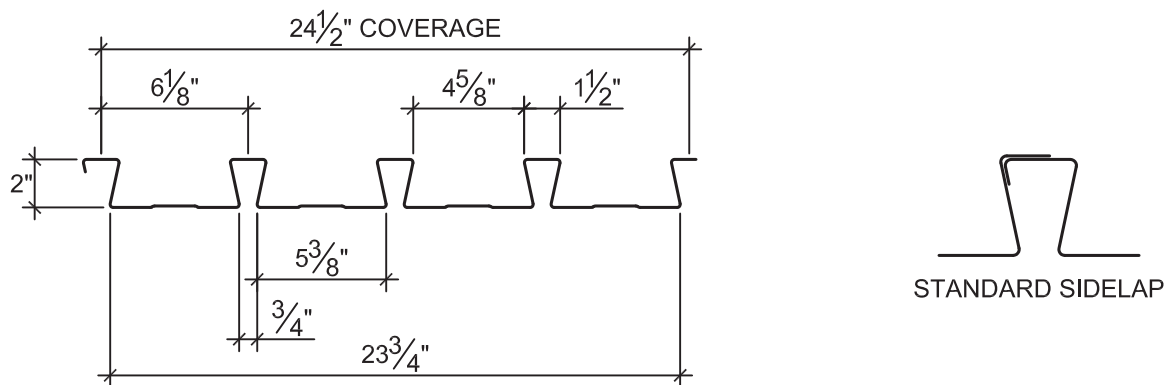
- a. Panel buckling is considered out-of-plane buckling and not local buckling at fasteners.
- b. For mechanical fasteners other than screws such as PAF's, Ω_d is equal to the Table D5 values for screws.
- c. For mechanical fasteners other than screws such as PAF's, ϕ_d is equal to the Table D5 values for screws.

2.0D

■ 2" Deep DoveTail Deck



Approximate Dimensions



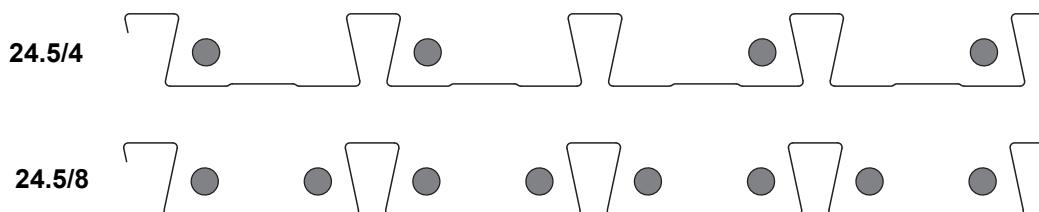
Deck Weight and Section Properties

Deck Type	Design Thickness (in.)	Weight (psf)	I _x (in ⁴ /ft)	I _{d+} (in ⁴ /ft)	I _{d-} (in ⁴ /ft)	S _{e+} (in ³ /ft)	S _{e-} (in ³ /ft)	V _a (lb/ft)
2.0D22	0.0295	2.13	0.388	0.387	0.359	0.272	0.272	2944
2.0D20	0.0358	2.59	0.472	0.472	0.447	0.343	0.334	3557
2.0D18	0.0474	3.43	0.626	0.626	0.612	0.463	0.450	4671
2.0D16	0.0598	4.34	0.792	0.792	0.791	0.587	0.576	5841

Notes:

1. Section properties are based on $F_y = 40,000$ psi
2. I_x = Gross Moment of Inertia
3. I_{d+} = Moment of Inertia for Deflection due to Uniform Loads (Normal Position)
4. I_{d-} = Moment of Inertia for Deflection due to Uniform Loads (Inverted Position)
5. S_{e+} = Positive Effective Section Modulus
6. S_{e-} = Negative Effective Section Modulus
7. V_a = Allowable Reaction governed by web shear

Attachment Patterns to Supports



GRAVITY LOAD TABLES

2.0D22

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	174	121	103	89	77	68	60	54	48	43	39	36	30	26	22
	L/360	135	78	62	49	40	33	28	23	20	17	15	13	10	8	6
	L/240	♦♦♦	118	92	74	60	50	41	35	30	25	22	19	15	12	9
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	66	55	46	39	34	29	25	20	15	12
DOUBLE	Stress	174	121	103	89	77	68	60	54	48	43	39	36	30	26	22
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	52	44	38	33	28	22	17	14
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	21
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	217	151	129	111	97	85	75	67	60	54	49	45	38	32	28
	L/360	♦♦♦	137	108	86	70	58	48	41	35	30	26	22	17	13	11
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	72	61	52	44	38	33	26	20	16
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	45	34	27	22

2.0D20

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	219	152	130	112	97	86	76	68	61	55	50	45	38	32	28
	L/360	165	96	75	60	49	40	34	28	24	21	18	16	12	9	8
	L/240	♦♦♦	143	113	90	73	61	50	43	36	31	27	23	18	14	11
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	81	67	57	48	41	36	31	24	19	15
DOUBLE	Stress	213	148	126	109	95	83	74	66	59	53	48	44	37	32	27
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	65	55	47	41	35	27	21	17
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	26
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	267	185	158	136	119	104	92	82	74	67	60	55	46	39	34
	L/360	♦♦♦	171	134	108	87	72	60	51	43	37	32	28	21	17	13
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	90	76	65	55	48	42	32	25	20
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	43	34	27

2.0D18

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	296	205	175	151	131	116	102	91	82	74	67	61	51	44	38
	L/360	219	127	100	80	65	54	45	38	32	27	24	21	16	12	10
	L/240	♦♦♦	190	150	120	97	80	67	56	48	41	36	31	24	19	15
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	130	107	89	75	64	55	47	41	32	25	20
DOUBLE	Stress	287	200	170	147	128	112	99	89	80	72	65	59	50	43	37
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	88	75	64	56	48	37	29	24
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	35
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	359	250	213	183	160	140	124	111	100	90	81	74	62	53	46
	L/360	♦♦♦	234	184	147	120	99	82	69	59	50	44	38	29	23	18
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	123	104	88	76	65	57	44	34	28
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	58	46	37

2.0D16

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	375	260	222	191	167	146	130	116	104	94	85	77	65	55	48
	L/360	277	161	126	101	82	68	56	48	40	35	30	26	20	16	13
	L/240	♦♦♦	241	189	152	123	102	85	71	61	52	45	39	30	24	19
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	164	135	113	95	81	69	60	52	40	32	25
DOUBLE	Stress	368	255	218	188	164	144	127	114	102	92	83	76	64	54	47
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	97	83	72	63	48	38	30
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	46
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	460	319	272	235	204	180	159	142	127	115	104	95	80	68	59
	L/360	♦♦♦	302	238	190	155	127	106	90	76	65	56	49	38	30	24
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	134	114	98	85	74	57	45	36
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	76	59	48

See page 24 for footnotes

ALLOWABLE REACTIONS DUE TO WEB CRIPPLING

2.0D22

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	653	1045	703	1256
1.75	687	1091	731	1317
2.00	718	1133	757	1373
2.25	747	1173	782	1426
2.50	775	1211	805	1476
2.75	801	1247	827	1523
3.00	827	1282	849	1568
3.25	851	1315	869	1612
3.50	874	1347	888	1654
3.75	896	1377	907	1694
4.00	918	1407	925	1733
4.25	939	1436	943	1771
4.50	960	1464	960	1808
4.75	979	1491	977	1844
5.00	999	1517	993	1878
≥ 5.25	1006	1527	999	1891

2.0D18

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	1557	2527	1895	3117
1.75	1630	2626	1962	3252
2.00	1698	2718	2024	3378
2.25	1762	2805	2083	3496
2.50	1822	2886	2138	3608
2.75	1880	2964	2191	3715
3.00	1934	3039	2241	3816
3.25	1987	3110	2289	3914
3.50	2038	3179	2336	4008
3.75	2086	3245	2380	4098
4.00	2134	3309	2424	4186
4.25	2179	3371	2466	4270
4.50	2224	3431	2506	4353
4.75	2267	3490	2546	4433
5.00	2309	3547	2585	4511
≥ 5.25	2314	3554	2589	4520

See page 24 for footnotes

2.0D20

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	932	1499	1059	1824
1.75	978	1562	1099	1908
2.00	1021	1621	1136	1987
2.25	1062	1676	1172	2060
2.50	1100	1728	1205	2130
2.75	1136	1777	1237	2196
3.00	1171	1825	1267	2260
3.25	1204	1870	1296	2320
3.50	1236	1914	1324	2379
3.75	1267	1956	1351	2435
4.00	1297	1996	1377	2489
4.25	1326	2036	1403	2542
4.50	1354	2074	1427	2594
4.75	1381	2112	1451	2643
5.00	1408	2148	1474	2692
≥ 5.25	1415	2158	1481	2706

2.0D16

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	2380	3891	3046	4843
1.75	2486	4035	3147	5042
2.00	2585	4168	3240	5227
2.25	2677	4293	3328	5401
2.50	2765	4412	3411	5565
2.75	2848	4525	3490	5721
3.00	2928	4632	3566	5871
3.25	3004	4736	3638	6014
3.50	3078	4835	3708	6152
3.75	3149	4931	3776	6285
4.00	3217	5024	3841	6414
4.25	3284	5114	3904	6539
4.50	3348	5201	3965	6660
4.75	3411	5286	4025	6778
5.00	3469	5364	4079	6886
≥ 5.25	3469	5364	4079	6886

UPLIFT LOAD TABLES

2.0D22

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	174	121	103	89	77	68	60	54	48	43	39	36	30	26	22
	L/360	126	73	57	46	37	31	26	22	18	16	14	12	9	7	6
	L/240	♦♦♦	109	86	69	56	46	38	32	28	24	20	18	14	11	9
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	75	61	51	43	37	31	27	24	18	14	11
DOUBLE	Stress	174	121	103	89	77	68	60	54	48	43	39	36	30	26	22
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	48	41	35	31	24	19	15
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	217	151	129	111	97	85	75	67	60	54	49	45	38	32	28
	L/360	♦♦♦	148	116	93	76	62	52	44	37	32	28	24	18	15	12
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	66	56	48	41	36	28	22	17
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	37	29	23

2.0D20

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	213	148	126	109	95	83	74	66	59	53	48	44	37	32	27
	L/360	157	91	71	57	46	38	32	27	23	20	17	15	11	9	7
	L/240	♦♦♦	136	107	86	70	57	48	40	34	29	25	22	17	13	11
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	93	76	64	54	46	39	34	29	23	18	14
DOUBLE	Stress	219	152	130	112	97	86	76	68	61	55	50	45	38	32	28
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	58	50	43	37	29	23	18
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	27
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	274	190	162	140	122	107	95	85	76	68	62	57	48	41	35
	L/360	♦♦♦	180	142	113	92	76	63	53	45	39	34	29	23	18	14
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	80	68	58	50	44	34	27	21
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	45	35	28

2.0D18

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	287	200	170	147	128	112	99	89	80	72	65	59	50	43	37
	L/360	214	124	98	78	64	52	44	37	31	27	23	20	16	12	10
	L/240	♦♦♦	186	146	117	95	78	65	55	47	40	35	30	23	18	15
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	127	105	87	73	62	54	46	40	31	24	20
DOUBLE	Stress	296	205	175	151	131	116	102	91	82	74	67	61	51	44	38
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	90	77	66	57	50	38	30	24
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	36
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	370	257	219	189	164	144	128	114	102	92	84	76	64	55	47
	L/360	♦♦♦	239	188	151	122	101	84	71	60	52	45	39	30	23	19
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	126	106	90	77	67	58	45	35	28
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	60	47	38

2.0D16

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	368	255	218	188	164	144	127	114	102	92	83	76	64	54	47
	L/360	277	160	126	101	82	68	56	48	40	35	30	26	20	16	13
	L/240	♦♦♦	241	189	151	123	101	85	71	61	52	45	39	30	24	19
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	135	113	95	81	69	60	52	40	32	25
DOUBLE	Stress	375	260	222	191	167	146	130	116	104	94	85	77	65	55	48
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	114	97	83	72	63	48	38	30
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	46
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	469	325	277	239	208	183	162	145	130	117	106	97	81	69	60
	L/360	♦♦♦	302	238	190	155	128	106	90	76	65	56	49	38	30	24
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	160	134	114	98	85	74	57	45	36
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	76	59	48

See page 24 for footnotes

2.0D22

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	236	198	210	195	182	171	161	152	163	155	148	141	130	133	124
	30" o.c.	236	227	210	195	182	193	182	172	163	155	165	157	144	147	137
	24" o.c.	270	227	237	220	206	193	203	192	182	173	182	173	159	161	149
	18" o.c.	304	256	263	245	229	237	223	211	219	208	198	205	189	188	187
	15" o.c.	304	284	289	269	252	258	244	250	237	225	232	221	218	215	212
	12" o.c.	338	312	315	294	297	280	284	269	273	260	264	253	247	242	237
	8" o.c.	433	393	390	387	385	363	362	361	361	344	344	344	331	333	322
	6" o.c.	493	470	462	454	447	441	436	432	427	424	420	417	412	407	403
	4" o.c.	629	609	612	595	598	584	588	576	579	569	572	563	558	554	551
	3" o.c.	744	728	721	716	711	707	703	699	696	693	691	689	685	681	609

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	43	42	45	45	44	43	42	41	44	43	42	42	40	42	40
	30" o.c.	43	46	45	45	44	47	46	45	44	43	46	46	44	46	44
	24" o.c.	47	46	49	49	48	47	50	49	48	47	50	49	47	49	47
	18" o.c.	50	50	53	52	52	54	53	53	55	54	53	55	54	55	56
	15" o.c.	50	53	55	55	55	57	56	58	58	57	59	58	59	60	60
	12" o.c.	53	55	58	58	60	59	61	61	62	62	63	63	63	64	65
	8" o.c.	58	61	63	65	67	67	68	70	71	71	72	73	73	75	75
	6" o.c.	60	65	67	69	70	72	73	74	76	77	78	79	80	82	83
	4" o.c.	64	70	73	74	77	78	80	82	83	84	86	87	89	91	93
	3" o.c.	67	73	75	78	80	82	84	86	88	89	91	92	94	97	98

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	301	252	268	249	233	219	206	195	208	198	189	180	165	170	158
	30" o.c.	301	290	268	249	233	247	232	220	208	198	210	201	184	188	175
	24" o.c.	345	290	302	281	263	247	259	245	232	221	232	221	203	205	191
	18" o.c.	388	326	336	313	292	302	285	270	279	266	253	262	241	240	239
	15" o.c.	388	363	369	344	322	330	311	319	303	288	296	283	278	274	271
	12" o.c.	431	398	402	375	380	357	362	343	349	332	338	323	315	309	303
	8" o.c.	553	502	498	494	491	463	462	461	460	439	439	440	423	425	411
	6" o.c.	630	601	589	579	571	563	557	551	546	541	536	532	526	520	515
	4" o.c.	803	778	781	760	764	746	750	735	739	726	731	719	713	707	609
	3" o.c.	950	929	921	914	907	902	897	893	889	885	882	879	829	707	609
30 psf	36" o.c.	301	252	268	249	233	219	192	181	194	183	174	165	149		
	30" o.c.	301	290	268	249	233	247	219	206	194	183	195	185	168		
	24" o.c.	345	290	302	281	263	247	245	231	218	206	217	206	187		
	18" o.c.	388	326	336	313	292	302	271	256	265	251	238	246	224		
	15" o.c.	388	363	369	344	322	330	297	304	288	273	280	266	261		
	12" o.c.	431	398	402	375	380	357	348	328	333	316	321	306	297		
	8" o.c.	553	502	498	494	491	463	446	445	443	421	421	420	402		
	6" o.c.	630	601	589	579	571	563	539	532	526	520	515	510	501		
	4" o.c.	803	778	781	760	764	746	724	707	709	695	697	684	674		
	3" o.c.	950	929	921	914	907	902	860	853	846	840	833	827	814		
40 psf	36" o.c.	301	252	250	230	213	198	185	173	186	175					
	30" o.c.	301	290	250	230	213	226	211	198	186	175					
	24" o.c.	345	290	284	262	243	226	238	223	209	197					
	18" o.c.	388	326	317	293	273	282	264	247	256	242					
	15" o.c.	388	363	350	324	302	309	289	296	279	264					
	12" o.c.	431	398	383	355	359	336	340	320	324	307					
	8" o.c.	553	502	477	473	468	439	437	435	433	411					
	6" o.c.	630	601	566	555	545	536	528	520	513	507					
	4" o.c.	803	778	749	726	726	707	707	690	690	674					
	3" o.c.	950	929	878	867	857	846	837	827	818	808					

See page 25 for footnotes

2.0D22

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
50 psf	36" o.c.	279	228	242	222	205	190	176	164							
	30" o.c.	279	265	242	222	205	218	202	189							
	24" o.c.	323	265	276	254	235	218	228	213							
	18" o.c.	366	302	310	285	264	273	254	238							
	15" o.c.	366	337	343	316	293	300	280	286							
	12" o.c.	408	373	375	347	350	326	330	310							
	8" o.c.	528	475	469	463	458	429	426	422							
	6" o.c.	602	569	556	544	533	523	514	505							
	4" o.c.	768	736	734	710	709	688	685	666							
3" o.c.	905	873	859	845	832	819	806	793								
60 psf	36" o.c.	272	220	234	213	196	180	165								
	30" o.c.	272	257	234	213	196	208	192								
	24" o.c.	316	257	267	245	225	208	218								
	18" o.c.	359	293	301	276	254	262	243								
	15" o.c.	359	329	334	307	283	289	269								
	12" o.c.	400	364	366	337	339	315	318								
	8" o.c.	520	465	458	452	446	416	411								
	6" o.c.	593	558	544	531	519	507	497								
	4" o.c.	756	721	717	691	686	663	657								
3" o.c.	889	852	835	818	801	783	765									
70 psf	36" o.c.	264	211	224	203	185										
	30" o.c.	264	248	224	203	185										
	24" o.c.	308	248	258	235	214										
	18" o.c.	350	284	291	266	243										
	15" o.c.	350	320	323	296	272										
	12" o.c.	392	354	355	326	327										
	8" o.c.	510	454	446	438	431										
	6" o.c.	583	546	530	515	501										
	4" o.c.	742	703	696	667	658										
3" o.c.	871	827	806	784	761											
80 psf	36" o.c.	255	201	213	192											
	30" o.c.	255	238	213	192											
	24" o.c.	299	238	247	223											
	18" o.c.	341	274	279	253											
	15" o.c.	341	309	312	284											
	12" o.c.	383	344	343	313											
	8" o.c.	500	442	432	422											
	6" o.c.	571	531	513	496											
	4" o.c.	726	681	669	637											
3" o.c.	850	798	770	741												
90 psf	36" o.c.	246	190	201												
	30" o.c.	246	226	201												
	24" o.c.	289	226	234												
	18" o.c.	331	262	267												
	15" o.c.	331	297	298												
	12" o.c.	372	331	329												
	8" o.c.	488	427	415												
	6" o.c.	558	513	492												
	4" o.c.	708	655	636												
3" o.c.	825	761	725													
100 psf	36" o.c.	235	177	187												
	30" o.c.	235	214	187												
	24" o.c.	278	214	220												
	18" o.c.	320	249	252												
	15" o.c.	320	284	283												
	12" o.c.	361	317	312												
	8" o.c.	475	410	394												
	6" o.c.	543	492	465												
	4" o.c.	687	622	592												
3" o.c.	796	715	665													

See page 25 for footnotes

2.0D20

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	331	277	292	272	254	239	225	212	226	215	205	196	180	184	171
	30" o.c.	331	316	292	272	254	268	253	239	226	215	228	218	200	203	188
	24" o.c.	377	316	328	305	286	268	280	265	251	239	250	239	219	221	205
	18" o.c.	423	355	364	339	317	327	308	291	301	286	273	282	259	257	256
	15" o.c.	423	393	399	372	348	355	335	343	325	309	317	303	298	294	290
	12" o.c.	467	431	434	404	409	384	389	368	374	356	361	345	337	329	323
	8" o.c.	596	540	535	530	526	496	494	493	492	469	469	469	450	452	437
	6" o.c.	678	645	632	621	611	602	595	588	582	577	572	567	559	553	547
	4" o.c.	864	835	837	814	817	798	802	785	790	775	780	767	760	754	749
	3" o.c.	1024	999	990	981	974	968	962	957	952	948	944	941	935	930	816

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	54	51	56	55	53	52	50	49	53	52	50	49	47	49	47
	30" o.c.	54	58	56	55	53	57	56	55	53	52	56	54	52	54	52
	24" o.c.	60	58	62	60	59	57	61	60	58	57	60	59	56	58	56
	18" o.c.	65	63	66	65	64	67	66	64	67	66	64	67	64	66	67
	15" o.c.	65	67	70	69	68	71	70	72	71	69	72	70	71	72	73
	12" o.c.	69	71	74	73	75	74	76	75	77	76	78	77	77	78	78
	8" o.c.	77	80	82	84	86	85	87	88	89	89	90	91	91	93	93
	6" o.c.	81	86	88	90	91	93	94	95	96	97	98	99	101	102	103
	4" o.c.	88	94	97	99	101	103	105	106	108	109	110	111	113	115	117
	3" o.c.	92	99	102	104	107	109	111	113	114	116	118	119	121	124	126

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	423	354	373	347	325	305	287	271	289	275	262	250	229	235	219
	30" o.c.	423	404	373	347	325	342	322	305	289	275	291	278	255	259	241
	24" o.c.	482	404	419	390	365	342	358	338	321	305	320	305	280	282	262
	18" o.c.	539	453	464	432	404	417	393	372	384	365	348	360	331	329	327
	15" o.c.	539	502	509	474	444	454	428	438	415	395	405	387	380	375	370
	12" o.c.	596	550	554	516	522	490	497	470	477	454	461	441	430	421	413
	8" o.c.	761	690	683	677	672	633	631	629	628	598	598	599	575	577	558
	6" o.c.	865	823	807	792	780	769	759	751	743	736	730	724	714	705	698
	4" o.c.	1103	1066	1069	1039	1044	1019	1024	1003	1008	990	995	979	970	946	816
	3" o.c.	1307	1276	1263	1253	1243	1235	1228	1221	1216	1210	1206	1201	1111	946	816
30 psf	36" o.c.	423	354	373	347	325	305	287	271	289	259	246	233	212	217	
	30" o.c.	423	404	373	347	325	342	322	305	289	259	274	261	237	241	
	24" o.c.	482	404	419	390	365	342	358	338	321	289	303	288	263	264	
	18" o.c.	539	453	464	432	404	417	393	372	384	349	332	343	313	310	
	15" o.c.	539	502	509	474	444	454	428	438	415	379	388	370	362	356	
	12" o.c.	596	550	554	516	522	490	497	470	477	438	444	423	411	401	
	8" o.c.	761	690	683	677	672	633	631	629	628	580	579	579	554	555	
	6" o.c.	865	823	807	792	780	769	759	751	743	715	708	701	689	679	
	4" o.c.	1103	1066	1069	1039	1044	1019	1024	1003	1008	959	963	945	933	921	
	3" o.c.	1307	1276	1263	1253	1243	1235	1228	1221	1216	1167	1159	1152	1111	946	
40 psf	36" o.c.	423	354	373	347	304	283	264	248	265	250	236	224			
	30" o.c.	423	404	373	347	304	320	300	282	265	250	265	252			
	24" o.c.	482	404	419	390	343	320	335	315	297	280	294	279			
	18" o.c.	539	453	464	432	383	395	370	348	360	340	322	333			
	15" o.c.	539	502	509	474	422	431	405	414	391	370	379	360			
	12" o.c.	596	550	554	516	499	468	473	446	452	428	434	413			
	8" o.c.	761	690	683	677	648	608	605	602	599	569	568	567			
	6" o.c.	865	823	807	792	753	741	730	720	711	702	695	687			
	4" o.c.	1103	1066	1069	1039	1007	980	982	959	961	940	942	924			
	3" o.c.	1307	1276	1263	1253	1194	1182	1171	1160	1149	1139	1129	1119			

See page 25 for footnotes

2.0D20

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
50 psf	36" o.c.	423	328	346	319	295	274	255	238	255	240					
	30" o.c.	423	377	346	319	295	311	290	272	255	240					
	24" o.c.	482	377	392	361	335	311	326	305	287	270					
	18" o.c.	539	426	437	403	374	385	360	338	349	329					
	15" o.c.	539	475	481	445	413	422	395	403	380	359					
	12" o.c.	596	523	525	486	490	458	463	435	441	417					
	8" o.c.	761	661	652	645	638	598	594	590	587	556					
	6" o.c.	865	791	773	756	742	729	717	706	696	687					
	4" o.c.	1103	1024	1023	991	990	963	963	938	938	916					
3" o.c.	1307	1221	1203	1187	1172	1157	1143	1130	1116	1103						
60 psf	36" o.c.	391	319	337	309	285	264	244	227							
	30" o.c.	391	369	337	309	285	301	280	261							
	24" o.c.	450	369	382	352	325	301	315	294							
	18" o.c.	508	418	427	394	364	375	349	327							
	15" o.c.	508	466	472	435	403	411	384	391							
	12" o.c.	564	514	515	476	480	447	451	423							
	8" o.c.	726	651	642	633	626	585	581	576							
	6" o.c.	828	780	761	744	728	714	701	689							
	4" o.c.	1056	1010	1007	973	971	942	939	912							
3" o.c.	1247	1202	1182	1163	1145	1127	1109	1092								
70 psf	36" o.c.	383	310	327	299	274	252	232								
	30" o.c.	383	359	327	299	274	289	267								
	24" o.c.	442	359	372	341	314	289	302								
	18" o.c.	499	408	417	383	353	363	337								
	15" o.c.	499	456	461	424	392	399	371								
	12" o.c.	555	504	505	465	468	434	438								
	8" o.c.	717	640	630	621	612	571	565								
	6" o.c.	817	768	747	729	713	697	682								
	4" o.c.	1042	993	988	952	947	915	908								
3" o.c.	1230	1179	1156	1134	1112	1089	1066									
80 psf	36" o.c.	374	299	316	287	262	239									
	30" o.c.	374	349	316	287	262	276									
	24" o.c.	432	349	361	329	301	276									
	18" o.c.	490	398	406	371	340	349									
	15" o.c.	490	445	450	412	379	385									
	12" o.c.	546	493	493	452	454	420									
	8" o.c.	706	628	617	606	596	554									
	6" o.c.	806	754	732	712	694	676									
	4" o.c.	1027	974	966	928	918	883									
3" o.c.	1210	1153	1126	1099	1071	1042										
90 psf	36" o.c.	364	288	304	274	248										
	30" o.c.	364	337	304	274	248										
	24" o.c.	422	337	349	316	287										
	18" o.c.	479	386	393	357	326										
	15" o.c.	479	434	437	398	364										
	12" o.c.	535	480	479	438	438										
	8" o.c.	694	614	602	589	577										
	6" o.c.	793	738	715	692	671										
	4" o.c.	1011	952	939	898	881										
3" o.c.	1188	1123	1090	1057	1020											
100 psf	36" o.c.	353	276	290	259											
	30" o.c.	353	325	290	259											
	24" o.c.	411	325	335	301											
	18" o.c.	468	373	379	342											
	15" o.c.	468	421	422	383											
	12" o.c.	524	467	464	422											
	8" o.c.	682	599	584	569											
	6" o.c.	779	720	694	669											
	4" o.c.	992	926	908	861											
3" o.c.	1163	1087	1047	1004												

See page 25 for footnotes

2.0D18

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	467	391	417	388	362	340	320	303	325	309	294	281	258	266	248
	30" o.c.	467	450	417	388	362	385	363	343	325	309	329	314	288	294	274
	24" o.c.	537	450	471	438	410	385	405	383	363	345	363	347	319	322	299
	18" o.c.	606	509	525	489	457	473	446	422	438	417	397	412	378	377	377
	15" o.c.	606	567	578	538	504	517	488	501	475	452	465	444	438	432	428
	12" o.c.	673	623	630	588	596	560	570	539	548	522	531	508	496	487	478
	8" o.c.	867	788	783	778	773	729	728	727	726	692	693	694	668	671	650
	6" o.c.	988	944	927	912	899	888	878	869	861	853	847	841	830	821	813
	4" o.c.	1260	1222	1228	1195	1202	1174	1181	1158	1165	1145	1152	1134	1125	1117	1110
	3" o.c.	1488	1457	1445	1434	1425	1417	1410	1403	1398	1392	1387	1383	1375	1369	1245

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	73	67	74	71	68	66	63	61	67	65	63	61	57	61	58
	30" o.c.	73	76	74	71	68	74	71	69	67	65	70	68	64	67	64
	24" o.c.	82	76	82	79	76	74	79	76	74	72	76	74	70	73	69
	18" o.c.	90	84	89	86	84	88	85	83	87	84	82	86	82	83	84
	15" o.c.	90	92	95	93	90	94	91	94	92	90	93	91	91	92	92
	12" o.c.	96	98	101	99	101	99	102	99	102	100	102	100	100	100	100
	8" o.c.	111	112	114	116	118	116	118	119	121	119	120	121	120	122	121
	6" o.c.	118	123	125	126	128	129	130	131	132	133	133	134	135	136	137
	4" o.c.	131	137	141	142	145	146	148	149	151	152	153	154	156	157	159
	3" o.c.	139	146	149	152	155	157	159	161	162	164	165	167	169	171	173

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	596	499	532	495	462	434	409	386	415	394	376	359	329	340	316
	30" o.c.	596	575	532	495	462	491	463	438	415	394	420	401	368	376	349
	24" o.c.	685	575	601	560	523	491	517	489	463	441	464	443	407	411	382
	18" o.c.	773	650	670	624	584	604	570	539	559	532	507	526	483	482	481
	15" o.c.	773	723	738	687	643	660	623	639	607	577	593	567	559	552	546
	12" o.c.	859	796	805	750	761	715	727	688	700	667	678	649	634	621	610
	8" o.c.	1106	1006	999	993	987	930	929	928	927	884	885	886	852	857	830
	6" o.c.	1261	1205	1183	1164	1148	1133	1120	1109	1099	1089	1081	1073	1060	1048	1038
	4" o.c.	1608	1560	1567	1526	1534	1499	1508	1478	1487	1461	1471	1448	1436	1426	1245
	3" o.c.	1900	1860	1844	1831	1819	1809	1800	1791	1784	1777	1771	1766	1694	1443	1245
40 psf	36" o.c.	596	499	532	495	462	434	409	386	415	372	353	336	305	314	
	30" o.c.	596	575	532	495	462	491	463	438	415	372	397	377	343	350	
	24" o.c.	685	575	601	560	523	491	517	489	463	418	440	419	382	385	
	18" o.c.	773	650	670	624	584	604	570	539	559	509	484	502	458	455	
	15" o.c.	773	723	738	687	643	660	623	639	607	554	569	543	533	524	
	12" o.c.	859	796	805	750	761	715	727	688	700	643	653	623	607	593	
	8" o.c.	1106	1006	999	993	987	930	929	928	927	856	856	856	821	823	
	6" o.c.	1261	1205	1183	1164	1148	1133	1120	1109	1099	1057	1047	1038	1021	1007	
	4" o.c.	1608	1560	1567	1526	1534	1499	1508	1478	1487	1413	1418	1393	1375	1358	
	3" o.c.	1900	1860	1844	1831	1819	1809	1800	1791	1784	1705	1694	1684	1663	1443	
50 psf	36" o.c.	596	499	532	495	462	406	380	357	384	363	343	326			
	30" o.c.	596	575	532	495	462	463	434	408	384	363	387	368			
	24" o.c.	685	575	601	560	523	463	487	458	432	409	431	409			
	18" o.c.	773	650	670	624	584	576	540	509	527	499	474	491			
	15" o.c.	773	723	738	687	643	631	593	608	574	544	559	532			
	12" o.c.	859	796	805	750	761	686	696	657	667	633	643	612			
	8" o.c.	1106	1006	999	993	987	897	894	891	888	845	844	843			
	6" o.c.	1261	1205	1183	1164	1148	1095	1080	1067	1054	1043	1032	1022			
	4" o.c.	1608	1560	1567	1526	1534	1444	1448	1415	1419	1390	1393	1367			
	3" o.c.	1900	1860	1844	1831	1819	1731	1715	1700	1686	1672	1658	1644			

See page 25 for footnotes

2.0D18

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
60 psf	36" o.c.	596	499	532	460	427	397	371	347	374	352	333				
	30" o.c.	596	575	532	460	427	454	424	398	374	352	376				
	24" o.c.	685	575	601	525	487	454	478	448	422	398	420				
	18" o.c.	773	650	670	589	547	566	531	499	517	488	463				
	15" o.c.	773	723	738	652	606	622	583	597	564	533	547				
	12" o.c.	859	796	805	714	723	676	686	646	656	621	631				
	8" o.c.	1106	1006	999	952	944	886	882	879	875	831	829				
	6" o.c.	1261	1205	1183	1118	1099	1082	1066	1052	1038	1026	1014				
	4" o.c.	1608	1560	1567	1462	1463	1425	1426	1392	1393	1362	1362				
3" o.c.	1900	1860	1844	1742	1722	1703	1684	1666	1649	1631	1613					
70 psf	36" o.c.	596	459	490	451	417	387	360	336	362	340					
	30" o.c.	596	535	490	451	417	444	414	387	362	340					
	24" o.c.	685	535	559	515	477	444	467	437	410	386					
	18" o.c.	773	609	627	579	537	556	520	487	505	476					
	15" o.c.	773	682	694	642	596	611	572	586	551	520					
	12" o.c.	859	754	760	704	712	665	674	634	643	608					
	8" o.c.	1106	961	950	940	932	874	869	864	859	815					
	6" o.c.	1261	1153	1128	1105	1085	1067	1050	1034	1019	1005					
	4" o.c.	1608	1490	1489	1443	1442	1402	1400	1364	1362	1329					
3" o.c.	1900	1765	1740	1716	1692	1670	1648	1625	1603	1580						
80 psf	36" o.c.	552	450	480	441	406	376	348	324							
	30" o.c.	552	525	480	441	406	432	402	375							
	24" o.c.	641	525	549	505	467	432	455	425							
	18" o.c.	728	600	617	569	526	544	508	475							
	15" o.c.	728	672	684	631	585	599	559	572							
	12" o.c.	813	744	749	693	700	653	661	620							
	8" o.c.	1055	950	938	928	918	859	853	847							
	6" o.c.	1205	1140	1114	1090	1069	1049	1031	1013							
	4" o.c.	1536	1473	1469	1421	1417	1375	1369	1331							
3" o.c.	1805	1742	1713	1685	1658	1631	1604	1576								
90 psf	36" o.c.	543	440	470	430	395	363	335								
	30" o.c.	543	515	470	430	395	420	389								
	24" o.c.	632	515	538	494	455	420	442								
	18" o.c.	719	589	606	557	514	531	494								
	15" o.c.	719	662	673	620	573	586	546								
	12" o.c.	803	733	738	681	687	639	646								
	8" o.c.	1045	938	925	914	902	843	836								
	6" o.c.	1194	1127	1099	1074	1051	1029	1008								
	4" o.c.	1520	1453	1446	1396	1388	1343	1333								
3" o.c.	1784	1715	1682	1650	1618	1585	1551									
100 psf	36" o.c.	533	429	458	418	382	350									
	30" o.c.	533	505	458	418	382	406									
	24" o.c.	622	505	527	482	442	406									
	18" o.c.	709	578	594	545	501	517									
	15" o.c.	709	651	660	607	559	571									
	12" o.c.	793	722	725	668	673	624									
	8" o.c.	1034	925	911	898	885	825									
	6" o.c.	1181	1111	1082	1055	1030	1006									
	4" o.c.	1503	1432	1421	1368	1355	1306									
3" o.c.	1762	1685	1648	1610	1571	1531										
110 psf	36" o.c.	523	418	446	404	368	335									
	30" o.c.	523	493	446	404	368	391									
	24" o.c.	612	493	514	468	428	391									
	18" o.c.	698	567	581	531	487	501									
	15" o.c.	698	639	647	593	545	555									
	12" o.c.	783	709	712	653	657	607									
	8" o.c.	1021	911	895	880	865	803									
	6" o.c.	1167	1095	1063	1034	1006	978									
	4" o.c.	1485	1407	1392	1335	1315	1260									
3" o.c.	1738	1651	1608	1563	1516	1465										

See page 25 for footnotes

2.0D16

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	604	506	545	507	474	445	420	397	430	409	389	372	341	355	330
	30" o.c.	604	589	545	507	474	509	479	453	430	409	438	419	384	394	367
	24" o.c.	702	589	622	579	542	509	539	509	483	460	486	465	427	434	403
	18" o.c.	799	672	698	650	608	633	597	565	589	560	534	556	511	512	512
	15" o.c.	799	753	772	720	674	695	656	675	641	610	629	602	595	589	584
	12" o.c.	893	832	845	789	803	755	770	729	744	709	723	691	677	665	654
	8" o.c.	1161	1061	1057	1052	1049	989	990	990	990	945	948	950	915	922	894
	6" o.c.	1326	1274	1254	1236	1221	1207	1196	1185	1175	1167	1159	1152	1139	1128	1119
	4" o.c.	1689	1647	1656	1615	1625	1591	1602	1573	1583	1557	1568	1545	1534	1525	1518
	3" o.c.	1983	1949	1936	1924	1914	1905	1897	1890	1883	1877	1872	1867	1859	1852	1767

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	90	81	89	86	82	79	75	72	80	77	74	72	67	71	67
	30" o.c.	90	94	89	86	82	89	86	83	80	77	83	80	76	79	75
	24" o.c.	103	94	100	96	93	89	95	92	89	86	91	88	83	86	82
	18" o.c.	113	105	110	106	102	107	104	100	105	102	99	103	97	99	100
	15" o.c.	113	114	119	115	111	115	111	115	112	109	112	109	110	110	111
	12" o.c.	123	123	127	123	126	122	125	122	125	122	124	121	121	121	120
	8" o.c.	145	144	146	148	149	146	148	149	150	147	149	150	148	150	149
	6" o.c.	156	159	161	162	163	164	165	165	166	167	167	168	168	169	170
	4" o.c.	175	181	185	186	189	189	192	192	194	194	196	196	197	199	200
	3" o.c.	188	196	199	201	204	206	207	209	211	212	213	214	216	218	220

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	771	646	696	648	606	568	536	506	549	522	497	475	436	453	421
	30" o.c.	771	752	696	648	606	649	612	579	549	522	559	534	490	504	468
	24" o.c.	897	752	794	739	691	649	688	650	617	587	621	593	545	554	515
	18" o.c.	1020	858	891	830	776	809	763	722	752	715	682	710	653	653	654
	15" o.c.	1020	961	986	919	860	887	837	862	819	779	804	768	759	752	745
	12" o.c.	1140	1063	1079	1007	1025	964	983	931	950	905	923	883	864	849	835
	8" o.c.	1482	1355	1349	1343	1339	1263	1263	1264	1264	1207	1210	1213	1169	1177	1141
	6" o.c.	1693	1627	1601	1578	1559	1541	1526	1513	1500	1489	1479	1470	1454	1440	1429
	4" o.c.	2157	2102	2114	2062	2075	2032	2045	2008	2021	1988	2001	1972	1959	1947	1767
	3" o.c.	2532	2488	2471	2456	2443	2432	2421	2412	2404	2397	2390	2384	2373	2050	1767
50 psf	36" o.c.	771	646	696	648	606	568	536	506	549	494	468	445	405	420	
	30" o.c.	771	752	696	648	606	649	612	579	549	494	530	504	459	471	
	24" o.c.	897	752	794	739	691	649	688	650	617	558	592	563	513	520	
	18" o.c.	1020	858	891	830	776	809	763	722	752	686	652	679	620	619	
	15" o.c.	1020	961	986	919	860	887	837	862	819	749	773	737	726	716	
	12" o.c.	1140	1063	1079	1007	1025	964	983	931	950	874	890	850	829	812	
	8" o.c.	1482	1355	1349	1343	1339	1263	1263	1264	1264	1170	1171	1172	1126	1130	
	6" o.c.	1693	1627	1601	1578	1559	1541	1526	1513	1500	1444	1431	1420	1399	1380	
	4" o.c.	2157	2102	2114	2062	2075	2032	2045	2008	2021	1915	1922	1889	1866	1843	
	3" o.c.	2532	2488	2471	2456	2443	2432	2421	2412	2404	2287	2273	2258	2230	2050	
60 psf	36" o.c.	771	646	696	648	606	568	502	471	512	484	459	435	394		
	30" o.c.	771	752	696	648	606	649	578	543	512	484	521	495	449		
	24" o.c.	897	752	794	739	691	649	653	615	580	549	582	553	503		
	18" o.c.	1020	858	891	830	776	809	727	685	714	677	643	669	610		
	15" o.c.	1020	961	986	919	860	887	801	824	780	740	762	726	714		
	12" o.c.	1140	1063	1079	1007	1025	964	945	893	909	863	879	838	817		
	8" o.c.	1482	1355	1349	1343	1339	1263	1220	1218	1216	1157	1158	1158	1111		
	6" o.c.	1693	1627	1601	1578	1559	1541	1474	1457	1442	1428	1414	1402	1378		
	4" o.c.	2157	2102	2114	2062	2075	2032	1962	1920	1926	1888	1892	1858	1829		
	3" o.c.	2532	2488	2471	2456	2443	2432	2303	2284	2266	2247	2229	2211	2175		

See page 25 for footnotes

2.0D16

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)															
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"	
70 psf	36" o.c.	771	646	696	609	565	527	492	462	502	474	448	425				
	30" o.c.	771	752	696	609	565	607	568	534	502	474	510	484				
	24" o.c.	897	752	794	700	651	607	644	605	570	539	571	542				
	18" o.c.	1020	858	891	790	735	765	718	676	704	666	632	657				
	15" o.c.	1020	961	986	878	818	843	791	814	769	729	751	714				
	12" o.c.	1140	1063	1079	965	980	919	935	882	898	852	867	826				
	8" o.c.	1482	1355	1349	1295	1287	1210	1208	1205	1202	1143	1143	1142				
	6" o.c.	1693	1627	1601	1522	1499	1478	1458	1441	1424	1409	1394	1380				
	4" o.c.	2157	2102	2114	1979	1983	1934	1937	1894	1896	1857	1857	1821				
3" o.c.	2532	2488	2471	2339	2314	2291	2268	2245	2223	2200	2178	2155					
80 psf	36" o.c.	771	646	650	600	556	517	482	451	491	463	436					
	30" o.c.	771	752	650	600	556	597	558	523	491	463	498					
	24" o.c.	897	752	747	691	641	597	633	594	559	527	559					
	18" o.c.	1020	858	843	780	725	755	707	665	692	654	619					
	15" o.c.	1020	961	937	869	808	832	780	803	757	716	738					
	12" o.c.	1140	1063	1029	955	970	908	923	870	885	838	853					
	8" o.c.	1482	1355	1292	1283	1274	1197	1194	1190	1186	1127	1125					
	6" o.c.	1693	1627	1535	1508	1484	1462	1441	1422	1404	1387	1370					
	4" o.c.	2157	2102	2016	1958	1959	1909	1909	1864	1861	1820	1815					
3" o.c.	2532	2488	2338	2309	2281	2254	2227	2200	2173	2145	2116						
90 psf	36" o.c.	771	593	641	590	546	506	471	440	479	450						
	30" o.c.	771	699	641	590	546	587	547	511	479	450						
	24" o.c.	897	699	738	681	631	587	622	582	547	514						
	18" o.c.	1020	804	834	770	715	744	696	653	679	641						
	15" o.c.	1020	906	927	858	798	821	769	790	744	703						
	12" o.c.	1140	1006	1019	944	959	896	911	857	871	824						
	8" o.c.	1482	1292	1281	1270	1260	1183	1178	1173	1167	1108						
	6" o.c.	1693	1553	1521	1493	1467	1444	1422	1401	1381	1361						
	4" o.c.	2157	1997	1995	1935	1933	1880	1876	1828	1821	1775						
3" o.c.	2532	2343	2309	2276	2244	2213	2181	2148	2114	2079							
100 psf	36" o.c.	715	584	631	580	535	495	459	427	466							
	30" o.c.	715	690	631	580	535	575	535	499	466							
	24" o.c.	840	690	728	670	620	575	610	570	533							
	18" o.c.	962	794	823	760	704	732	683	640	665							
	15" o.c.	962	896	917	847	786	808	756	776	730							
	12" o.c.	1081	996	1008	933	946	883	897	842	855							
	8" o.c.	1415	1280	1268	1256	1245	1167	1161	1154	1146							
	6" o.c.	1618	1539	1506	1476	1449	1423	1399	1376	1353							
	4" o.c.	2054	1976	1971	1909	1903	1848	1838	1787	1773							
3" o.c.	2395	2315	2277	2240	2203	2165	2127	2087	2045								
110 psf	36" o.c.	706	574	620	569	523	483	446	414								
	30" o.c.	706	680	620	569	523	563	522	485								
	24" o.c.	831	680	717	659	608	563	596	556								
	18" o.c.	953	784	812	748	691	719	670	625								
	15" o.c.	953	886	905	835	774	795	741	760								
	12" o.c.	1071	985	996	921	933	869	881	826								
	8" o.c.	1404	1267	1254	1241	1228	1150	1141	1132								
	6" o.c.	1606	1523	1489	1458	1428	1401	1374	1347								
	4" o.c.	2037	1954	1945	1881	1869	1810	1795	1738								
3" o.c.	2372	2283	2241	2199	2156	2111	2065	2016									
120 psf	36" o.c.	697	563	609	557	510	469	432									
	30" o.c.	697	669	609	557	510	549	508									
	24" o.c.	821	669	706	647	595	549	582									
	18" o.c.	943	773	800	736	678	704	655									
	15" o.c.	943	874	893	822	760	780	726									
	12" o.c.	1061	973	983	907	918	854	864									
	8" o.c.	1392	1254	1239	1224	1210	1130	1119									
	6" o.c.	1592	1507	1471	1437	1405	1375	1344									
	4" o.c.	2018	1929	1916	1848	1831	1767	1743									
3" o.c.	2347	2249	2202	2153	2103	2050	1993										

See page 25 for footnotes

2.0D22

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	312	260	268	249	232	218	205	194	203	193	183	175	161	162	151
	30" o.c.	312	290	268	249	232	240	226	214	203	193	201	192	176	176	164
	24" o.c.	347	290	295	274	256	240	247	234	222	211	218	208	191	190	176
	18" o.c.	382	320	323	300	280	285	268	254	259	246	235	240	221	218	215
	15" o.c.	382	349	350	325	304	307	289	293	278	264	269	257	250	245	241
	12" o.c.	417	378	377	351	351	330	331	313	316	300	303	289	280	273	266
	8" o.c.	521	466	458	451	445	418	414	411	408	388	387	386	369	368	355
	6" o.c.	589	552	537	525	514	504	496	488	482	476	470	465	456	449	443
	4" o.c.	754	718	717	692	693	673	674	657	660	645	648	635	627	620	609
	3" o.c.	910	876	863	851	842	833	825	819	812	807	802	797	789	707	609

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	48	47	50	50	49	48	47	46	49	48	48	47	45	47	45
	30" o.c.	48	51	50	50	49	52	51	50	49	48	51	50	48	50	48
	24" o.c.	51	51	53	53	52	52	54	53	53	52	54	53	52	53	51
	18" o.c.	53	54	56	56	55	58	57	56	58	58	57	59	57	58	59
	15" o.c.	53	56	58	58	58	60	59	61	61	60	62	61	62	63	63
	12" o.c.	55	58	60	60	62	62	64	63	65	64	66	65	66	66	67
	8" o.c.	60	63	65	67	68	69	70	71	72	72	73	74	75	77	77
	6" o.c.	62	66	68	70	72	73	74	76	77	78	79	80	81	83	84
	4" o.c.	65	71	73	75	77	79	81	82	84	85	87	88	90	92	93
	3" o.c.	67	73	76	78	81	83	85	86	88	90	91	92	95	97	99

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	398	332	342	318	297	278	262	247	259	246	234	224	205	207	192
	30" o.c.	398	370	342	318	297	307	289	273	259	246	256	244	224	225	209
	24" o.c.	443	370	377	350	327	307	316	298	283	269	278	265	243	242	225
	18" o.c.	488	408	412	383	358	364	343	324	331	315	300	307	282	278	274
	15" o.c.	488	446	447	415	388	392	370	374	355	337	343	328	320	313	307
	12" o.c.	533	483	481	447	448	421	423	400	403	383	387	369	358	348	340
	8" o.c.	665	595	584	575	568	533	529	525	521	496	494	492	471	470	453
	6" o.c.	752	704	686	670	656	644	633	623	615	607	600	594	583	573	565
	4" o.c.	962	916	915	884	884	859	861	839	842	824	827	811	800	707	609
	3" o.c.	1161	1118	1101	1087	1074	1063	1054	1045	1037	1030	1024	987	829	707	609
30 psf	36" o.c.	398	332	342	318	297	278	262	247	259	246	234	224	205		
	30" o.c.	398	370	342	318	297	307	289	273	259	246	256	244	224		
	24" o.c.	443	370	377	350	327	307	316	298	283	269	278	265	243		
	18" o.c.	488	408	412	383	358	364	343	324	331	315	300	307	282		
	15" o.c.	488	446	447	415	388	392	370	374	355	337	343	328	320		
	12" o.c.	533	483	481	447	448	421	423	400	403	383	387	369	358		
	8" o.c.	665	595	584	575	568	533	529	525	521	496	494	492	471		
	6" o.c.	752	704	686	670	656	644	633	623	615	607	600	594	583		
	4" o.c.	962	916	915	884	884	859	861	839	842	824	827	811	800		
	3" o.c.	1161	1118	1101	1087	1074	1063	1054	1045	1037	1030	1024	987	829		
40 psf	36" o.c.	398	332	342	318	297	278	262	247	259	246					
	30" o.c.	398	370	342	318	297	307	289	273	259	246					
	24" o.c.	443	370	377	350	327	307	316	298	283	269					
	18" o.c.	488	408	412	383	358	364	343	324	331	315					
	15" o.c.	488	446	447	415	388	392	370	374	355	337					
	12" o.c.	533	483	481	447	448	421	423	400	403	383					
	8" o.c.	665	595	584	575	568	533	529	525	521	496					
	6" o.c.	752	704	686	670	656	644	633	623	615	607					
	4" o.c.	962	916	915	884	884	859	861	839	842	824					
	3" o.c.	1161	1118	1101	1087	1074	1063	1054	1045	1037	1030					

See page 25 for footnotes

2.0D22

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
50 psf	36" o.c.	398	332	342	318	297	278	262	247							
	30" o.c.	398	370	342	318	297	307	289	273							
	24" o.c.	443	370	377	350	327	307	316	298							
	18" o.c.	488	408	412	383	358	364	343	324							
	15" o.c.	488	446	447	415	388	392	370	374							
	12" o.c.	533	483	481	447	448	421	423	400							
	8" o.c.	665	595	584	575	568	533	529	525							
	6" o.c.	752	704	686	670	656	644	633	623							
	4" o.c.	962	916	915	884	884	859	861	839							
3" o.c.	1161	1118	1101	1087	1074	1063	1054	1045								
60 psf	36" o.c.	398	332	342	318	297	278	262								
	30" o.c.	398	370	342	318	297	307	289								
	24" o.c.	443	370	377	350	327	307	316								
	18" o.c.	488	408	412	383	358	364	343								
	15" o.c.	488	446	447	415	388	392	370								
	12" o.c.	533	483	481	447	448	421	423								
	8" o.c.	665	595	584	575	568	533	529								
	6" o.c.	752	704	686	670	656	644	633								
	4" o.c.	962	916	915	884	884	859	861								
3" o.c.	1161	1118	1101	1087	1074	1063	1054									
70 psf	36" o.c.	398	332	342	318	297										
	30" o.c.	398	370	342	318	297										
	24" o.c.	443	370	377	350	327										
	18" o.c.	488	408	412	383	358										
	15" o.c.	488	446	447	415	388										
	12" o.c.	533	483	481	447	448										
	8" o.c.	665	595	584	575	568										
	6" o.c.	752	704	686	670	656										
	4" o.c.	962	916	915	884	884										
3" o.c.	1161	1118	1101	1087	1074											
80 psf	36" o.c.	398	332	342	318											
	30" o.c.	398	370	342	318											
	24" o.c.	443	370	377	350											
	18" o.c.	488	408	412	383											
	15" o.c.	488	446	447	415											
	12" o.c.	533	483	481	447											
	8" o.c.	665	595	584	575											
	6" o.c.	752	704	686	670											
	4" o.c.	962	916	915	884											
3" o.c.	1161	1118	1101	1087												
90 psf	36" o.c.	398	332	342												
	30" o.c.	398	370	342												
	24" o.c.	443	370	377												
	18" o.c.	488	408	412												
	15" o.c.	488	446	447												
	12" o.c.	533	483	481												
	8" o.c.	665	595	584												
	6" o.c.	752	704	686												
	4" o.c.	962	916	915												
3" o.c.	1161	1118	1101													
100 psf	36" o.c.	398	332	316												
	30" o.c.	398	370	316												
	24" o.c.	443	370	351												
	18" o.c.	488	408	386												
	15" o.c.	488	446	421												
	12" o.c.	533	483	455												
	8" o.c.	665	595	558												
	6" o.c.	752	704	658												
	4" o.c.	962	916	884												
3" o.c.	1161	1118	1066													

See page 25 for footnotes

2.0D20

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	439	366	375	349	326	305	288	272	283	269	256	244	224	225	209
	30" o.c.	439	406	375	349	326	335	316	298	283	269	279	266	244	244	227
	24" o.c.	486	406	412	383	358	335	344	325	308	293	302	288	264	262	244
	18" o.c.	533	446	449	417	389	395	372	352	358	341	325	332	304	299	295
	15" o.c.	533	485	485	451	421	425	400	405	384	365	370	354	344	336	330
	12" o.c.	580	525	521	485	485	455	456	431	434	412	416	397	384	373	364
	8" o.c.	720	642	630	619	610	573	567	562	558	531	528	526	503	501	483
	6" o.c.	811	757	736	718	703	689	677	666	656	648	640	633	620	610	600
	4" o.c.	1033	981	978	944	944	916	917	894	896	876	879	862	849	839	816
	3" o.c.	1244	1195	1176	1159	1145	1133	1122	1112	1103	1095	1088	1081	1069	946	816

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	62	59	63	62	60	59	58	56	60	58	57	56	53	55	53
	30" o.c.	62	64	63	62	60	64	62	61	60	58	61	60	58	59	57
	24" o.c.	66	64	68	66	65	64	67	65	64	63	65	64	62	63	61
	18" o.c.	70	69	71	70	69	72	71	69	72	70	69	71	69	70	71
	15" o.c.	70	72	75	74	73	75	74	76	75	74	76	75	75	76	76
	12" o.c.	73	75	78	77	79	78	80	79	81	80	81	80	81	81	81
	8" o.c.	80	83	85	87	88	88	89	91	92	91	92	93	93	95	95
	6" o.c.	83	88	90	92	93	95	96	97	98	99	100	101	102	104	105
	4" o.c.	89	95	98	100	102	104	106	107	109	110	112	112	114	116	118
	3" o.c.	93	99	102	105	107	110	112	113	115	117	118	120	122	124	126

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	560	468	479	445	416	390	367	347	361	343	327	312	286	288	267
	30" o.c.	560	519	479	445	416	428	403	381	361	343	356	340	312	311	289
	24" o.c.	621	519	526	489	456	428	439	415	393	374	385	368	337	335	311
	18" o.c.	681	569	573	532	497	504	475	449	458	435	414	424	388	382	377
	15" o.c.	681	620	619	576	538	542	511	517	490	465	473	451	439	429	421
	12" o.c.	741	670	666	619	619	580	582	550	554	526	531	507	490	476	465
	8" o.c.	919	819	804	790	779	731	724	718	713	678	675	672	642	640	616
	6" o.c.	1035	966	940	917	897	880	864	850	838	827	817	808	792	778	767
	4" o.c.	1318	1252	1248	1205	1205	1169	1171	1141	1144	1118	1122	1100	1084	946	816
	3" o.c.	1588	1525	1501	1480	1462	1446	1432	1419	1408	1398	1388	1322	1111	946	816
30 psf	36" o.c.	560	468	479	445	416	390	367	347	361	343	327	312	286	288	
	30" o.c.	560	519	479	445	416	428	403	381	361	343	356	340	312	311	
	24" o.c.	621	519	526	489	456	428	439	415	393	374	385	368	337	335	
	18" o.c.	681	569	573	532	497	504	475	449	458	435	414	424	388	382	
	15" o.c.	681	620	619	576	538	542	511	517	490	465	473	451	439	429	
	12" o.c.	741	670	666	619	619	580	582	550	554	526	531	507	490	476	
	8" o.c.	919	819	804	790	779	731	724	718	713	678	675	672	642	640	
	6" o.c.	1035	966	940	917	897	880	864	850	838	827	817	808	792	778	
	4" o.c.	1318	1252	1248	1205	1205	1169	1171	1141	1144	1118	1122	1100	1084	946	
	3" o.c.	1588	1525	1501	1480	1462	1446	1432	1419	1408	1398	1388	1322	1111	946	
40 psf	36" o.c.	560	468	479	445	416	390	367	347	361	343	327	312			
	30" o.c.	560	519	479	445	416	428	403	381	361	343	356	340			
	24" o.c.	621	519	526	489	456	428	439	415	393	374	385	368			
	18" o.c.	681	569	573	532	497	504	475	449	458	435	414	424			
	15" o.c.	681	620	619	576	538	542	511	517	490	465	473	451			
	12" o.c.	741	670	666	619	619	580	582	550	554	526	531	507			
	8" o.c.	919	819	804	790	779	731	724	718	713	678	675	672			
	6" o.c.	1035	966	940	917	897	880	864	850	838	827	817	808			
	4" o.c.	1318	1252	1248	1205	1205	1169	1171	1141	1144	1118	1122	1100			
	3" o.c.	1588	1525	1501	1480	1462	1446	1432	1419	1408	1398	1388	1322			

See page 25 for footnotes

2.0D20

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
50 psf	36" o.c.	560	468	479	445	416	390	367	347	361	343					
	30" o.c.	560	519	479	445	416	428	403	381	361	343					
	24" o.c.	621	519	526	489	456	428	439	415	393	374					
	18" o.c.	681	569	573	532	497	504	475	449	458	435					
	15" o.c.	681	620	619	576	538	542	511	517	490	465					
	12" o.c.	741	670	666	619	619	580	582	550	554	526					
	8" o.c.	919	819	804	790	779	731	724	718	713	678					
	6" o.c.	1035	966	940	917	897	880	864	850	838	827					
	4" o.c.	1318	1252	1248	1205	1205	1169	1171	1141	1144	1118					
3" o.c.	1588	1525	1501	1480	1462	1446	1432	1419	1408	1398						
60 psf	36" o.c.	560	468	479	445	416	390	367	347							
	30" o.c.	560	519	479	445	416	428	403	381							
	24" o.c.	621	519	526	489	456	428	439	415							
	18" o.c.	681	569	573	532	497	504	475	449							
	15" o.c.	681	620	619	576	538	542	511	517							
	12" o.c.	741	670	666	619	619	580	582	550							
	8" o.c.	919	819	804	790	779	731	724	718							
	6" o.c.	1035	966	940	917	897	880	864	850							
	4" o.c.	1318	1252	1248	1205	1205	1169	1171	1141							
3" o.c.	1588	1525	1501	1480	1462	1446	1432	1419								
70 psf	36" o.c.	560	468	479	445	416	390	367								
	30" o.c.	560	519	479	445	416	428	403								
	24" o.c.	621	519	526	489	456	428	439								
	18" o.c.	681	569	573	532	497	504	475								
	15" o.c.	681	620	619	576	538	542	511								
	12" o.c.	741	670	666	619	619	580	582								
	8" o.c.	919	819	804	790	779	731	724								
	6" o.c.	1035	966	940	917	897	880	864								
	4" o.c.	1318	1252	1248	1205	1205	1169	1171								
3" o.c.	1588	1525	1501	1480	1462	1446	1432									
80 psf	36" o.c.	560	468	479	445	416	390									
	30" o.c.	560	519	479	445	416	428									
	24" o.c.	621	519	526	489	456	428									
	18" o.c.	681	569	573	532	497	504									
	15" o.c.	681	620	619	576	538	542									
	12" o.c.	741	670	666	619	619	580									
	8" o.c.	919	819	804	790	779	731									
	6" o.c.	1035	966	940	917	897	880									
	4" o.c.	1318	1252	1248	1205	1205	1169									
3" o.c.	1588	1525	1501	1480	1462	1446										
90 psf	36" o.c.	560	468	479	445	416										
	30" o.c.	560	519	479	445	416										
	24" o.c.	621	519	526	489	456										
	18" o.c.	681	569	573	532	497										
	15" o.c.	681	620	619	576	538										
	12" o.c.	741	670	666	619	619										
	8" o.c.	919	819	804	790	779										
	6" o.c.	1035	966	940	917	897										
	4" o.c.	1318	1252	1248	1205	1205										
3" o.c.	1588	1525	1501	1480	1462											
100 psf	36" o.c.	560	468	479	445											
	30" o.c.	560	519	479	445											
	24" o.c.	621	519	526	489											
	18" o.c.	681	569	573	532											
	15" o.c.	681	620	619	576											
	12" o.c.	741	670	666	619											
	8" o.c.	919	819	804	790											
	6" o.c.	1035	966	940	917											
	4" o.c.	1318	1252	1248	1205											
3" o.c.	1588	1525	1501	1480												

See page 25 for footnotes

2.0D18

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	615	513	530	493	460	431	406	384	402	382	364	348	319	323	300
	30" o.c.	615	574	530	493	460	477	449	424	402	382	399	381	349	351	326
	24" o.c.	687	574	586	545	509	477	492	465	441	419	434	414	380	379	352
	18" o.c.	758	634	642	596	557	568	535	506	518	492	469	481	441	435	431
	15" o.c.	758	694	697	648	605	613	578	586	556	528	538	514	502	492	483
	12" o.c.	830	754	752	700	702	658	663	627	632	601	607	580	562	547	535
	8" o.c.	1041	932	916	903	892	838	831	826	821	781	778	776	743	742	715
	6" o.c.	1179	1106	1078	1053	1032	1014	997	983	970	958	947	937	920	906	894
	4" o.c.	1512	1443	1441	1393	1395	1355	1359	1325	1331	1302	1307	1282	1266	1252	1240
	3" o.c.	1827	1762	1737	1715	1696	1679	1664	1651	1639	1629	1619	1610	1595	1443	1245

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	84	79	84	81	79	76	74	71	76	74	72	70	66	69	65
	30" o.c.	84	87	84	81	79	83	81	78	76	74	78	76	72	74	71
	24" o.c.	92	87	91	88	86	83	87	85	82	80	84	82	78	79	76
	18" o.c.	98	93	97	95	92	95	93	91	94	91	89	92	88	89	89
	15" o.c.	98	99	102	100	98	101	98	101	99	96	99	97	97	97	97
	12" o.c.	104	105	107	105	107	105	107	105	107	105	107	105	105	105	104
	8" o.c.	116	117	119	121	122	121	122	123	124	123	124	125	124	126	125
	6" o.c.	122	127	128	130	131	132	133	134	135	136	136	137	138	139	140
	4" o.c.	133	139	143	144	147	148	150	151	153	153	155	156	157	159	160
	3" o.c.	140	148	151	154	156	158	160	162	164	165	167	168	170	172	174

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	785	655	677	629	587	551	519	490	513	488	465	444	407	412	383
	30" o.c.	785	732	677	629	587	609	573	542	513	488	509	486	446	448	416
	24" o.c.	877	732	748	695	649	609	628	594	563	535	554	529	485	484	449
	18" o.c.	968	809	819	761	711	725	683	645	661	628	598	614	563	556	550
	15" o.c.	968	886	890	827	773	783	738	748	710	674	687	656	641	627	616
	12" o.c.	1059	963	960	893	896	841	846	800	807	767	775	740	718	699	683
	8" o.c.	1329	1189	1170	1153	1139	1069	1061	1054	1048	997	994	991	948	947	913
	6" o.c.	1505	1412	1376	1345	1318	1294	1273	1255	1238	1223	1209	1197	1175	1157	1141
	4" o.c.	1931	1842	1840	1778	1781	1730	1735	1692	1699	1662	1669	1637	1616	1443	1245
	3" o.c.	2332	2249	2217	2189	2165	2143	2125	2108	2093	2079	2067	2016	1694	1443	1245
40 psf	36" o.c.	785	655	677	629	587	551	519	490	513	488	465	444	407	412	
	30" o.c.	785	732	677	629	587	609	573	542	513	488	509	486	446	448	
	24" o.c.	877	732	748	695	649	609	628	594	563	535	554	529	485	484	
	18" o.c.	968	809	819	761	711	725	683	645	661	628	598	614	563	556	
	15" o.c.	968	886	890	827	773	783	738	748	710	674	687	656	641	627	
	12" o.c.	1059	963	960	893	896	841	846	800	807	767	775	740	718	699	
	8" o.c.	1329	1189	1170	1153	1139	1069	1061	1054	1048	997	994	991	948	947	
	6" o.c.	1505	1412	1376	1345	1318	1294	1273	1255	1238	1223	1209	1197	1175	1157	
	4" o.c.	1931	1842	1840	1778	1781	1730	1735	1692	1699	1662	1669	1637	1616	1443	
	3" o.c.	2332	2249	2217	2189	2165	2143	2125	2108	2093	2079	2067	2016	1694	1443	
50 psf	36" o.c.	785	655	677	629	587	551	519	490	513	488	465	444			
	30" o.c.	785	732	677	629	587	609	573	542	513	488	509	486			
	24" o.c.	877	732	748	695	649	609	628	594	563	535	554	529			
	18" o.c.	968	809	819	761	711	725	683	645	661	628	598	614			
	15" o.c.	968	886	890	827	773	783	738	748	710	674	687	656			
	12" o.c.	1059	963	960	893	896	841	846	800	807	767	775	740			
	8" o.c.	1329	1189	1170	1153	1139	1069	1061	1054	1048	997	994	991			
	6" o.c.	1505	1412	1376	1345	1318	1294	1273	1255	1238	1223	1209	1197			
	4" o.c.	1931	1842	1840	1778	1781	1730	1735	1692	1699	1662	1669	1637			
	3" o.c.	2332	2249	2217	2189	2165	2143	2125	2108	2093	2079	2067	2016			

See page 25 for footnotes

2.0D18

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft-in.)															
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"	
60 psf	36" o.c.	785	655	677	629	587	551	519	490	513	488	465					
	30" o.c.	785	732	677	629	587	609	573	542	513	488	509					
	24" o.c.	877	732	748	695	649	609	628	594	563	535	554					
	18" o.c.	968	809	819	761	711	725	683	645	661	628	598					
	15" o.c.	968	886	890	827	773	783	738	748	710	674	687					
	12" o.c.	1059	963	960	893	896	841	846	800	807	767	775					
	8" o.c.	1329	1189	1170	1153	1139	1069	1061	1054	1048	997	994					
	6" o.c.	1505	1412	1376	1345	1318	1294	1273	1255	1238	1223	1209					
	4" o.c.	1931	1842	1840	1778	1781	1730	1735	1692	1699	1662	1669					
3" o.c.	2332	2249	2217	2189	2165	2143	2125	2108	2093	2079	2067						
70 psf	36" o.c.	785	655	677	629	587	551	519	490	513	488						
	30" o.c.	785	732	677	629	587	609	573	542	513	488						
	24" o.c.	877	732	748	695	649	609	628	594	563	535						
	18" o.c.	968	809	819	761	711	725	683	645	661	628						
	15" o.c.	968	886	890	827	773	783	738	748	710	674						
	12" o.c.	1059	963	960	893	896	841	846	800	807	767						
	8" o.c.	1329	1189	1170	1153	1139	1069	1061	1054	1048	997						
	6" o.c.	1505	1412	1376	1345	1318	1294	1273	1255	1238	1223						
	4" o.c.	1931	1842	1840	1778	1781	1730	1735	1692	1699	1662						
3" o.c.	2332	2249	2217	2189	2165	2143	2125	2108	2093	2079							
80 psf	36" o.c.	785	655	677	629	587	551	519	490								
	30" o.c.	785	732	677	629	587	609	573	542								
	24" o.c.	877	732	748	695	649	609	628	594								
	18" o.c.	968	809	819	761	711	725	683	645								
	15" o.c.	968	886	890	827	773	783	738	748								
	12" o.c.	1059	963	960	893	896	841	846	800								
	8" o.c.	1329	1189	1170	1153	1139	1069	1061	1054								
	6" o.c.	1505	1412	1376	1345	1318	1294	1273	1255								
	4" o.c.	1931	1842	1840	1778	1781	1730	1735	1692								
3" o.c.	2332	2249	2217	2189	2165	2143	2125	2108									
90 psf	36" o.c.	785	655	677	629	587	551	519									
	30" o.c.	785	732	677	629	587	609	573									
	24" o.c.	877	732	748	695	649	609	628									
	18" o.c.	968	809	819	761	711	725	683									
	15" o.c.	968	886	890	827	773	783	738									
	12" o.c.	1059	963	960	893	896	841	846									
	8" o.c.	1329	1189	1170	1153	1139	1069	1061									
	6" o.c.	1505	1412	1376	1345	1318	1294	1273									
	4" o.c.	1931	1842	1840	1778	1781	1730	1735									
3" o.c.	2332	2249	2217	2189	2165	2143	2125										
100 psf	36" o.c.	785	655	677	629	587	551										
	30" o.c.	785	732	677	629	587	609										
	24" o.c.	877	732	748	695	649	609										
	18" o.c.	968	809	819	761	711	725										
	15" o.c.	968	886	890	827	773	783										
	12" o.c.	1059	963	960	893	896	841										
	8" o.c.	1329	1189	1170	1153	1139	1069										
	6" o.c.	1505	1412	1376	1345	1318	1294										
	4" o.c.	1931	1842	1840	1778	1781	1730										
3" o.c.	2332	2249	2217	2189	2165	2143											
110 psf	36" o.c.	785	655	677	629	587	551										
	30" o.c.	785	732	677	629	587	609										
	24" o.c.	877	732	748	695	649	609										
	18" o.c.	968	809	819	761	711	725										
	15" o.c.	968	886	890	827	773	783										
	12" o.c.	1059	963	960	893	896	841										
	8" o.c.	1329	1189	1170	1153	1139	1069										
	6" o.c.	1505	1412	1376	1345	1318	1294										
	4" o.c.	1931	1842	1840	1778	1781	1730										
3" o.c.	2332	2249	2217	2189	2165	2143											

See page 25 for footnotes

2.0D16

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	787	658	687	638	596	559	526	497	526	500	476	455	417	425	395
	30" o.c.	787	743	687	638	596	624	587	555	526	500	525	502	460	465	432
	24" o.c.	889	743	766	712	665	624	648	612	580	552	575	549	503	505	469
	18" o.c.	991	829	844	785	733	752	709	670	689	655	624	643	590	584	580
	15" o.c.	991	914	923	858	802	816	769	784	743	706	722	690	676	664	654
	12" o.c.	1092	998	1001	931	938	880	889	841	851	809	820	783	761	743	727
	8" o.c.	1389	1248	1232	1218	1205	1132	1127	1121	1117	1062	1061	1060	1016	1017	982
	6" o.c.	1582	1492	1458	1428	1402	1380	1360	1342	1326	1311	1298	1286	1265	1248	1233
	4" o.c.	2045	1961	1964	1901	1907	1855	1863	1819	1828	1790	1800	1767	1747	1730	1716
	3" o.c.	2477	2399	2369	2343	2320	2300	2283	2267	2253	2240	2229	2218	2200	2050	1767

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	106	97	103	99	96	92	89	85	91	88	85	83	78	81	77
	30" o.c.	106	108	103	99	96	101	98	94	91	88	93	91	86	88	83
	24" o.c.	116	108	113	109	105	101	106	103	99	96	101	98	93	94	90
	18" o.c.	125	117	121	117	113	117	114	110	114	111	108	111	106	106	107
	15" o.c.	125	125	129	125	121	124	121	124	120	117	120	117	117	117	117
	12" o.c.	133	133	136	132	134	131	133	130	132	129	131	128	128	127	126
	8" o.c.	152	151	153	154	156	152	154	155	156	153	154	155	153	155	153
	6" o.c.	162	165	166	167	168	169	169	170	170	171	171	172	172	173	173
	4" o.c.	179	185	188	189	192	192	194	195	197	197	198	198	200	201	202
	3" o.c.	191	198	201	204	206	208	210	211	213	214	215	216	218	220	221

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	1005	839	877	815	761	714	672	635	671	638	608	580	532	542	504
	30" o.c.	1005	949	877	815	761	796	750	708	671	638	671	641	587	593	551
	24" o.c.	1135	949	978	909	849	796	827	782	741	704	734	701	643	644	599
	18" o.c.	1265	1058	1078	1002	936	960	905	855	880	836	797	821	753	746	740
	15" o.c.	1265	1166	1178	1095	1023	1042	982	1001	949	902	922	880	863	848	835
	12" o.c.	1393	1274	1277	1188	1197	1123	1135	1073	1086	1033	1046	1000	972	949	928
	8" o.c.	1773	1593	1572	1554	1539	1446	1438	1432	1426	1356	1355	1353	1297	1298	1254
	6" o.c.	2019	1905	1861	1823	1790	1761	1736	1713	1692	1674	1657	1642	1615	1593	1573
	4" o.c.	2611	2504	2507	2426	2434	2368	2379	2322	2334	2286	2298	2255	2230	2050	1767
	3" o.c.	3162	3063	3024	2991	2962	2936	2914	2894	2876	2860	2845	2832	2406	2050	1767
50 psf	36" o.c.	1005	839	877	815	761	714	672	635	671	638	608	580	532	542	
	30" o.c.	1005	949	877	815	761	796	750	708	671	638	671	641	587	593	
	24" o.c.	1135	949	978	909	849	796	827	782	741	704	734	701	643	644	
	18" o.c.	1265	1058	1078	1002	936	960	905	855	880	836	797	821	753	746	
	15" o.c.	1265	1166	1178	1095	1023	1042	982	1001	949	902	922	880	863	848	
	12" o.c.	1393	1274	1277	1188	1197	1123	1135	1073	1086	1033	1046	1000	972	949	
	8" o.c.	1773	1593	1572	1554	1539	1446	1438	1432	1426	1356	1355	1353	1297	1298	
	6" o.c.	2019	1905	1861	1823	1790	1761	1736	1713	1692	1674	1657	1642	1615	1593	
	4" o.c.	2611	2504	2507	2426	2434	2368	2379	2322	2334	2286	2298	2255	2230	2050	
	3" o.c.	3162	3063	3024	2991	2962	2936	2914	2894	2876	2860	2845	2832	2406	2050	
60 psf	36" o.c.	1005	839	877	815	761	714	672	635	671	638	608	580	532		
	30" o.c.	1005	949	877	815	761	796	750	708	671	638	671	641	587		
	24" o.c.	1135	949	978	909	849	796	827	782	741	704	734	701	643		
	18" o.c.	1265	1058	1078	1002	936	960	905	855	880	836	797	821	753		
	15" o.c.	1265	1166	1178	1095	1023	1042	982	1001	949	902	922	880	863		
	12" o.c.	1393	1274	1277	1188	1197	1123	1135	1073	1086	1033	1046	1000	972		
	8" o.c.	1773	1593	1572	1554	1539	1446	1438	1432	1426	1356	1355	1353	1297		
	6" o.c.	2019	1905	1861	1823	1790	1761	1736	1713	1692	1674	1657	1642	1615		
	4" o.c.	2611	2504	2507	2426	2434	2368	2379	2322	2334	2286	2298	2255	2230		
	3" o.c.	3162	3063	3024	2991	2962	2936	2914	2894	2876	2860	2845	2832	2406		

See page 25 for footnotes

2.0D16

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



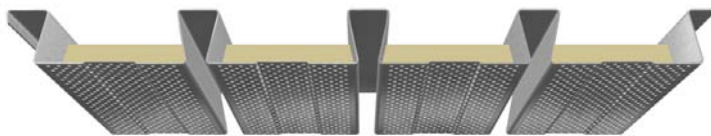
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)															
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"	
70 psf	36" o.c.	1005	839	877	815	761	714	672	635	671	638	608	580				
	30" o.c.	1005	949	877	815	761	796	750	708	671	638	671	641				
	24" o.c.	1135	949	978	909	849	796	827	782	741	704	734	701				
	18" o.c.	1265	1058	1078	1002	936	960	905	855	880	836	797	821				
	15" o.c.	1265	1166	1178	1095	1023	1042	982	1001	949	902	922	880				
	12" o.c.	1393	1274	1277	1188	1197	1123	1135	1073	1086	1033	1046	1000				
	8" o.c.	1773	1593	1572	1554	1539	1446	1438	1432	1426	1356	1355	1353				
	6" o.c.	2019	1905	1861	1823	1790	1761	1736	1713	1692	1674	1657	1642				
	4" o.c.	2611	2504	2507	2426	2434	2368	2379	2322	2334	2286	2298	2255				
3" o.c.	3162	3063	3024	2991	2962	2936	2914	2894	2876	2860	2845	2832					
80 psf	36" o.c.	1005	839	877	815	761	714	672	635	671	638	608					
	30" o.c.	1005	949	877	815	761	796	750	708	671	638	671					
	24" o.c.	1135	949	978	909	849	796	827	782	741	704	734					
	18" o.c.	1265	1058	1078	1002	936	960	905	855	880	836	797					
	15" o.c.	1265	1166	1178	1095	1023	1042	982	1001	949	902	922					
	12" o.c.	1393	1274	1277	1188	1197	1123	1135	1073	1086	1033	1046					
	8" o.c.	1773	1593	1572	1554	1539	1446	1438	1432	1426	1356	1355					
	6" o.c.	2019	1905	1861	1823	1790	1761	1736	1713	1692	1674	1657					
	4" o.c.	2611	2504	2507	2426	2434	2368	2379	2322	2334	2286	2298					
3" o.c.	3162	3063	3024	2991	2962	2936	2914	2894	2876	2860	2845						
90 psf	36" o.c.	1005	839	877	815	761	714	672	635	671	638						
	30" o.c.	1005	949	877	815	761	796	750	708	671	638						
	24" o.c.	1135	949	978	909	849	796	827	782	741	704						
	18" o.c.	1265	1058	1078	1002	936	960	905	855	880	836						
	15" o.c.	1265	1166	1178	1095	1023	1042	982	1001	949	902						
	12" o.c.	1393	1274	1277	1188	1197	1123	1135	1073	1086	1033						
	8" o.c.	1773	1593	1572	1554	1539	1446	1438	1432	1426	1356						
	6" o.c.	2019	1905	1861	1823	1790	1761	1736	1713	1692	1674						
	4" o.c.	2611	2504	2507	2426	2434	2368	2379	2322	2334	2286						
3" o.c.	3162	3063	3024	2991	2962	2936	2914	2894	2876	2860							
100 psf	36" o.c.	1005	839	877	815	761	714	672	635	671							
	30" o.c.	1005	949	877	815	761	796	750	708	671							
	24" o.c.	1135	949	978	909	849	796	827	782	741							
	18" o.c.	1265	1058	1078	1002	936	960	905	855	880							
	15" o.c.	1265	1166	1178	1095	1023	1042	982	1001	949							
	12" o.c.	1393	1274	1277	1188	1197	1123	1135	1073	1086							
	8" o.c.	1773	1593	1572	1554	1539	1446	1438	1432	1426							
	6" o.c.	2019	1905	1861	1823	1790	1761	1736	1713	1692							
	4" o.c.	2611	2504	2507	2426	2434	2368	2379	2322	2334							
3" o.c.	3162	3063	3024	2991	2962	2936	2914	2894	2876								
110 psf	36" o.c.	1005	839	877	815	761	714	672	635								
	30" o.c.	1005	949	877	815	761	796	750	708								
	24" o.c.	1135	949	978	909	849	796	827	782								
	18" o.c.	1265	1058	1078	1002	936	960	905	855								
	15" o.c.	1265	1166	1178	1095	1023	1042	982	1001								
	12" o.c.	1393	1274	1277	1188	1197	1123	1135	1073								
	8" o.c.	1773	1593	1572	1554	1539	1446	1438	1432								
	6" o.c.	2019	1905	1861	1823	1790	1761	1736	1713								
	4" o.c.	2611	2504	2507	2426	2434	2368	2379	2322								
3" o.c.	3162	3063	3024	2991	2962	2936	2914	2894									
120 psf	36" o.c.	1005	839	877	815	761	714	672									
	30" o.c.	1005	949	877	815	761	796	750									
	24" o.c.	1135	949	978	909	849	796	827									
	18" o.c.	1265	1058	1078	1002	936	960	905									
	15" o.c.	1265	1166	1178	1095	1023	1042	982									
	12" o.c.	1393	1274	1277	1188	1197	1123	1135									
	8" o.c.	1773	1593	1572	1554	1539	1446	1438									
	6" o.c.	2019	1905	1861	1823	1790	1761	1736									
	4" o.c.	2611	2504	2507	2426	2434	2368	2379									
3" o.c.	3162	3063	3024	2991	2962	2936	2914										

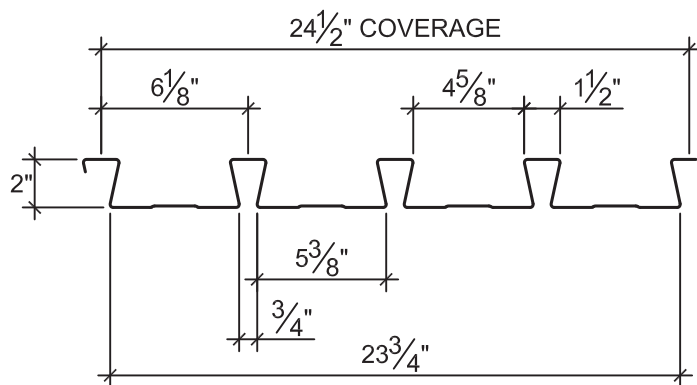
See page 25 for footnotes

2.0DA

■ 2" Deep Acoustic DoveTail Deck



Approximate Dimensions



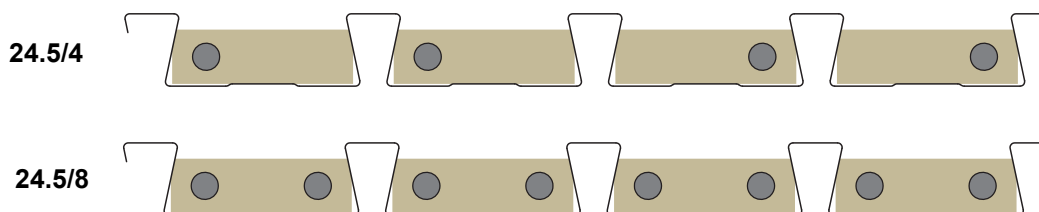
Deck Weight and Section Properties

Deck Type	Design Thickness (in.)	Weight (psf)	I_x (in ⁴ /ft)	I_{d+} (in ⁴ /ft)	I_{d-} (in ⁴ /ft)	S_{e+} (in ³ /ft)	S_{e-} (in ³ /ft)	V_a (lb/ft)
2.0DA22	0.0295	1.98	0.341	0.340	0.310	0.261	0.258	2944
2.0DA20	0.0358	2.41	0.415	0.415	0.385	0.330	0.317	3557
2.0DA18	0.0474	3.20	0.551	0.551	0.528	0.445	0.427	4671
2.0DA16	0.0598	4.04	0.697	0.697	0.684	0.546	0.545	5841

Notes:

1. Section properties are based on $F_y = 40,000$ psi
2. I_x = Gross Moment of Inertia
3. I_{d+} = Moment of Inertia for Deflection due to Uniform Loads (Normal Position)
4. I_{d-} = Moment of Inertia for Deflection due to Uniform Loads (Inverted Position)
5. S_{e+} = Positive Effective Section Modulus
6. S_{e-} = Negative Effective Section Modulus
7. V_a = Allowable Reaction governed by web shear

Attachment Patterns to Supports



GRAVITY LOAD TABLES

2.0DA22

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	167	116	99	85	74	65	58	51	46	42	38	34	29	25	21
	L/360	119	69	54	43	35	29	24	20	17	15	13	11	9	7	5
	L/240	♦♦♦	103	81	65	53	44	36	31	26	22	19	17	13	10	8
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	70	58	48	41	35	30	26	22	17	14	11
DOUBLE	Stress	165	114	98	84	73	64	57	51	46	41	37	34	29	24	21
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	64	53	45	38	33	28	25	19	15	12
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	28	22	18
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	206	143	122	105	92	80	71	64	57	51	47	43	36	30	26
	L/360	204	118	93	74	61	50	42	35	30	26	22	19	15	12	9
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	91	75	62	53	45	38	33	29	22	17	14
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	51	44	38	30	23	19

2.0DA20

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	211	146	125	108	94	82	73	65	58	53	48	44	37	31	27
	L/360	145	84	66	53	43	35	30	25	21	18	16	14	11	8	7
	L/240	♦♦♦	126	99	79	65	53	44	37	32	27	24	20	16	12	10
	L/180	♦♦♦	♦♦♦	♦♦♦	106	86	71	59	50	42	36	31	27	21	17	13
DOUBLE	Stress	202	141	120	103	90	79	70	62	56	51	46	42	35	30	26
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	66	56	47	41	35	30	23	18	15
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	28	22
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	253	176	150	129	112	99	88	78	70	63	57	52	44	37	32
	L/360	♦♦♦	147	116	93	75	62	52	44	37	32	27	24	18	14	12
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	93	78	65	56	48	41	36	28	22	17
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	55	48	37	29	23

2.0DA18

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	284	197	168	145	126	111	98	88	79	71	64	59	49	42	36
	L/360	193	112	88	70	57	47	39	33	28	24	21	18	14	11	9
	L/240	♦♦♦	167	132	105	86	71	59	50	42	36	31	27	21	16	13
	L/180	♦♦♦	♦♦♦	♦♦♦	141	114	94	79	66	56	48	42	36	28	22	18
DOUBLE	Stress	273	189	161	139	121	107	94	84	76	68	62	56	47	40	35
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	91	76	65	56	48	42	32	25	20
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	38	30
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	341	237	202	174	152	133	118	105	94	85	77	70	59	50	43
	L/360	♦♦♦	201	158	127	103	85	71	60	51	44	38	33	25	20	16
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	127	106	90	76	65	56	49	38	30	24
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	75	65	50	40	32

2.0DA16

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	360	250	213	184	160	141	125	111	100	90	82	74	63	53	46
	L/360	244	141	111	89	72	60	50	42	36	31	26	23	18	14	11
	L/240	♦♦♦	212	167	133	108	89	75	63	53	46	40	34	26	21	17
	L/180	♦♦♦	♦♦♦	♦♦♦	178	145	119	99	84	71	61	53	46	35	28	22
DOUBLE	Stress	349	242	206	178	155	136	121	108	97	87	79	72	61	52	44
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	117	99	84	72	62	54	42	33	26
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	49	39
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	436	303	258	222	194	170	151	135	121	109	99	90	76	64	56
	L/360	♦♦♦	261	205	164	134	110	92	77	66	56	49	42	33	26	21
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	165	138	116	99	85	73	64	49	38	31
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	97	85	65	51	41

See page 24 for footnotes

ALLOWABLE REACTIONS DUE TO WEB CRIPPLING

2.0DA22

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	653	1045	703	1256
1.75	687	1091	731	1317
2.00	718	1133	757	1373
2.25	747	1173	782	1426
2.50	775	1211	805	1476
2.75	801	1247	827	1523
3.00	827	1282	849	1568
3.25	851	1315	869	1612
3.50	874	1347	888	1654
3.75	896	1377	907	1694
4.00	918	1407	925	1733
4.25	939	1436	943	1771
4.50	960	1464	960	1808
4.75	979	1491	977	1844
5.00	999	1517	993	1878
≥ 5.25	1006	1527	999	1891

2.0DA18

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	1557	2527	1895	3117
1.75	1630	2626	1962	3252
2.00	1698	2718	2024	3378
2.25	1762	2805	2083	3496
2.50	1822	2886	2138	3608
2.75	1880	2964	2191	3715
3.00	1934	3039	2241	3816
3.25	1987	3110	2289	3914
3.50	2038	3179	2336	4008
3.75	2086	3245	2380	4098
4.00	2134	3309	2424	4186
4.25	2179	3371	2466	4270
4.50	2224	3431	2506	4353
4.75	2267	3490	2546	4433
5.00	2309	3547	2585	4511
≥ 5.25	2314	3554	2589	4520

See page 24 for footnotes

2.0DA20

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	932	1499	1059	1824
1.75	978	1562	1099	1908
2.00	1021	1621	1136	1987
2.25	1062	1676	1172	2060
2.50	1100	1728	1205	2130
2.75	1136	1777	1237	2196
3.00	1171	1825	1267	2260
3.25	1204	1870	1296	2320
3.50	1236	1914	1324	2379
3.75	1267	1956	1351	2435
4.00	1297	1996	1377	2489
4.25	1326	2036	1403	2542
4.50	1354	2074	1427	2594
4.75	1381	2112	1451	2643
5.00	1408	2148	1474	2692
≥ 5.25	1415	2158	1481	2706

2.0DA16

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	2380	3891	3046	4843
1.75	2486	4035	3147	5042
2.00	2585	4168	3240	5227
2.25	2677	4293	3328	5401
2.50	2765	4412	3411	5565
2.75	2848	4525	3490	5721
3.00	2928	4632	3566	5871
3.25	3004	4736	3638	6014
3.50	3078	4835	3708	6152
3.75	3149	4931	3776	6285
4.00	3217	5024	3841	6414
4.25	3284	5114	3904	6539
4.50	3348	5201	3965	6660
4.75	3411	5286	4025	6778
5.00	3469	5364	4079	6886
≥ 5.25	3469	5364	4079	6886

UPLIFT LOAD TABLES

2.0DA22

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	165	114	98	84	73	64	57	51	46	41	37	34	29	24	21
	L/360	108	63	49	40	32	26	22	19	16	14	12	10	8	6	5
	L/240	163	94	74	59	48	40	33	28	24	20	18	15	12	9	7
	L/180	♦♦♦	♦♦♦	♦♦♦	79	64	53	44	37	32	27	23	20	16	12	10
DOUBLE	Stress	167	116	99	85	74	65	58	51	46	42	38	34	29	25	21
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	49	42	36	31	27	21	16	13
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	24	20
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	208	145	123	106	93	81	72	64	58	52	47	43	36	31	27
	L/360	♦♦♦	130	102	82	66	55	46	38	33	28	24	21	16	13	10
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	68	58	49	42	36	32	24	19	15
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	42	32	26	20

2.0DA20

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	202	141	120	103	90	79	70	62	56	51	46	42	35	30	26
	L/360	135	78	61	49	40	33	27	23	20	17	15	13	10	8	6
	L/240	202	117	92	74	60	49	41	35	29	25	22	19	15	12	9
	L/180	♦♦♦	♦♦♦	♦♦♦	98	80	66	55	46	39	34	29	25	20	15	12
DOUBLE	Stress	211	146	125	108	94	82	73	65	58	53	48	44	37	31	27
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	71	60	51	44	38	33	25	20	16
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	30	24
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	263	183	156	134	117	103	91	81	73	66	60	54	46	39	34
	L/360	♦♦♦	158	125	100	81	67	56	47	40	34	30	26	20	16	12
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	100	84	70	60	51	44	39	30	23	19
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	59	51	40	31	25

2.0DA18

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		6'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	273	189	161	139	121	107	94	84	76	68	62	56	47	40	35
	L/360	185	107	84	67	55	45	38	32	27	23	20	17	13	11	8
	L/240	♦♦♦	160	126	101	82	68	56	48	40	35	30	26	20	16	13
	L/180	♦♦♦	♦♦♦	♦♦♦	135	110	90	75	63	54	46	40	35	27	21	17
DOUBLE	Stress	284	197	168	145	126	111	98	88	79	71	64	59	49	42	36
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	95	80	68	58	50	44	34	26	21
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	40	32
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	355	247	210	181	158	139	123	110	98	89	81	73	62	53	45
	L/360	♦♦♦	210	165	132	108	89	74	62	53	45	39	34	26	21	17
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	133	111	94	80	68	59	51	39	31	25
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	79	68	53	41	33

2.0DA16

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		6'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
SINGLE	Stress	349	242	206	178	155	136	121	108	97	87	79	72	61	52	44
	L/360	239	139	109	87	71	58	49	41	35	30	26	22	17	14	11
	L/240	♦♦♦	208	163	131	106	88	73	62	52	45	39	34	26	20	16
	L/180	♦♦♦	♦♦♦	♦♦♦	174	142	117	97	82	70	60	52	45	35	27	22
DOUBLE	Stress	360	250	213	184	160	141	125	111	100	90	82	74	63	53	46
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	120	101	86	73	63	55	43	33	27
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	50	40
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	450	313	266	230	200	176	156	139	125	113	102	93	78	67	57
	L/360	♦♦♦	266	209	168	136	112	94	79	67	57	50	43	33	26	21
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	168	140	118	101	86	74	65	50	39	31
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	99	86	67	52	42

See page 24 for footnotes

2.0DA22

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	166	139	155	145	135	127	120	113	126	120	114	109	100	106	99
	30" o.c.	166	168	155	145	135	149	140	133	126	120	131	125	115	120	111
	24" o.c.	199	168	181	169	158	149	160	152	144	137	147	141	129	133	124
	18" o.c.	232	196	207	193	181	191	180	171	180	171	164	172	158	160	161
	15" o.c.	232	223	232	216	203	211	200	208	197	188	195	187	186	185	185
	12" o.c.	263	249	255	239	245	231	238	225	231	221	226	217	214	211	208
	8" o.c.	347	322	323	323	323	306	308	309	310	297	298	300	290	293	286
	6" o.c.	397	386	382	379	375	373	370	368	366	364	363	361	359	356	355
	4" o.c.	496	489	492	483	487	479	482	476	479	473	476	471	469	467	466
	3" o.c.	568	562	560	558	557	555	554	553	552	551	550	549	548	547	525

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	31	29	35	34	33	32	31	30	35	34	33	32	31	34	33
	30" o.c.	31	36	35	34	33	38	37	36	35	34	38	37	36	38	37
	24" o.c.	37	36	40	39	38	38	41	40	40	39	42	41	40	42	40
	18" o.c.	41	40	44	43	43	46	45	44	47	46	46	48	47	48	50
	15" o.c.	41	44	47	47	46	49	48	51	50	50	52	51	52	54	55
	12" o.c.	44	47	50	50	52	52	54	53	55	55	57	56	57	58	59
	8" o.c.	50	54	56	58	60	60	61	63	64	64	65	67	67	69	70
	6" o.c.	53	58	60	62	63	65	66	68	69	70	71	72	74	76	77
	4" o.c.	57	63	65	67	70	71	73	75	77	78	79	80	83	85	87
	3" o.c.	59	65	68	71	73	75	77	79	81	82	84	85	88	90	92

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	212	178	198	185	173	162	153	145	161	153	146	139	128	136	126
	30" o.c.	212	214	198	185	173	190	179	169	161	153	167	160	147	153	142
	24" o.c.	255	214	232	216	202	190	205	194	184	175	188	180	165	170	158
	18" o.c.	296	250	264	246	231	244	230	218	230	219	209	219	202	204	205
	15" o.c.	296	284	296	276	259	270	255	265	252	240	249	239	238	237	236
	12" o.c.	335	318	326	305	313	295	303	288	295	282	289	277	273	269	266
	8" o.c.	444	411	412	412	413	391	393	394	396	379	381	383	371	375	365
	6" o.c.	507	493	488	483	479	476	473	470	467	465	463	461	458	455	453
	4" o.c.	634	624	629	617	621	611	616	607	611	604	608	601	598	596	525
	3" o.c.	725	718	715	713	711	709	707	706	704	703	702	701	699	609	525
5 psf	36" o.c.	212	178	198	185	173	162	153	145	161	153	139	133	121	128	118
	30" o.c.	212	214	198	185	173	190	179	169	161	153	160	153	140	145	134
	24" o.c.	255	214	232	216	202	190	205	194	184	175	181	173	158	162	150
	18" o.c.	296	250	264	246	231	244	230	218	230	219	202	212	194	196	197
	15" o.c.	296	284	296	276	259	270	255	265	252	240	242	231	229	228	227
	12" o.c.	335	318	326	305	313	295	303	288	295	282	281	268	264	259	256
	8" o.c.	444	411	412	412	413	391	393	394	396	379	369	370	358	360	349
	6" o.c.	507	493	488	483	479	476	473	470	467	465	447	444	439	434	429
	4" o.c.	634	624	629	617	621	611	616	607	611	604	578	570	563	557	525
	3" o.c.	725	718	715	713	711	709	707	706	704	703	660	656	648	609	525
10 psf	36" o.c.	212	164	184	170	157	146	136	127	142	134	126	119	106	112	101
	30" o.c.	212	200	184	170	157	173	162	152	142	134	147	139	125	129	116
	24" o.c.	255	200	217	200	186	173	187	176	165	156	167	158	143	145	131
	18" o.c.	296	235	248	230	214	226	212	199	209	198	187	196	177	176	173
	15" o.c.	296	269	279	259	241	251	235	244	230	218	225	214	210	205	199
	12" o.c.	335	302	308	287	293	275	281	265	271	256	261	248	240	232	223
	8" o.c.	444	391	389	388	386	364	363	361	359	342	340	338	320	312	290
	6" o.c.	507	467	459	452	445	438	431	425	418	412	405	397	381	362	338
	4" o.c.	634	583	581	565	563	548	544	530	524	510	503	488	462	431	394
	3" o.c.	725	661	651	641	630	619	608	596	584	570	556	541	508	469	422

See page 25 for footnotes

2.0DA22

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
15 psf	36" o.c.	189	152	170	155	142	130	119	109	122	112	103	93			
	30" o.c.	189	187	170	155	142	157	144	133	122	112	121	109			
	24" o.c.	230	187	202	185	170	157	168	156	144	132	138	124			
	18" o.c.	270	222	233	214	197	207	191	177	183	169	154	150			
	15" o.c.	270	255	263	242	223	230	213	217	201	186	183	161			
	12" o.c.	308	286	291	268	272	252	254	236	234	215	206	180			
	8" o.c.	408	370	365	360	353	329	321	311	298	271	249	215			
	6" o.c.	464	439	427	415	402	388	373	355	334	308	275	230			
	4" o.c.	569	539	528	505	491	466	445	416	386	348	303	246			
3" o.c.	639	602	582	560	536	510	481	448	410	366	315	253				
20 psf	36" o.c.	175	136	152	135	120	105	88								
	30" o.c.	175	170	152	135	120	128	107								
	24" o.c.	216	170	182	163	145	128	122								
	18" o.c.	254	203	211	190	169	167	136								
	15" o.c.	254	235	238	214	191	183	146								
	12" o.c.	291	264	263	237	229	198	163								
	8" o.c.	384	338	325	308	283	239	181								
	6" o.c.	434	395	372	345	310	262	191								
	4" o.c.	524	470	440	397	350	286	200								
3" o.c.	579	512	472	424	367	296	203									
25 psf	36" o.c.	157	113	122	88											
	30" o.c.	157	146	122	88											
	24" o.c.	197	146	146	102											
	18" o.c.	233	175	167	112											
	15" o.c.	233	202	185	119											
	12" o.c.	267	225	199	124											
	8" o.c.	349	278	230	134											
	6" o.c.	389	312	248	138											
	4" o.c.	457	349	268	141											
3" o.c.	495	367	275	142												
30 psf	36" o.c.	134														
	30" o.c.	134														
	24" o.c.	170														
	18" o.c.	202														
	15" o.c.	202														
	12" o.c.	229														
	8" o.c.	288														
	6" o.c.	314														
	4" o.c.	350														
3" o.c.	368															
35 psf	36" o.c.	88														
	30" o.c.	88														
	24" o.c.	106														
	18" o.c.	117														
	15" o.c.	117														
	12" o.c.	125														
	8" o.c.	135														
	6" o.c.	138														
	4" o.c.	141														
3" o.c.	142															

See page 25 for footnotes

2.0DA20

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	244	204	225	209	196	184	173	164	180	171	163	156	143	150	140
	30" o.c.	244	243	225	209	196	213	201	190	180	171	186	177	163	169	157
	24" o.c.	289	243	260	242	227	213	228	216	205	195	208	199	182	187	174
	18" o.c.	333	280	294	274	257	270	255	241	253	241	230	241	221	222	224
	15" o.c.	333	317	328	306	287	298	281	291	277	264	273	261	259	258	256
	12" o.c.	375	353	361	337	345	325	333	316	323	308	315	302	297	292	288
	8" o.c.	494	455	455	454	454	429	431	432	433	414	415	417	403	407	395
	6" o.c.	565	547	540	534	528	524	520	516	513	510	507	504	500	496	493
	4" o.c.	714	700	705	690	695	682	687	676	681	671	676	667	664	661	658
	3" o.c.	826	816	812	809	806	803	800	798	796	795	793	792	789	787	704

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	38	35	42	41	39	38	37	35	41	40	39	38	36	39	37
	30" o.c.	38	43	42	41	39	45	44	42	41	40	45	44	41	45	43
	24" o.c.	46	43	49	48	46	45	50	49	47	46	50	49	47	49	47
	18" o.c.	52	50	55	54	52	56	55	54	57	56	55	58	56	57	59
	15" o.c.	52	56	60	59	57	61	60	63	62	60	63	62	63	65	66
	12" o.c.	57	60	64	63	66	65	67	66	69	68	70	69	70	71	71
	8" o.c.	67	70	73	75	77	77	78	80	82	81	82	84	84	86	87
	6" o.c.	72	77	79	81	83	85	86	88	89	90	91	92	94	96	97
	4" o.c.	79	85	88	90	93	95	97	98	100	101	103	104	107	109	111
	3" o.c.	83	90	93	96	98	101	103	105	107	108	110	112	114	117	119

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	311	261	287	267	250	235	221	209	230	219	208	199	183	192	179
	30" o.c.	311	310	287	267	250	272	256	242	230	219	237	226	208	215	200
	24" o.c.	369	310	332	309	289	272	291	275	261	248	265	254	233	238	222
	18" o.c.	425	358	376	350	328	345	325	308	323	307	293	307	282	284	285
	15" o.c.	425	405	419	391	366	380	359	372	353	336	349	333	331	329	327
	12" o.c.	479	451	461	431	441	415	425	403	413	393	402	385	379	373	368
	8" o.c.	630	581	580	580	580	548	550	551	552	528	530	532	514	519	505
	6" o.c.	721	698	689	681	675	669	663	659	654	651	647	644	638	634	630
	4" o.c.	911	894	900	881	887	871	877	863	869	857	863	852	847	816	704
	3" o.c.	1055	1042	1037	1032	1028	1025	1022	1019	1017	1014	1012	1010	958	816	704
10 psf	36" o.c.	311	261	287	267	250	235	221	209	219	207	197	187	170	179	165
	30" o.c.	311	310	287	267	250	272	256	242	219	207	225	215	195	202	187
	24" o.c.	369	310	332	309	289	272	291	275	250	237	253	241	220	225	208
	18" o.c.	425	358	376	350	328	345	325	308	311	296	281	294	269	270	271
	15" o.c.	425	405	419	391	366	380	359	372	341	324	336	320	317	314	311
	12" o.c.	479	451	461	431	441	415	425	403	400	380	389	371	364	357	351
	8" o.c.	630	581	580	580	580	548	550	551	536	511	513	514	494	497	481
	6" o.c.	721	698	689	681	675	669	663	659	633	628	623	619	610	603	595
	4" o.c.	911	894	900	881	887	871	877	863	832	818	820	807	797	787	704
	3" o.c.	1055	1042	1037	1032	1028	1025	1022	1019	963	957	950	944	931	816	704
15 psf	36" o.c.	311	261	270	250	232	216	202	189	209	197	187	177	159	167	152
	30" o.c.	311	310	270	250	232	253	237	222	209	197	215	204	184	190	173
	24" o.c.	369	310	315	292	271	253	271	255	240	227	243	230	209	212	194
	18" o.c.	425	358	358	332	310	325	305	287	301	285	270	283	257	256	256
	15" o.c.	425	405	401	372	347	360	338	350	330	313	324	308	304	299	295
	12" o.c.	479	451	442	411	420	394	402	380	388	368	375	358	349	340	332
	8" o.c.	630	581	558	556	553	522	521	520	519	495	494	494	473	471	451
	6" o.c.	721	698	661	652	642	634	626	619	612	605	598	592	578	564	549
	4" o.c.	911	894	856	834	834	814	814	796	794	778	775	759	738	716	691
	3" o.c.	1055	1042	976	965	954	943	932	921	909	897	885	872	844	814	704

See page 25 for footnotes

2.0DA20

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
20 psf	36" o.c.	289	237	261	240	222	205	191	178	197	185	173	163	144	150	133
	30" o.c.	289	285	261	240	222	242	225	211	197	185	201	189	168	172	153
	24" o.c.	346	285	305	282	261	242	259	243	228	214	229	216	192	193	173
	18" o.c.	402	333	348	322	299	313	293	274	287	271	255	266	239	235	228
	15" o.c.	402	379	390	361	336	347	325	336	316	298	307	291	283	274	261
	12" o.c.	455	423	431	400	407	381	388	365	371	351	356	338	324	310	291
	8" o.c.	601	548	544	541	537	504	502	499	495	470	466	462	433	415	376
	6" o.c.	687	657	644	633	621	611	600	590	580	569	557	545	518	482	433
	4" o.c.	861	831	828	803	798	775	769	746	737	714	701	677	631	574	499
25 psf	3" o.c.	988	955	939	922	905	888	869	850	829	807	783	757	697	624	531
	36" o.c.	280	226	250	228	209	192	177	163	181	168	155	143	120	102	
	30" o.c.	280	275	250	228	209	229	211	196	181	168	182	169	143	113	
	24" o.c.	337	275	294	269	248	229	245	227	211	196	208	194	164	122	
	18" o.c.	392	322	336	309	285	298	277	258	269	251	234	240	202	136	
	15" o.c.	392	367	378	348	322	332	309	317	296	276	281	261	235	145	
	12" o.c.	444	411	417	386	391	364	369	344	347	325	324	301	263	151	
	8" o.c.	588	533	527	521	515	481	475	467	457	427	414	395	323	161	
	6" o.c.	671	638	622	608	593	578	562	545	527	506	480	450	358	165	
30 psf	4" o.c.	839	800	791	762	749	720	702	670	645	607	571	521	393	168	
	3" o.c.	957	913	890	865	839	811	780	745	707	664	614	557	408	170	
	36" o.c.	270	214	237	214	194	176	160	144	159	142	123				
	30" o.c.	270	262	237	214	194	212	193	176	159	142	143				
	24" o.c.	326	262	280	255	232	212	225	206	187	167	161				
	18" o.c.	380	309	322	294	269	279	256	235	238	212	177				
	15" o.c.	380	354	362	332	304	311	286	287	261	232	203				
	12" o.c.	432	397	401	368	370	341	340	311	302	265	221				
	8" o.c.	573	514	505	495	483	446	431	410	379	324	250				
35 psf	6" o.c.	653	613	593	573	552	528	500	465	421	359	264				
	4" o.c.	811	762	743	706	680	637	598	542	479	393	278				
	3" o.c.	920	860	826	789	748	700	646	582	504	408	283				
	36" o.c.	258	201	221	198	176	156	136	113							
	30" o.c.	258	248	221	198	176	189	166	139							
	24" o.c.	314	248	264	237	212	189	194	160							
	18" o.c.	367	294	305	275	247	251	220	179							
	15" o.c.	367	338	343	310	280	278	243	207							
	12" o.c.	418	379	380	344	339	303	282	218							
40 psf	8" o.c.	555	490	476	458	434	384	337	252							
	6" o.c.	631	581	554	523	487	439	372	265							
	4" o.c.	778	711	679	626	575	501	411	278							
	3" o.c.	876	792	742	685	616	532	426	283							
	36" o.c.	244	184	203	176	150	117									
	30" o.c.	244	231	203	176	150	139									
	24" o.c.	300	231	243	213	182	139									
	18" o.c.	353	276	282	247	211	171									
	15" o.c.	353	318	317	279	237	182									
45 psf	12" o.c.	402	357	350	307	279	191									
	8" o.c.	533	459	433	396	335	211									
	6" o.c.	604	538	496	441	360	221									
	4" o.c.	737	643	586	502	395	228									
	3" o.c.	821	704	628	533	409	231									
	36" o.c.	229	165	177	139											
	30" o.c.	229	210	177	139											
	24" o.c.	284	210	214	166											
	18" o.c.	335	252	247	188											
45 psf	15" o.c.	335	291	276	206											
	12" o.c.	383	326	301	220											
	8" o.c.	506	412	359	253											
	6" o.c.	570	473	396	265											
	4" o.c.	685	546	442	278											
45 psf	3" o.c.	754	584	460	283											

See page 25 for footnotes

2.0DA18

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	392	329	359	334	312	293	276	261	285	271	259	247	227	237	221
	30" o.c.	392	387	359	334	312	337	318	301	285	271	293	280	257	265	246
	24" o.c.	461	387	412	384	359	337	360	340	323	307	327	312	287	293	272
	18" o.c.	529	445	465	434	406	425	401	379	397	378	360	377	346	347	349
	15" o.c.	529	502	517	482	452	468	442	456	433	413	427	408	405	401	399
	12" o.c.	594	557	568	530	542	510	521	494	505	481	492	471	462	454	448
	8" o.c.	779	715	713	712	711	671	673	674	675	645	647	649	627	632	614
	6" o.c.	890	859	847	837	828	820	813	806	801	795	791	787	779	773	767
	4" o.c.	1130	1105	1113	1087	1095	1074	1081	1063	1071	1054	1062	1047	1041	1036	1032
	3" o.c.	1316	1297	1290	1284	1278	1273	1269	1265	1261	1258	1255	1253	1248	1244	1074

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	49	44	54	52	49	47	45	44	51	50	48	46	43	48	46
	30" o.c.	49	56	54	52	49	57	55	53	51	50	56	54	51	55	52
	24" o.c.	62	56	64	62	59	57	64	62	60	58	63	61	58	61	58
	18" o.c.	72	67	73	71	68	74	71	69	74	72	70	74	70	73	74
	15" o.c.	72	75	81	78	76	80	78	82	80	78	82	80	81	82	83
	12" o.c.	80	83	87	85	89	86	90	88	91	89	92	90	90	91	92
	8" o.c.	98	100	102	105	107	105	107	109	111	109	111	112	112	114	114
	6" o.c.	106	111	113	115	117	119	120	122	123	124	125	126	127	129	130
	4" o.c.	119	126	130	132	135	136	139	140	142	143	145	146	148	150	152
	3" o.c.	127	135	139	142	145	147	150	152	154	155	157	159	161	164	166

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	501	420	458	426	398	374	352	333	364	346	330	315	289	303	282
	30" o.c.	501	495	458	426	398	431	406	384	364	346	374	357	328	338	315
	24" o.c.	589	495	526	490	459	431	459	434	412	392	417	399	366	374	348
	18" o.c.	675	568	594	554	518	542	512	484	507	482	460	481	442	444	445
	15" o.c.	675	641	660	616	577	597	564	583	553	527	545	521	516	512	509
	12" o.c.	759	711	725	677	691	651	665	631	645	614	628	601	590	580	572
	8" o.c.	994	913	911	909	908	857	859	860	862	823	826	829	800	807	784
	6" o.c.	1137	1097	1082	1068	1057	1047	1037	1029	1022	1016	1010	1004	995	986	979
	4" o.c.	1442	1411	1420	1388	1398	1371	1381	1357	1367	1346	1355	1337	1329	1246	1074
	3" o.c.	1680	1656	1647	1639	1632	1625	1620	1615	1610	1606	1602	1599	1462	1246	1074
20 psf	36" o.c.	501	420	458	426	398	374	352	313	344	325	309	293	266	279	256
	30" o.c.	501	495	458	426	398	431	406	364	344	325	352	335	304	314	289
	24" o.c.	589	495	526	490	459	431	459	414	391	371	395	376	342	349	321
	18" o.c.	675	568	594	554	518	542	512	464	485	460	438	457	417	418	417
	15" o.c.	675	641	660	616	577	597	564	561	531	504	521	497	491	485	480
	12" o.c.	759	711	725	677	691	651	665	608	621	590	603	575	562	551	541
	8" o.c.	994	913	911	909	908	857	859	832	832	793	795	796	765	767	742
	6" o.c.	1137	1097	1082	1068	1057	1047	1037	995	985	977	968	961	946	933	920
	4" o.c.	1442	1411	1420	1388	1398	1371	1381	1300	1304	1280	1283	1262	1244	1226	1074
	3" o.c.	1680	1656	1647	1639	1632	1625	1620	1530	1519	1508	1496	1485	1462	1246	1074
30 psf	36" o.c.	501	390	427	394	365	339	316	296	325	306	289	273	245	255	231
	30" o.c.	501	465	427	394	365	396	370	346	325	306	332	314	283	290	263
	24" o.c.	589	465	495	457	425	396	422	396	373	352	375	355	320	324	295
	18" o.c.	675	538	562	520	483	506	474	445	466	440	417	435	394	391	388
	15" o.c.	675	609	627	581	541	559	525	541	511	483	499	474	465	457	448
	12" o.c.	759	679	690	641	653	612	623	588	599	568	578	550	534	519	505
	8" o.c.	994	875	870	865	860	809	808	805	803	763	762	760	724	718	685
	6" o.c.	1137	1052	1033	1016	1000	986	972	959	947	935	923	912	888	862	833
	4" o.c.	1442	1344	1344	1307	1306	1273	1271	1241	1237	1208	1202	1174	1137	1095	1046
	3" o.c.	1680	1563	1543	1523	1503	1484	1464	1444	1423	1402	1379	1356	1304	1246	1074

See page 25 for footnotes

2.0DA18

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
40 psf	36" o.c.	459	374	409	375	345	319	295	274	302	281	263	246	214	220	
	30" o.c.	459	448	409	375	345	375	348	324	302	281	305	286	251	253	
	24" o.c.	547	448	477	438	405	375	400	373	348	326	347	326	288	284	
	18" o.c.	631	521	543	500	463	483	451	421	439	412	388	403	357	345	
	15" o.c.	631	591	607	561	520	536	501	515	483	454	467	440	423	401	
	12" o.c.	713	660	670	620	630	587	597	560	568	535	541	511	485	452	
	8" o.c.	941	853	845	838	830	778	772	766	758	716	708	697	643	594	
	6" o.c.	1076	1024	1002	982	962	944	925	907	887	867	846	822	763	679	
	4" o.c.	1355	1302	1294	1252	1243	1203	1189	1150	1130	1089	1062	1015	919	787	
	3" o.c.	1563	1504	1475	1446	1415	1383	1349	1313	1274	1231	1184	1131	1006	841	
50 psf	36" o.c.	442	354	388	352	321	293	268	245	270	247	226	204			
	30" o.c.	442	428	388	352	321	349	320	294	270	247	266	241			
	24" o.c.	529	428	455	415	380	349	371	342	315	290	304	276			
	18" o.c.	613	500	520	476	437	455	420	389	402	371	340	339			
	15" o.c.	613	570	583	536	493	506	468	477	442	409	408	368			
	12" o.c.	694	637	644	593	599	555	559	519	519	479	468	418			
	8" o.c.	917	825	814	802	788	733	719	702	679	624	586	528			
	6" o.c.	1048	989	962	935	909	881	851	818	779	731	669	584			
	4" o.c.	1315	1247	1228	1177	1151	1098	1061	999	943	861	772	649			
	3" o.c.	1508	1428	1386	1340	1291	1237	1175	1106	1026	931	818	678			
60 psf	36" o.c.	422	331	362	325	292	261	233	205	217	157					
	30" o.c.	422	404	362	325	292	315	283	251	217	157					
	24" o.c.	508	404	428	387	349	315	331	295	254	176					
	18" o.c.	591	475	492	446	405	416	376	335	317	200					
	15" o.c.	591	544	554	503	458	463	419	408	343	208					
	12" o.c.	671	610	612	558	557	507	496	440	387	219					
	8" o.c.	889	790	772	751	726	660	621	561	456	233					
	6" o.c.	1014	943	907	869	827	776	712	624	488	238					
	4" o.c.	1265	1174	1138	1069	1013	926	834	702	525	242					
	3" o.c.	1441	1329	1265	1193	1109	1010	890	738	540	244					
70 psf	36" o.c.	399	304	331	291	253	214	161								
	30" o.c.	399	376	331	291	253	261	192								
	24" o.c.	484	376	396	350	307	261	215								
	18" o.c.	567	446	457	406	357	342	233								
	15" o.c.	567	512	515	459	404	376	247								
	12" o.c.	645	575	570	508	486	406	266								
	8" o.c.	855	744	713	672	610	492	286								
	6" o.c.	973	881	827	762	675	542	295								
	4" o.c.	1203	1076	1007	899	776	591	303								
	3" o.c.	1358	1197	1097	974	819	613	306								
80 psf	36" o.c.	373	271	292	241	159										
	30" o.c.	373	342	292	241	159										
	24" o.c.	457	342	352	292	182										
	18" o.c.	538	409	407	337	198										
	15" o.c.	538	471	457	376	209										
	12" o.c.	613	529	503	409	222										
	8" o.c.	812	677	614	502	234										
	6" o.c.	921	789	693	543	238										
	4" o.c.	1124	933	799	592	242										
	3" o.c.	1253	1014	845	613	244										
90 psf	36" o.c.	342	230	220												
	30" o.c.	342	296	220												
	24" o.c.	425	296	260												
	18" o.c.	503	355	291												
	15" o.c.	503	409	315												
	12" o.c.	575	455	334												
	8" o.c.	757	562	368												
	6" o.c.	853	630	387												
	4" o.c.	1019	705	405												
	3" o.c.	1118	740	411												

See page 25 for footnotes

2.0DA16

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	558	468	510	474	444	416	392	371	405	385	367	351	322	337	313
	30" o.c.	558	551	510	474	444	479	452	427	405	385	416	397	365	376	350
	24" o.c.	656	551	586	546	510	479	511	483	459	436	464	443	407	416	386
	18" o.c.	751	633	661	616	577	603	569	539	564	536	512	535	491	493	495
	15" o.c.	751	713	735	685	642	664	627	648	615	586	606	579	574	570	566
	12" o.c.	844	791	807	753	769	724	740	701	717	683	698	668	656	645	636
	8" o.c.	1106	1015	1013	1011	1009	953	955	957	958	915	918	921	889	897	871
	6" o.c.	1264	1220	1203	1188	1175	1164	1154	1145	1136	1129	1122	1116	1106	1096	1089
	4" o.c.	1605	1570	1580	1544	1555	1525	1536	1509	1520	1497	1507	1487	1478	1471	1464
	3" o.c.	1871	1844	1833	1824	1816	1809	1802	1797	1792	1787	1783	1779	1772	1767	1525

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	60	53	65	62	59	56	54	51	61	58	56	54	51	56	53
	30" o.c.	60	68	65	62	59	69	66	63	61	58	66	64	60	65	61
	24" o.c.	76	68	78	75	72	69	77	74	71	69	75	73	69	72	69
	18" o.c.	90	82	90	86	83	90	86	83	89	86	84	89	84	86	88
	15" o.c.	90	94	100	96	93	99	95	100	97	94	99	96	98	99	100
	12" o.c.	102	104	109	106	110	107	111	108	111	108	112	109	110	110	110
	8" o.c.	128	128	131	134	136	133	135	137	139	136	138	140	138	141	140
	6" o.c.	140	145	147	149	151	152	153	155	156	157	158	158	160	161	162
	4" o.c.	161	168	173	174	178	178	181	182	184	185	187	187	189	191	193
	3" o.c.	175	183	187	190	193	195	197	199	201	203	205	206	209	211	213

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	712	597	651	606	566	532	501	474	518	492	469	448	411	430	400
	30" o.c.	712	703	651	606	566	612	577	546	518	492	531	507	466	481	447
	24" o.c.	837	703	748	697	652	612	652	617	586	557	592	566	520	531	493
	18" o.c.	959	808	844	786	736	770	727	688	720	685	653	682	627	630	632
	15" o.c.	959	910	938	875	819	848	800	827	786	748	773	740	733	727	722
	12" o.c.	1078	1010	1030	961	982	924	945	895	915	872	891	853	837	823	812
	8" o.c.	1412	1296	1293	1291	1288	1217	1219	1221	1223	1168	1172	1176	1135	1145	1112
	6" o.c.	1614	1558	1536	1517	1500	1486	1473	1461	1451	1441	1433	1425	1411	1400	1390
	4" o.c.	2049	2004	2017	1972	1985	1947	1960	1927	1940	1911	1924	1898	1887	1769	1525
	3" o.c.	2388	2354	2340	2328	2318	2309	2301	2294	2287	2281	2276	2271	2076	1769	1525
30 psf	36" o.c.	712	597	651	606	566	532	501	445	488	462	438	416	378	395	363
	30" o.c.	712	703	651	606	566	612	577	517	488	462	499	475	432	445	410
	24" o.c.	837	703	748	697	652	612	652	588	556	526	560	533	486	494	456
	18" o.c.	959	808	844	786	736	770	727	658	689	653	621	648	592	592	592
	15" o.c.	959	910	938	875	819	848	800	796	754	715	739	705	696	688	680
	12" o.c.	1078	1010	1030	961	982	924	945	863	881	837	855	816	797	781	767
	8" o.c.	1412	1296	1293	1291	1288	1217	1219	1181	1180	1125	1127	1128	1084	1088	1051
	6" o.c.	1614	1558	1536	1517	1500	1486	1473	1411	1398	1385	1374	1362	1342	1323	1304
	4" o.c.	2049	2004	2017	1972	1985	1947	1960	1845	1850	1817	1821	1790	1764	1738	1525
	3" o.c.	2388	2354	2340	2328	2318	2309	2301	2173	2157	2140	2124	2108	2075	1769	1525
40 psf	36" o.c.	712	597	613	567	526	490	458	429	471	444	420	398	358	374	341
	30" o.c.	712	703	613	567	526	570	533	501	471	444	481	456	412	423	387
	24" o.c.	837	703	710	657	611	570	608	571	538	508	542	514	465	472	432
	18" o.c.	959	808	805	746	694	726	682	641	671	635	602	628	570	569	566
	15" o.c.	959	910	898	833	777	803	754	778	735	696	719	684	673	662	652
	12" o.c.	1078	1010	988	918	936	877	895	844	861	817	833	793	772	753	736
	8" o.c.	1412	1296	1245	1239	1232	1160	1159	1157	1154	1098	1098	1097	1049	1046	1004
	6" o.c.	1614	1558	1478	1455	1433	1414	1396	1380	1364	1349	1334	1320	1292	1263	1233
	4" o.c.	2049	2004	1927	1876	1877	1832	1833	1792	1791	1753	1750	1714	1673	1628	1525
	3" o.c.	2388	2354	2217	2192	2167	2143	2119	2095	2071	2046	2021	1994	1938	1769	1525

See page 25 for footnotes

2.0DA16

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
50 psf	36" o.c.	712	547	598	550	509	472	439	410	451	423	398	375	333	347	
	30" o.c.	712	652	598	550	509	552	515	481	451	423	459	433	387	395	
	24" o.c.	837	652	694	641	594	552	589	552	518	487	519	491	440	444	
	18" o.c.	959	756	789	729	677	707	662	621	649	612	578	603	543	537	
	15" o.c.	959	857	881	816	758	783	734	756	712	673	693	657	643	627	
	12" o.c.	1078	955	970	900	916	857	872	821	836	791	804	763	738	713	
	8" o.c.	1412	1232	1224	1216	1207	1134	1130	1125	1120	1063	1058	1053	997	978	
	6" o.c.	1614	1480	1452	1426	1402	1380	1359	1339	1319	1299	1279	1258	1214	1162	
	4" o.c.	2049	1889	1886	1831	1826	1777	1769	1722	1711	1666	1649	1603	1531	1445	
3" o.c.	2388	2194	2161	2128	2096	2063	2029	1994	1957	1918	1877	1833	1734	1617		
60 psf	36" o.c.	652	530	580	532	489	452	418	387	427	398	372	347	302		
	30" o.c.	652	636	580	532	489	531	493	458	427	398	432	404	355		
	24" o.c.	776	636	676	622	574	531	566	528	493	461	491	461	406		
	18" o.c.	896	739	770	709	656	685	639	597	622	584	549	570	505		
	15" o.c.	896	839	861	795	737	760	709	729	684	643	660	622	598		
	12" o.c.	1012	936	950	879	893	832	845	793	804	757	766	722	684		
	8" o.c.	1335	1210	1199	1188	1177	1102	1094	1085	1073	1013	1001	985	906		
	6" o.c.	1526	1453	1421	1392	1364	1337	1311	1284	1256	1227	1195	1160	1074		
	4" o.c.	1924	1847	1836	1776	1762	1705	1685	1628	1600	1540	1499	1431	1290		
3" o.c.	2219	2135	2093	2051	2006	1960	1911	1859	1802	1740	1671	1594	1410			
70 psf	36" o.c.	636	512	560	511	467	428	393	361	398	367	338	311			
	30" o.c.	636	617	560	511	467	507	467	431	398	367	397	366			
	24" o.c.	759	617	656	600	551	507	540	500	463	429	453	419			
	18" o.c.	879	719	749	687	633	659	611	567	588	547	508	519			
	15" o.c.	879	819	839	772	712	732	680	695	648	603	611	566			
	12" o.c.	994	915	926	854	865	803	811	756	761	710	706	652			
	8" o.c.	1313	1184	1170	1155	1139	1062	1047	1029	1006	937	904	858			
	6" o.c.	1501	1420	1384	1350	1316	1281	1245	1207	1163	1113	1053	977			
	4" o.c.	1886	1796	1776	1708	1679	1611	1571	1496	1437	1346	1257	1134			
3" o.c.	2169	2065	2011	1955	1894	1828	1756	1675	1584	1479	1357	1214				
80 psf	36" o.c.	618	491	538	487	442	401	364	329	361	326					
	30" o.c.	618	596	538	487	442	479	437	398	361	326					
	24" o.c.	741	596	632	575	524	479	508	465	424	383					
	18" o.c.	860	697	724	661	605	627	576	529	540	489					
	15" o.c.	860	796	813	744	683	698	642	649	594	537					
	12" o.c.	974	891	899	825	831	766	767	705	693	624					
	8" o.c.	1288	1154	1135	1114	1090	1008	981	943	891	788					
	6" o.c.	1471	1382	1339	1297	1253	1205	1151	1086	1005	895					
	4" o.c.	1843	1736	1702	1621	1572	1483	1409	1297	1178	1012					
3" o.c.	2110	1982	1912	1835	1750	1654	1544	1414	1258	1067						
90 psf	36" o.c.	598	468	513	460	412	368	327	287	301						
	30" o.c.	598	572	513	460	412	444	398	352	301						
	24" o.c.	720	572	606	547	493	444	465	413	352						
	18" o.c.	838	673	697	631	572	587	529	470	436						
	15" o.c.	838	770	783	712	647	653	589	570	471						
	12" o.c.	952	864	867	789	787	716	698	614	527						
	8" o.c.	1260	1119	1093	1062	1025	930	872	779	613						
	6" o.c.	1438	1335	1284	1229	1167	1092	997	862	651						
	4" o.c.	1794	1663	1609	1509	1427	1300	1162	965	696						
3" o.c.	2043	1882	1789	1684	1561	1416	1238	1013	712							
100 psf	36" o.c.	576	443	484	428	376	327	274	234	169						
	30" o.c.	576	546	484	428	376	398	335	290	204						
	24" o.c.	698	546	576	513	455	398	390	204							
	18" o.c.	815	645	664	594	529	526	438	213							
	15" o.c.	815	741	748	672	600	583	479	223							
	12" o.c.	927	832	828	745	726	634	546	226							
	8" o.c.	1228	1076	1039	992	926	795	633	234							
	6" o.c.	1400	1278	1212	1134	1036	899	681	236							
	4" o.c.	1736	1573	1490	1358	1219	1014	732	238							
3" o.c.	1966	1761	1635	1486	1303	1068	751	239								

See page 25 for footnotes

2.0DA22

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	211	176	190	177	165	155	146	138	150	142	135	129	119	123	115
	30" o.c.	211	206	190	177	165	177	167	158	150	142	152	146	134	137	127
	24" o.c.	246	206	217	202	189	177	188	178	168	160	169	162	148	151	140
	18" o.c.	281	235	244	227	212	221	209	197	206	196	186	194	178	178	178
	15" o.c.	281	264	271	252	236	243	229	236	224	213	220	210	208	206	204
	12" o.c.	315	293	298	277	282	265	270	256	261	248	253	242	237	233	229
	8" o.c.	415	378	376	374	373	351	351	351	351	334	335	336	323	326	316
	6" o.c.	479	459	451	444	438	433	428	424	421	417	414	412	407	403	399
	4" o.c.	627	609	613	596	600	586	590	578	583	572	576	567	562	559	525
	3" o.c.	758	742	736	731	726	722	718	715	712	709	707	705	701	609	525

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	33	31	36	35	34	34	33	32	36	35	35	34	32	35	34
	30" o.c.	33	37	36	35	34	39	38	37	36	35	39	38	37	39	38
	24" o.c.	38	37	41	40	40	39	42	41	41	40	43	42	41	43	41
	18" o.c.	42	41	45	44	44	47	46	45	48	47	46	49	47	49	50
	15" o.c.	42	45	48	48	47	50	49	51	51	50	52	52	53	54	55
	12" o.c.	45	48	50	50	53	52	54	54	56	55	57	57	58	59	59
	8" o.c.	51	54	56	58	60	60	62	63	65	65	66	67	68	70	70
	6" o.c.	53	58	60	62	64	65	67	68	69	71	72	73	75	76	78
	4" o.c.	57	63	65	67	70	71	74	75	77	78	80	81	83	85	87
	3" o.c.	59	66	68	71	73	75	77	79	81	82	84	85	88	90	92

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	269	225	243	226	211	198	186	176	191	181	173	165	151	157	146
	30" o.c.	269	263	243	226	211	226	213	201	191	181	195	186	170	175	163
	24" o.c.	314	263	278	258	241	226	240	227	215	204	216	207	190	193	179
	18" o.c.	358	300	312	290	271	283	266	252	263	250	238	248	227	228	228
	15" o.c.	358	337	346	322	301	311	293	302	286	272	281	268	265	262	260
	12" o.c.	402	374	380	354	360	339	345	327	333	317	324	309	303	297	292
	8" o.c.	530	482	480	478	476	448	448	448	448	427	428	429	413	416	403
	6" o.c.	611	586	575	567	559	553	547	542	537	533	529	525	519	514	510
	4" o.c.	801	778	782	761	766	748	754	738	744	730	735	723	715	609	525
	3" o.c.	968	947	939	933	927	921	917	913	909	906	903	851	715	609	525
10 psf	36" o.c.	269	225	243	226	211	198	186	176	191	181	173	165	151	150	139
	30" o.c.	269	263	243	226	211	226	213	201	191	181	195	186	170	168	155
	24" o.c.	314	263	278	258	241	226	240	227	215	204	216	207	190	185	171
	18" o.c.	358	300	312	290	271	283	266	252	263	250	238	248	227	220	220
	15" o.c.	358	337	346	322	301	311	293	302	286	272	281	268	265	255	252
	12" o.c.	402	374	380	354	360	339	345	327	333	317	324	309	303	289	284
	8" o.c.	530	482	480	478	476	448	448	448	448	427	428	429	413	407	394
	6" o.c.	611	586	575	567	559	553	547	542	537	533	529	525	519	504	498
	4" o.c.	801	778	782	761	766	748	754	738	744	730	735	723	715	609	525
	3" o.c.	968	947	939	933	927	921	917	913	909	906	903	851	715	609	525
20 psf	36" o.c.	269	225	228	211	195	182	170	159	173	163	154	146	131	136	123
	30" o.c.	269	263	228	211	195	210	196	184	173	163	176	166	150	153	140
	24" o.c.	314	263	263	243	225	210	223	209	197	186	197	187	169	171	156
	18" o.c.	358	300	297	275	255	266	249	234	244	231	219	228	206	205	204
	15" o.c.	358	337	331	307	285	294	276	284	268	253	261	248	244	240	236
	12" o.c.	402	374	365	338	344	322	327	308	314	297	303	288	280	273	267
	8" o.c.	530	482	463	460	458	429	428	427	427	405	405	405	387	387	372
	6" o.c.	611	586	557	548	539	531	524	518	512	506	501	496	487	478	470
	4" o.c.	801	778	758	734	737	718	720	703	705	690	692	678	665	609	525
	3" o.c.	968	947	906	896	886	878	869	861	853	845	837	829	715	609	525

See page 25 for footnotes

2.0DA22

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
30 psf	36" o.c.	246	199	216	197	181	167	154	143	156	145	136	126			
	30" o.c.	246	237	216	197	181	195	181	168	156	145	157	147			
	24" o.c.	291	237	250	229	211	195	207	193	180	168	178	167			
	18" o.c.	335	274	284	261	241	251	234	218	227	213	199	207			
	15" o.c.	335	311	318	293	271	279	259	267	250	234	241	227			
	12" o.c.	378	347	351	324	329	306	311	291	295	278	282	266			
	8" o.c.	504	453	448	444	440	411	409	406	403	381	378	375			
	6" o.c.	583	553	540	529	519	510	501	492	484	475	466	457			
	4" o.c.	764	733	733	708	707	684	682	661	656	636	628	605			
3" o.c.	919	886	871	857	842	828	812	796	779	760	739	715				
40 psf	36" o.c.	233	184	199	180	163	148	133	121	132	119					
	30" o.c.	233	221	199	180	163	176	160	145	132	119					
	24" o.c.	277	221	234	212	193	176	186	170	155	141					
	18" o.c.	321	258	268	244	222	230	212	194	200	182					
	15" o.c.	321	295	301	275	251	257	237	241	222	202					
	12" o.c.	364	331	334	305	308	284	286	264	263	240					
	8" o.c.	488	435	428	422	415	384	377	369	356	323					
	6" o.c.	566	532	517	503	489	474	459	441	419	389					
	4" o.c.	741	703	696	666	656	625	607	570	535	477					
3" o.c.	887	843	820	795	768	738	702	658	602	528						
50 psf	36" o.c.	217	165	179	158	138	120	102	73							
	30" o.c.	217	203	179	158	138	147	126	88							
	24" o.c.	261	203	213	189	168	147	149	100							
	18" o.c.	305	239	246	220	196	199	171	108							
	15" o.c.	305	275	279	250	224	223	191	121							
	12" o.c.	347	310	310	279	277	246	228	125							
	8" o.c.	469	411	400	388	371	328	284	136							
	6" o.c.	544	502	482	459	431	392	323	140							
	4" o.c.	710	657	637	592	551	479	372	143							
3" o.c.	845	776	735	685	620	530	393	144								
60 psf	36" o.c.	198	142	152	125	83										
	30" o.c.	198	179	152	125	83										
	24" o.c.	242	179	184	154	98										
	18" o.c.	285	215	216	181	109										
	15" o.c.	285	249	246	206	117										
	12" o.c.	327	283	274	230	127										
	8" o.c.	444	376	351	304	136										
	6" o.c.	516	456	414	343	140										
	4" o.c.	668	580	517	398	143										
3" o.c.	784	664	571	427	144											
70 psf	36" o.c.	175	110													
	30" o.c.	175	144													
	24" o.c.	218	144													
	18" o.c.	260	176													
	15" o.c.	260	206													
	12" o.c.	300	233													
	8" o.c.	411	298													
	6" o.c.	475	344													
	4" o.c.	603	399													
3" o.c.	693	427														
80 psf	36" o.c.	145														
	30" o.c.	145														
	24" o.c.	187														
	18" o.c.	226														
	15" o.c.	226														
	12" o.c.	262														
	8" o.c.	354														
	6" o.c.	402														
	4" o.c.	485														
3" o.c.	533															

See page 25 for footnotes

2.0DA20

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	313	262	278	259	242	227	213	202	216	206	196	187	172	177	164
	30" o.c.	313	301	278	259	242	257	242	228	216	206	219	209	192	195	182
	24" o.c.	360	301	315	293	273	257	270	255	242	230	242	231	212	214	199
	18" o.c.	407	341	351	326	305	316	298	281	292	277	264	274	251	251	250
	15" o.c.	407	380	387	360	337	345	325	334	317	301	309	296	291	287	284
	12" o.c.	453	418	423	394	399	375	381	360	366	348	354	339	331	324	318
	8" o.c.	589	533	528	525	521	490	489	489	488	464	465	465	447	449	435
	6" o.c.	676	644	631	620	611	602	595	589	583	577	573	568	561	554	549
	4" o.c.	882	852	856	831	836	815	820	802	807	792	797	783	776	770	704
	3" o.c.	1069	1042	1032	1023	1015	1008	1002	996	992	987	983	980	958	816	704

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	40	37	44	42	41	40	38	37	43	41	40	39	37	41	39
	30" o.c.	40	45	44	42	41	46	45	44	43	41	46	45	43	46	44
	24" o.c.	48	45	50	49	48	46	51	50	49	47	51	50	48	50	48
	18" o.c.	54	52	56	55	54	57	56	55	58	57	56	59	57	58	60
	15" o.c.	54	57	61	60	59	62	61	64	62	61	64	63	64	65	66
	12" o.c.	58	61	65	64	67	66	68	67	69	68	70	69	70	71	72
	8" o.c.	68	71	73	76	78	77	79	81	82	81	83	84	85	87	87
	6" o.c.	72	77	80	82	83	85	86	88	89	90	91	92	94	96	97
	4" o.c.	79	85	88	90	93	95	97	98	101	102	103	104	107	109	111
	3" o.c.	83	90	93	96	98	101	103	105	107	109	110	112	114	117	119

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	400	334	355	330	308	289	272	257	276	263	250	239	219	226	210
	30" o.c.	400	385	355	330	308	328	308	291	276	263	279	267	245	249	232
	24" o.c.	460	385	402	374	349	328	344	325	308	293	308	294	270	273	254
	18" o.c.	520	435	448	417	389	403	380	359	372	354	337	350	321	320	319
	15" o.c.	520	485	494	460	430	441	415	426	404	384	395	377	372	367	363
	12" o.c.	579	534	540	502	509	478	486	460	467	445	452	432	422	413	406
	8" o.c.	752	680	675	670	666	626	625	624	623	593	594	594	571	574	555
	6" o.c.	863	822	806	792	780	769	760	751	744	737	731	725	716	707	700
	4" o.c.	1126	1088	1093	1061	1067	1040	1047	1024	1030	1011	1017	1000	958	816	704
	3" o.c.	1365	1330	1317	1306	1296	1287	1279	1272	1266	1260	1251	1140	958	816	704
20 psf	36" o.c.	400	334	355	330	308	289	272	257	276	263	250	239	207	213	196
	30" o.c.	400	385	355	330	308	328	308	291	276	263	279	267	232	237	218
	24" o.c.	460	385	402	374	349	328	344	325	308	293	308	294	258	260	240
	18" o.c.	520	435	448	417	389	403	380	359	372	354	337	350	309	307	305
	15" o.c.	520	485	494	460	430	441	415	426	404	384	395	377	359	354	349
	12" o.c.	579	534	540	502	509	478	486	460	467	445	452	432	409	400	392
	8" o.c.	752	680	675	670	666	626	625	624	623	593	594	594	557	559	540
	6" o.c.	863	822	806	792	780	769	760	751	744	737	731	725	700	691	682
	4" o.c.	1126	1088	1093	1061	1067	1040	1047	1024	1030	1011	1017	1000	958	816	704
	3" o.c.	1365	1330	1317	1306	1296	1287	1279	1272	1266	1260	1251	1140	958	816	704
30 psf	36" o.c.	400	334	355	330	308	271	253	238	256	242	229	217	196		
	30" o.c.	400	385	355	330	308	309	289	272	256	242	258	245	221		
	24" o.c.	460	385	402	374	349	309	325	306	288	272	287	272	247		
	18" o.c.	520	435	448	417	389	385	361	339	352	333	316	327	297		
	15" o.c.	520	485	494	460	430	422	396	406	383	363	373	355	348		
	12" o.c.	579	534	540	502	509	459	466	439	446	423	430	409	398		
	8" o.c.	752	680	675	670	666	606	604	602	600	569	569	569	544		
	6" o.c.	863	822	806	792	780	747	737	727	719	711	704	697	685		
	4" o.c.	1126	1088	1093	1061	1067	1011	1015	991	996	974	978	959	946		
	3" o.c.	1365	1330	1317	1306	1296	1247	1237	1227	1217	1208	1200	1140	958		

See page 25 for footnotes

2.0DA20

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
40 psf	36" o.c.	400	310	330	304	281	261	243	227	244	230	216	204			
	30" o.c.	400	360	330	304	281	299	278	260	244	230	245	232			
	24" o.c.	460	360	376	347	321	299	314	294	276	260	274	259			
	18" o.c.	520	410	422	390	361	374	350	328	340	321	303	314			
	15" o.c.	520	460	468	432	401	411	385	394	371	351	360	341			
	12" o.c.	579	509	513	475	481	448	455	427	434	410	417	395			
	8" o.c.	752	654	647	640	635	594	591	589	586	555	554	553			
	6" o.c.	863	793	775	760	746	734	723	713	703	694	686	678			
	4" o.c.	1126	1053	1054	1020	1022	993	996	970	972	950	951	930			
3" o.c.	1365	1284	1267	1251	1236	1222	1209	1196	1184	1172	1159	1140				
50 psf	36" o.c.	368	299	319	292	269	248	230	213	230	215					
	30" o.c.	368	350	319	292	269	286	266	247	230	215					
	24" o.c.	428	350	365	335	309	286	301	281	262	245					
	18" o.c.	488	400	411	378	349	361	337	314	326	306					
	15" o.c.	488	449	457	421	389	399	372	380	357	335					
	12" o.c.	547	499	502	463	468	436	441	413	419	394					
	8" o.c.	718	643	635	628	621	580	576	573	569	537					
	6" o.c.	827	781	762	746	731	718	705	694	683	672					
	4" o.c.	1083	1037	1037	1001	1001	970	970	942	941	915					
3" o.c.	1309	1263	1243	1224	1207	1189	1172	1155	1137	1118						
60 psf	36" o.c.	358	288	307	279	255	234	215	197							
	30" o.c.	358	338	307	279	255	272	250	231							
	24" o.c.	418	338	353	322	296	272	286	265							
	18" o.c.	477	388	399	365	336	347	321	298							
	15" o.c.	477	438	444	408	375	384	356	364							
	12" o.c.	536	487	489	450	454	420	425	396							
	8" o.c.	706	630	621	613	605	563	558	552							
	6" o.c.	815	767	747	729	713	698	683	669							
	4" o.c.	1068	1018	1015	978	974	940	935	903							
3" o.c.	1290	1238	1214	1191	1168	1145	1121	1094								
70 psf	36" o.c.	347	275	293	265	240	217	197								
	30" o.c.	347	325	293	265	240	255	233								
	24" o.c.	407	325	339	308	280	255	268								
	18" o.c.	466	375	385	350	320	329	303								
	15" o.c.	466	424	430	392	359	366	337								
	12" o.c.	524	473	475	434	437	402	405								
	8" o.c.	694	615	605	595	585	542	534								
	6" o.c.	802	750	729	709	690	672	653								
	4" o.c.	1050	996	989	948	938	899	884								
3" o.c.	1267	1207	1178	1148	1117	1083	1045									
80 psf	36" o.c.	334	260	277	248	222										
	30" o.c.	334	310	277	248	222										
	24" o.c.	394	310	323	291	262										
	18" o.c.	453	360	369	333	301										
	15" o.c.	453	409	414	375	340										
	12" o.c.	511	458	458	416	416										
	8" o.c.	680	598	586	574	560										
	6" o.c.	786	731	707	684	660										
	4" o.c.	1030	969	956	909	889										
3" o.c.	1240	1169	1131	1091	1045											
90 psf	36" o.c.	320	244	259	228											
	30" o.c.	320	294	259	228											
	24" o.c.	380	294	305	271											
	18" o.c.	439	344	350	313											
	15" o.c.	439	392	395	354											
	12" o.c.	497	440	438	394											
	8" o.c.	664	579	563	546											
	6" o.c.	769	708	680	650											
	4" o.c.	1007	935	912	854											
3" o.c.	1209	1120	1069	1009												

See page 25 for footnotes

2.0DA18

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	507	424	447	416	388	364	343	324	345	328	313	299	274	281	261
	30" o.c.	507	484	447	416	388	410	386	364	345	328	348	332	304	309	287
	24" o.c.	579	484	503	467	437	410	429	405	384	365	382	365	335	337	313
	18" o.c.	650	544	558	519	485	500	471	445	460	438	417	431	396	394	392
	15" o.c.	650	604	613	570	533	545	514	526	498	474	486	464	456	449	444
	12" o.c.	721	663	668	621	628	590	598	566	574	546	555	530	516	505	495
	8" o.c.	929	838	830	822	816	767	765	762	761	724	724	724	695	697	674
	6" o.c.	1063	1009	987	969	953	939	927	916	906	897	889	882	869	858	849
	4" o.c.	1383	1332	1337	1296	1302	1268	1275	1246	1254	1229	1237	1215	1203	1193	1074
	3" o.c.	1676	1630	1612	1597	1583	1571	1561	1552	1543	1536	1529	1522	1462	1246	1074

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	52	47	56	54	52	50	48	46	53	51	50	48	45	50	47
	30" o.c.	52	59	56	54	52	59	57	55	53	51	58	56	53	56	54
	24" o.c.	64	59	66	64	61	59	65	63	61	59	65	63	60	63	60
	18" o.c.	74	69	75	72	70	75	73	71	75	73	71	75	72	74	75
	15" o.c.	74	77	82	80	77	82	80	83	81	79	83	81	82	83	84
	12" o.c.	82	84	88	86	90	88	91	89	92	90	93	91	91	92	92
	8" o.c.	99	101	103	106	108	106	108	110	112	110	112	113	113	115	115
	6" o.c.	107	112	114	116	118	119	121	122	123	124	125	126	128	129	131
	4" o.c.	120	127	130	132	135	137	139	140	143	144	146	146	148	150	152
	3" o.c.	128	136	139	142	145	148	150	152	154	156	157	159	162	164	166

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	647	541	571	531	495	465	438	413	441	419	399	381	350	359	333
	30" o.c.	647	618	571	531	495	523	492	465	441	419	444	424	389	395	367
	24" o.c.	739	618	642	597	557	523	547	517	490	466	488	466	428	431	400
	18" o.c.	830	694	713	663	619	639	602	568	588	559	532	551	505	502	500
	15" o.c.	830	771	783	728	680	696	656	671	636	605	620	593	582	574	566
	12" o.c.	920	846	853	793	802	753	764	722	733	697	708	676	659	645	632
	8" o.c.	1186	1070	1059	1050	1042	979	976	973	971	924	924	924	887	890	861
	6" o.c.	1358	1288	1261	1237	1217	1199	1184	1170	1157	1146	1135	1126	1110	1096	1074
	4" o.c.	1766	1701	1707	1654	1662	1619	1628	1591	1601	1569	1579	1551	1462	1246	1074
	3" o.c.	2140	2081	2058	2038	2021	2006	1993	1981	1970	1960	1910	1740	1462	1246	1074
40 psf	36" o.c.	647	541	571	531	495	465	438	413	441	419	399	359	326	334	
	30" o.c.	647	618	571	531	495	523	492	465	441	419	444	401	365	370	
	24" o.c.	739	618	642	597	557	523	547	517	490	466	488	444	404	406	
	18" o.c.	830	694	713	663	619	639	602	568	588	559	532	528	482	478	
	15" o.c.	830	771	783	728	680	696	656	671	636	605	620	570	559	549	
	12" o.c.	920	846	853	793	802	753	764	722	733	697	708	654	635	620	
	8" o.c.	1186	1070	1059	1050	1042	979	976	973	971	924	924	900	861	863	
	6" o.c.	1358	1288	1261	1237	1217	1199	1184	1170	1157	1146	1135	1099	1081	1065	
	4" o.c.	1766	1701	1707	1654	1662	1619	1628	1591	1601	1569	1579	1515	1462	1246	
	3" o.c.	2140	2081	2058	2038	2021	2006	1993	1981	1970	1960	1910	1740	1462	1246	
50 psf	36" o.c.	647	541	571	531	495	465	438	385	412	389	369	350			
	30" o.c.	647	618	571	531	495	523	492	437	412	389	413	392			
	24" o.c.	739	618	642	597	557	523	547	489	461	436	457	435			
	18" o.c.	830	694	713	663	619	639	602	540	558	529	501	519			
	15" o.c.	830	771	783	728	680	696	656	642	607	575	589	561			
	12" o.c.	920	846	853	793	802	753	764	693	703	666	676	644			
	8" o.c.	1186	1070	1059	1050	1042	979	976	943	939	892	891	889			
	6" o.c.	1358	1288	1261	1237	1217	1199	1184	1136	1123	1110	1098	1088			
	4" o.c.	1766	1701	1707	1654	1662	1619	1628	1549	1556	1522	1529	1499			
	3" o.c.	2140	2081	2058	2038	2021	2006	1993	1923	1909	1895	1883	1740			

See page 25 for footnotes

2.0DA18

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)															
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"	
60 psf	36" o.c.	647	541	571	531	462	430	402	376	403	380	359					
	30" o.c.	647	618	571	531	462	488	456	428	403	380	403					
	24" o.c.	739	618	642	597	524	488	511	480	451	426	447					
	18" o.c.	830	694	713	663	585	603	565	531	549	519	491					
	15" o.c.	830	771	783	728	646	661	619	633	597	565	579					
	12" o.c.	920	846	853	793	768	717	726	684	693	656	666					
	8" o.c.	1186	1070	1059	1050	1005	941	937	933	928	881	879					
	6" o.c.	1358	1288	1261	1237	1178	1159	1141	1125	1111	1098	1086					
	4" o.c.	1766	1701	1707	1654	1613	1568	1573	1534	1539	1505	1510					
3" o.c.	2140	2081	2058	2038	1958	1938	1920	1903	1886	1871	1856						
70 psf	36" o.c.	647	541	531	489	453	420	392	366	392							
	30" o.c.	647	618	531	489	453	478	446	418	392							
	24" o.c.	739	618	602	555	514	478	501	469	441							
	18" o.c.	830	694	673	621	576	594	555	521	538							
	15" o.c.	830	771	743	686	637	651	609	623	586							
	12" o.c.	920	846	812	751	758	708	716	673	682							
	8" o.c.	1186	1070	1017	1005	995	931	926	921	916							
	6" o.c.	1358	1288	1216	1190	1167	1147	1129	1113	1097							
	4" o.c.	1766	1701	1651	1596	1599	1553	1557	1517	1520							
3" o.c.	2140	2081	1988	1962	1939	1917	1897	1878	1860								
80 psf	36" o.c.	647	494	522	480	443	410	381	355								
	30" o.c.	647	571	522	480	443	468	436	406								
	24" o.c.	739	571	593	546	504	468	490	458								
	18" o.c.	830	648	663	611	566	583	544	509								
	15" o.c.	830	724	733	677	627	640	598	611								
	12" o.c.	920	799	803	741	748	697	705	661								
	8" o.c.	1186	1021	1007	995	984	920	914	908								
	6" o.c.	1358	1235	1205	1179	1155	1134	1116	1098								
	4" o.c.	1766	1637	1637	1581	1583	1536	1538	1496								
3" o.c.	2140	2000	1970	1943	1918	1894	1871	1849									
90 psf	36" o.c.	597	485	512	470	432	399	369									
	30" o.c.	597	562	512	470	432	457	424									
	24" o.c.	688	562	583	535	494	457	478									
	18" o.c.	779	638	653	601	555	572	532									
	15" o.c.	779	714	723	666	616	629	586									
	12" o.c.	869	789	793	731	737	685	692									
	8" o.c.	1132	1011	996	984	972	907	900									
	6" o.c.	1301	1224	1193	1166	1142	1120	1100									
	4" o.c.	1699	1624	1622	1565	1565	1516	1516									
3" o.c.	2058	1983	1951	1921	1893	1866	1840										
100 psf	36" o.c.	588	475	502	458	420	386										
	30" o.c.	588	552	502	458	420	444										
	24" o.c.	679	552	573	524	482	444										
	18" o.c.	770	628	643	590	543	559										
	15" o.c.	770	704	712	655	604	616										
	12" o.c.	860	779	782	719	724	672										
	8" o.c.	1122	1000	985	971	958	893										
	6" o.c.	1291	1212	1181	1153	1127	1104										
	4" o.c.	1687	1609	1605	1547	1544	1494										
3" o.c.	2043	1963	1929	1896	1865	1835											
110 psf	36" o.c.	578	464	490	446	408											
	30" o.c.	578	541	490	446	408											
	24" o.c.	670	541	561	512	469											
	18" o.c.	761	617	631	578	530											
	15" o.c.	761	693	701	642	591											
	12" o.c.	850	768	770	707	711											
	8" o.c.	1112	988	972	957	944											
	6" o.c.	1280	1200	1167	1138	1111											
	4" o.c.	1674	1593	1587	1527	1521											
3" o.c.	2026	1942	1904	1868	1833												

See page 25 for footnotes

2.0DA16

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic	36" o.c.	721	603	636	591	552	518	487	461	491	467	445	424	389	399	371
	30" o.c.	721	688	636	591	552	582	548	518	491	467	494	472	433	439	408
	24" o.c.	823	688	715	664	621	582	609	575	545	518	543	519	476	479	445
	18" o.c.	924	773	793	738	689	711	669	633	654	622	592	612	562	559	556
	15" o.c.	924	858	871	810	757	774	730	746	708	673	690	659	648	638	630
	12" o.c.	1025	942	949	883	893	838	849	803	815	775	787	752	733	717	703
	8" o.c.	1319	1190	1178	1168	1158	1089	1085	1082	1079	1027	1027	1027	986	989	957
	6" o.c.	1510	1432	1402	1376	1353	1333	1316	1300	1286	1273	1262	1252	1233	1218	1205
	4" o.c.	1964	1891	1897	1839	1848	1800	1810	1769	1779	1744	1755	1723	1706	1692	1525
	3" o.c.	2380	2314	2288	2266	2247	2230	2215	2202	2190	2179	2169	2160	2076	1769	1525

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
Seismic or Wind	36" o.c.	64	56	68	65	62	59	57	54	63	61	59	57	53	58	55
	30" o.c.	64	72	68	65	62	71	68	66	63	61	68	66	62	66	63
	24" o.c.	80	72	81	78	74	71	79	76	73	71	77	75	70	74	70
	18" o.c.	93	85	92	89	85	92	89	86	91	88	86	91	86	88	90
	15" o.c.	93	96	102	99	95	101	97	102	99	96	100	98	99	100	101
	12" o.c.	104	106	111	108	112	109	113	109	113	110	113	110	111	111	112
	8" o.c.	129	130	132	135	137	134	136	138	140	137	139	141	139	142	141
	6" o.c.	141	146	148	150	152	153	154	155	157	157	158	159	160	162	163
	4" o.c.	162	169	173	175	178	179	182	182	185	185	187	188	190	191	193
	3" o.c.	175	184	187	190	193	196	198	200	202	203	205	206	209	211	213

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"
No Uplift	36" o.c.	921	769	812	754	705	661	622	588	627	596	568	542	497	510	474
	30" o.c.	921	879	812	754	705	743	700	661	627	596	631	602	552	561	521
	24" o.c.	1051	879	912	848	792	743	777	735	696	662	693	662	607	612	568
	18" o.c.	1180	987	1013	942	880	907	855	808	835	793	756	782	717	713	710
	15" o.c.	1180	1095	1112	1034	967	989	931	953	904	859	881	841	827	814	804
	12" o.c.	1308	1203	1211	1127	1139	1070	1084	1025	1041	990	1005	960	936	915	897
	8" o.c.	1684	1520	1504	1491	1479	1390	1385	1382	1378	1311	1312	1312	1259	1263	1221
	6" o.c.	1928	1828	1790	1756	1727	1702	1680	1660	1642	1626	1611	1598	1574	1555	1525
	4" o.c.	2507	2415	2422	2348	2359	2297	2310	2258	2271	2226	2240	2200	2076	1769	1525
	3" o.c.	3038	2954	2921	2893	2868	2847	2828	2811	2795	2782	2712	2471	2076	1769	1525
50 psf	36" o.c.	921	769	812	754	705	661	622	588	627	596	568	542	497	483	
	30" o.c.	921	879	812	754	705	743	700	661	627	596	631	602	552	534	
	24" o.c.	1051	879	912	848	792	743	777	735	696	662	693	662	607	585	
	18" o.c.	1180	987	1013	942	880	907	855	808	835	793	756	782	717	687	
	15" o.c.	1180	1095	1112	1034	967	989	931	953	904	859	881	841	827	787	
	12" o.c.	1308	1203	1211	1127	1139	1070	1084	1025	1041	990	1005	960	936	888	
	8" o.c.	1684	1520	1504	1491	1479	1390	1385	1382	1378	1311	1312	1312	1259	1234	
	6" o.c.	1928	1828	1790	1756	1727	1702	1680	1660	1642	1626	1611	1598	1574	1522	
	4" o.c.	2507	2415	2422	2348	2359	2297	2310	2258	2271	2226	2240	2200	2076	1769	
	3" o.c.	3038	2954	2921	2893	2868	2847	2828	2811	2795	2782	2712	2471	2076	1769	
60 psf	36" o.c.	921	769	812	754	705	661	622	588	627	596	568	510	463		
	30" o.c.	921	879	812	754	705	743	700	661	627	596	631	570	519		
	24" o.c.	1051	879	912	848	792	743	777	735	696	662	693	630	574		
	18" o.c.	1180	987	1013	942	880	907	855	808	835	793	756	749	683		
	15" o.c.	1180	1095	1112	1034	967	989	931	953	904	859	881	809	793		
	12" o.c.	1308	1203	1211	1127	1139	1070	1084	1025	1041	990	1005	927	901		
	8" o.c.	1684	1520	1504	1491	1479	1390	1385	1382	1378	1311	1312	1276	1222		
	6" o.c.	1928	1828	1790	1756	1727	1702	1680	1660	1642	1626	1611	1559	1533		
	4" o.c.	2507	2415	2422	2348	2359	2297	2310	2258	2271	2226	2240	2149	2076		
	3" o.c.	3038	2954	2921	2893	2868	2847	2828	2811	2795	2782	2712	2471	2076		

See page 25 for footnotes

2.0DA16

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24.5/8 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)															
		5'-0"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	12'-0"	13'-0"	14'-0"	
70 psf	36" o.c.	921	769	812	754	705	661	622	588	589	557	528	501				
	30" o.c.	921	879	812	754	705	743	700	661	589	557	591	561				
	24" o.c.	1051	879	912	848	792	743	777	735	659	623	654	621				
	18" o.c.	1180	987	1013	942	880	907	855	808	797	754	716	741				
	15" o.c.	1180	1095	1112	1034	967	989	931	953	865	820	841	800				
	12" o.c.	1308	1203	1211	1127	1139	1070	1084	1025	1002	950	964	918				
	8" o.c.	1684	1520	1504	1491	1479	1390	1385	1382	1337	1269	1268	1267				
	6" o.c.	1928	1828	1790	1756	1727	1702	1680	1660	1597	1580	1563	1548				
	4" o.c.	2507	2415	2422	2348	2359	2297	2310	2258	2213	2166	2176	2134				
3" o.c.	3038	2954	2921	2893	2868	2847	2828	2811	2717	2699	2681	2471					
80 psf	36" o.c.	921	769	812	754	705	661	579	543	581	548						
	30" o.c.	921	879	812	754	705	743	657	617	581	548						
	24" o.c.	1051	879	912	848	792	743	734	690	650	614						
	18" o.c.	1180	987	1013	942	880	907	811	763	788	745						
	15" o.c.	1180	1095	1112	1034	967	989	887	907	857	811						
	12" o.c.	1308	1203	1211	1127	1139	1070	1040	979	993	941						
	8" o.c.	1684	1520	1504	1491	1479	1390	1338	1333	1327	1259						
	6" o.c.	1928	1828	1790	1756	1727	1702	1629	1607	1587	1569						
	4" o.c.	2507	2415	2422	2348	2359	2297	2245	2190	2199	2151						
3" o.c.	3038	2954	2921	2893	2868	2847	2742	2719	2698	2678							
90 psf	36" o.c.	921	769	812	754	656	611	570	534	571							
	30" o.c.	921	879	812	754	656	693	648	608	571							
	24" o.c.	1051	879	912	848	744	693	725	681	641							
	18" o.c.	1180	987	1013	942	831	856	802	753	779							
	15" o.c.	1180	1095	1112	1034	917	937	879	898	847							
	12" o.c.	1308	1203	1211	1127	1089	1018	1030	970	983							
	8" o.c.	1684	1520	1504	1491	1426	1336	1329	1323	1317							
	6" o.c.	1928	1828	1790	1756	1671	1643	1618	1596	1575							
	4" o.c.	2507	2415	2422	2348	2288	2224	2231	2175	2183							
3" o.c.	3038	2954	2921	2893	2777	2749	2723	2698	2675								
100 psf	36" o.c.	921	769	759	699	647	602	561	525								
	30" o.c.	921	879	759	699	647	684	638	598								
	24" o.c.	1051	879	859	793	735	684	716	671								
	18" o.c.	1180	987	959	886	822	847	793	744								
	15" o.c.	1180	1095	1058	978	909	928	869	888								
	12" o.c.	1308	1203	1157	1070	1080	1009	1021	960								
	8" o.c.	1684	1520	1447	1431	1417	1326	1319	1312								
	6" o.c.	1928	1828	1729	1693	1661	1633	1607	1584								
	4" o.c.	2507	2415	2348	2270	2275	2209	2215	2159								
3" o.c.	3038	2954	2828	2792	2760	2730	2702	2676									
110 psf	36" o.c.	921	711	750	691	638	592	551									
	30" o.c.	921	820	750	691	638	674	628									
	24" o.c.	1051	820	851	784	726	674	706									
	18" o.c.	1180	928	951	877	813	837	782									
	15" o.c.	1180	1036	1050	970	899	918	859									
	12" o.c.	1308	1143	1148	1061	1071	999	1010									
	8" o.c.	1684	1457	1438	1422	1406	1315	1307									
	6" o.c.	1928	1762	1720	1683	1650	1621	1595									
	4" o.c.	2507	2335	2335	2257	2260	2194	2199									
3" o.c.	3038	2853	2812	2775	2740	2709	2679										
120 psf	36" o.c.	921	702	742	681	628	582	540									
	30" o.c.	921	811	742	681	628	664	618									
	24" o.c.	1051	811	842	775	716	664	695									
	18" o.c.	1180	920	942	868	803	827	772									
	15" o.c.	1180	1027	1041	960	889	908	848									
	12" o.c.	1308	1134	1139	1052	1061	988	999									
	8" o.c.	1684	1448	1429	1411	1396	1304	1296									
	6" o.c.	1928	1752	1709	1672	1638	1609	1582									
	4" o.c.	2507	2323	2322	2243	2245	2177	2180									
3" o.c.	3038	2838	2795	2756	2720	2686	2653										

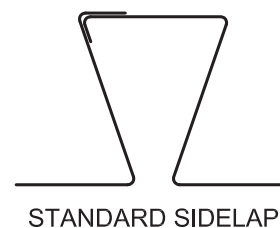
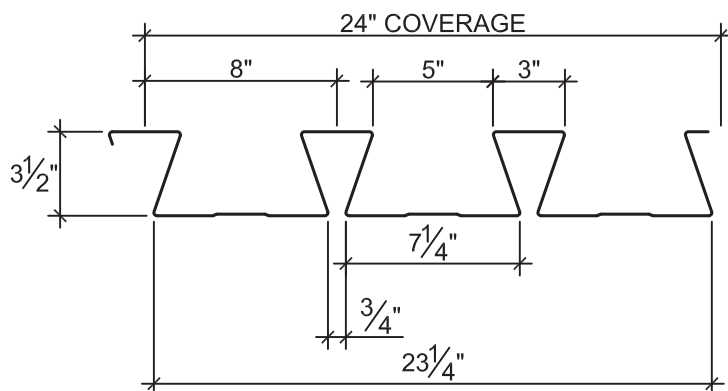
See page 25 for footnotes

3.5D

■ 3½" Deep DoveTail Deck



Approximate Dimensions



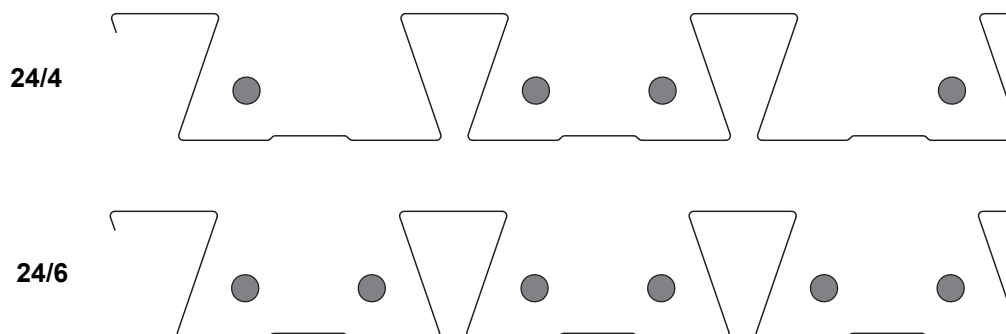
Deck Weight and Section Properties

Deck Type	Design Thickness (in.)	Weight (psf)	I _x (in ⁴ /ft)	I _{d+} (in ⁴ /ft)	I _{d-} (in ⁴ /ft)	S _{e+} (in ³ /ft)	S _{e-} (in ³ /ft)	V _a (lb/ft)
3.5D20	0.0358	3.25	1.891	1.762	1.646	0.676	0.781	3619
3.5D18	0.0474	4.31	2.508	2.415	2.272	0.980	1.070	6345
3.5D16	0.0598	5.44	3.170	3.133	2.968	1.317	1.377	8792
3.5D14	0.0747	6.81	3.968	3.955	3.831	1.742	1.751	10970

Notes:

1. Section properties are based on $F_y = 40,000$ psi
2. I_x = Gross Moment of Inertia
3. I_{d+} = Moment of Inertia for Deflection due to Uniform Loads (Normal Position)
4. I_{d-} = Moment of Inertia for Deflection due to Uniform Loads (Inverted Position)
5. S_{e+} = Positive Effective Section Modulus
6. S_{e-} = Negative Effective Section Modulus
7. V_a = Allowable Reaction governed by web shear

Attachment Patterns to Supports



GRAVITY LOAD TABLES

3.5D20

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	89	75	64	55	48	42	37	33	30	27	24	22	20	19	17
	L/360	58	45	35	28	23	19	16	13	11	10	8	7	6	6	5
	L/240	87	67	53	42	34	28	24	20	17	14	12	11	10	8	7
	L/180	***	***	***	***	46	38	31	26	22	19	17	14	13	11	10
DOUBLE	Stress	103	87	74	64	55	49	43	38	35	31	28	26	24	22	20
	L/360	***	***	***	63	51	42	35	30	25	22	19	16	14	13	11
	L/240	***	***	***	***	***	***	***	***	***	***	28	24	21	19	17
	L/180	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
TRIPLE	Stress	121	108	92	80	69	61	54	48	43	39	35	32	29	27	25
	L/360	102	79	62	49	40	33	28	23	20	17	15	13	11	10	9
	L/240	***	***	***	74	60	50	41	35	30	25	22	19	17	15	13
	L/180	***	***	***	***	***	***	***	47	40	34	29	26	22	20	17

3.5D18

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	129	109	93	80	70	61	54	48	43	39	35	32	30	27	25
	L/360	79	61	48	39	31	26	22	18	15	13	11	10	9	8	7
	L/240	119	92	72	58	47	39	32	27	23	20	17	15	13	11	10
	L/180	***	***	***	77	63	52	43	36	31	26	23	20	17	15	14
DOUBLE	Stress	141	119	101	87	76	67	59	53	47	43	39	35	32	30	27
	L/360	***	***	***	***	71	58	49	41	35	30	26	22	20	17	15
	L/240	***	***	***	***	***	***	***	***	***	***	***	34	30	26	23
	L/180	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
TRIPLE	Stress	177	148	126	109	95	83	74	66	59	53	48	44	40	37	34
	L/360	141	108	85	68	56	46	38	32	27	23	20	18	15	14	12
	L/240	***	***	***	102	83	69	57	48	41	35	30	26	23	20	18
	L/180	***	***	***	***	***	***	***	64	55	47	40	35	31	27	24

3.5D16

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	174	146	124	107	93	82	73	65	58	53	48	43	40	37	34
	L/360	103	79	62	50	41	33	28	24	20	17	15	13	11	10	9
	L/240	155	119	94	75	61	50	42	35	30	26	22	19	17	15	13
	L/180	***	***	***	100	81	67	56	47	40	34	30	26	23	20	18
DOUBLE	Stress	182	153	130	112	98	86	76	68	61	55	50	45	42	38	35
	L/360	***	***	***	***	93	76	64	54	46	39	34	29	26	23	20
	L/240	***	***	***	***	***	***	***	***	***	***	***	44	39	34	30
	L/180	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
TRIPLE	Stress	227	191	163	140	122	107	95	85	76	69	62	57	52	48	44
	L/360	184	142	111	89	73	60	50	42	36	31	26	23	20	18	16
	L/240	***	***	***	134	109	90	75	63	54	46	40	34	30	27	23
	L/180	***	***	***	***	***	***	***	84	71	61	53	46	40	35	31

3.5D14

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	230	193	165	142	124	109	96	86	77	70	63	57	53	48	45
	L/360	130	100	79	63	51	42	35	30	25	22	19	16	14	13	11
	L/240	195	150	118	95	77	63	53	45	38	32	28	24	21	19	17
	L/180	***	***	158	126	103	85	70	59	50	43	37	33	28	25	22
DOUBLE	Stress	231	194	165	143	124	109	97	86	77	70	63	58	53	49	45
	L/360	***	***	***	***	120	99	82	69	59	50	44	38	33	29	26
	L/240	***	***	***	***	***	***	***	***	***	***	***	57	50	44	39
	L/180	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
TRIPLE	Stress	289	243	207	178	155	137	121	108	97	87	79	72	66	61	56
	L/360	237	183	144	115	94	77	64	54	46	39	34	30	26	23	20
	L/240	***	***	***	173	140	116	96	81	69	59	51	45	39	34	30
	L/180	***	***	***	***	***	***	***	***	92	79	68	59	52	46	40

See page 24 for footnotes

ALLOWABLE REACTIONS DUE TO WEB CRIPPLING

3.5D20

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	632	1096	665	1263
2.00	693	1185	714	1376
2.50	746	1263	757	1475
3.00	794	1333	796	1565
3.50	839	1399	832	1647
4.00	880	1459	865	1724
4.50	919	1516	897	1796
5.00	955	1570	926	1864
5.50	990	1621	954	1929
6.00	1023	1670	981	1991
6.50	1055	1717	1007	2051
7.00	1086	1762	1032	2108
7.50	1116	1805	1056	2163
≥ 8.00	1117	1807	1057	2165

3.5D18

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	1071	1849	1226	2180
2.00	1168	1989	1310	2362
2.50	1253	2112	1383	2523
3.00	1330	2224	1450	2669
3.50	1401	2326	1511	2802
4.00	1467	2422	1568	2927
4.50	1529	2511	1622	3044
5.00	1588	2596	1672	3154
5.50	1643	2676	1720	3259
6.00	1697	2753	1766	3360
6.50	1748	2827	1811	3456
7.00	1797	2898	1853	3549
7.50	1844	2967	1894	3639
8.00	1890	3033	1934	3725
8.50	1935	3097	1972	3809
9.00	1978	3160	2009	3891
9.50	2020	3220	2046	3970
≥ 10.00	2048	3261	2070	4023

3.5D16

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	1651	2851	2009	3409
2.00	1793	3054	2137	3679
2.50	1919	3232	2250	3918
3.00	2032	3394	2352	4133
3.50	2136	3542	2446	4331
4.00	2233	3681	2533	4515
4.50	2323	3810	2615	4688
5.00	2410	3933	2693	4852
5.50	2491	4050	2767	5008
6.00	2569	4162	2837	5157
6.50	2644	4269	2905	5299
7.00	2717	4372	2970	5437
7.50	2786	4471	3033	5569
8.00	2854	4567	3093	5697
8.50	2919	4661	3152	5822
9.00	2982	4751	3209	5942
9.50	3044	4839	3265	6059
≥ 10.00	3080	4891	3298	6129

3.5D14

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	2515	4347	3225	5259
2.00	2721	4637	3417	5653
2.50	2902	4893	3586	6001
3.00	3065	5125	3739	6314
3.50	3216	5337	3880	6603
4.00	3356	5535	4011	6872
4.50	3487	5721	4134	7124
5.00	3612	5897	4250	7363
5.50	3730	6065	4360	7590
6.00	3843	6225	4466	7806
6.50	3952	6378	4568	8014
7.00	4056	6525	4665	8215
7.50	4157	6668	4759	8408
8.00	4254	6805	4850	8595
8.50	4348	6939	4939	8776
9.00	4440	7068	5024	8951
9.50	4529	7194	5108	9122
≥ 10.00	4573	7256	5149	9206

See page 24 for footnotes

UPLIFT LOAD TABLES

3.5D20

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	103	87	74	64	55	49	43	38	35	31	28	26	24	22	20
	L/360	54	42	33	26	21	18	15	12	11	9	8	7	6	5	5
	L/240	81	63	49	39	32	26	22	19	16	14	12	10	9	8	7
	L/180	♦♦♦	83	66	53	43	35	29	25	21	18	16	14	12	10	9
DOUBLE	Stress	89	75	64	55	48	42	37	33	30	27	24	22	20	19	17
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	32	27	23	20	17	15	13	12
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	112	94	80	69	60	53	47	42	37	34	31	28	26	23	22
	L/360	109	84	66	53	43	35	30	25	21	18	16	14	12	11	9
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	44	37	32	27	24	20	18	16	14
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	27	24	21	19

3.5D18

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	141	119	101	87	76	67	59	53	47	43	39	35	32	30	27
	L/360	75	58	45	36	29	24	20	17	14	12	11	9	8	7	6
	L/240	112	86	68	54	44	36	30	26	22	19	16	14	12	11	10
	L/180	♦♦♦	115	91	72	59	49	40	34	29	25	21	19	16	14	13
DOUBLE	Stress	129	109	93	80	70	61	54	48	43	39	35	32	30	27	25
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	52	44	37	32	27	24	21	18	16
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	24
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	162	136	116	100	87	76	68	60	54	49	44	40	37	34	31
	L/360	150	115	91	73	59	49	41	34	29	25	22	19	16	14	13
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	73	61	51	44	37	32	28	25	22	19
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	43	37	33	29	25

3.5D16

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	182	153	130	112	98	86	76	68	61	55	50	45	42	38	35
	L/360	98	75	59	47	38	32	26	22	19	16	14	12	11	9	8
	L/240	146	113	89	71	58	48	40	33	28	24	21	18	16	14	12
	L/180	♦♦♦	150	118	95	77	63	53	45	38	32	28	24	21	19	17
DOUBLE	Stress	174	146	124	107	93	82	73	65	58	53	48	43	40	37	34
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	81	67	57	48	41	36	31	27	24	21
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	36	32
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	217	183	156	134	117	103	91	81	73	66	60	54	50	46	42
	L/360	194	150	118	94	77	63	53	44	38	32	28	24	21	19	17
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	115	95	79	66	57	48	42	36	32	28	25
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	65	56	49	42	37	33

3.5D14

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	231	194	165	143	124	109	97	86	77	70	63	58	53	49	45
	L/360	126	97	76	61	50	41	34	29	24	21	18	16	14	12	11
	L/240	189	146	115	92	75	61	51	43	37	31	27	24	21	18	16
	L/180	♦♦♦	194	153	122	99	82	68	58	49	42	36	32	28	24	21
DOUBLE	Stress	230	193	165	142	124	109	96	86	77	70	63	57	53	48	45
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	123	102	85	71	61	52	45	39	34	30	27
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	51	45	40
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	287	241	206	177	155	136	120	107	96	87	79	72	66	60	56
	L/360	245	189	148	119	97	80	66	56	48	41	35	31	27	24	21
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	145	119	100	84	71	61	53	46	40	35	31
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	95	82	70	61	54	47	42

See page 24 for footnotes

3.5D20

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	169	155	161	150	140	146	138	130	136	129	123	128	123	118	123
	30" o.c.	190	175	180	167	156	161	152	157	149	141	146	139	144	138	132
	24" o.c.	212	195	198	184	188	176	180	170	174	165	169	161	165	158	161
	18" o.c.	255	234	235	235	220	221	222	210	212	213	203	205	206	198	200
	15" o.c.	277	274	271	269	251	251	250	250	249	237	237	237	237	237	228
	12" o.c.	319	313	307	303	298	295	292	289	286	284	282	280	278	277	275
	8" o.c.	444	428	431	418	421	410	414	404	408	400	403	396	399	393	396
	6" o.c.	544	538	533	528	525	521	518	516	513	511	509	508	506	505	503
	4" o.c.	748	742	738	734	730	727	725	722	720	718	717	715	714	712	688
	3" o.c.	927	922	918	915	912	909	907	905	903	901	900	888	813	746	688

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	29	29	31	31	31	33	33	33	35	35	35	32	32	33	34
	30" o.c.	31	31	33	33	33	35	35	36	37	37	38	32	34	34	35
	24" o.c.	33	33	35	35	35	36	37	38	39	39	41	33	35	35	36
	18" o.c.	36	36	38	39	37	39	40	41	42	43	44	35	36	37	38
	15" o.c.	37	39	40	42	39	40	42	43	44	45	46	35	36	38	38
	12" o.c.	39	41	42	44	40	42	43	45	46	47	48	36	37	38	39
	8" o.c.	43	45	47	48	43	45	46	48	49	51	52	37	38	39	41
	6" o.c.	45	47	49	51	44	46	48	50	51	53	54	37	39	40	41
	4" o.c.	47	50	52	54	46	48	50	52	53	55	57	38	39	41	42
	3" o.c.	48	51	54	56	47	49	51	53	55	57	58	38	40	41	42

See page 25 for footnotes

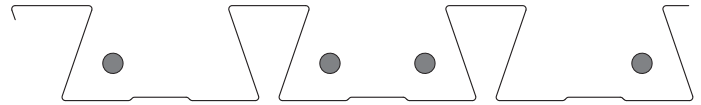
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	215	198	206	191	179	187	176	166	174	165	157	164	157	150	157
	30" o.c.	243	223	230	213	199	206	194	200	190	180	186	178	184	176	169
	24" o.c.	271	249	253	235	240	225	230	217	222	211	216	206	210	202	206
	18" o.c.	326	299	300	300	281	282	284	268	270	272	259	261	263	253	255
	15" o.c.	353	349	346	343	321	320	319	319	318	302	303	303	303	303	291
	12" o.c.	408	399	392	386	381	376	372	369	366	363	360	358	355	353	352
	8" o.c.	567	546	550	533	538	524	528	516	521	510	515	505	510	501	505
	6" o.c.	694	687	680	675	670	665	662	658	655	653	650	648	646	644	642
	4" o.c.	954	948	942	937	932	929	925	922	920	917	915	888	813	746	688
	3" o.c.	1183	1177	1172	1168	1164	1161	1158	1155	1153	1075	975	888	813	746	688
15 psf	36" o.c.	215	198	206	191	179	187	176	166	174	165	157	164	157	150	157
	30" o.c.	243	223	230	213	199	206	194	200	190	180	186	178	184	176	169
	24" o.c.	271	249	253	235	240	225	230	217	222	211	216	206	210	202	206
	18" o.c.	326	299	300	300	281	282	284	268	270	272	259	261	263	253	255
	15" o.c.	353	349	346	343	321	320	319	319	318	302	303	303	303	303	291
	12" o.c.	408	399	392	386	381	376	372	369	366	363	360	358	355	353	352
	8" o.c.	567	546	550	533	538	524	528	516	521	510	515	505	510	501	505
	6" o.c.	694	687	680	675	670	665	662	658	655	653	650	648	646	644	642
	4" o.c.	954	948	942	937	932	929	925	922	920	917	915	888	813	746	688
	3" o.c.	1183	1177	1172	1168	1164	1161	1158	1155	1153	1075	975	888	813	746	688
20 psf	36" o.c.	215	198	206	191	179	187	176	166	174	165	151	158	151	144	
	30" o.c.	243	223	230	213	199	206	194	200	190	180	180	172	177	169	
	24" o.c.	271	249	253	235	240	225	230	217	222	211	209	200	204	195	
	18" o.c.	326	299	300	300	281	282	284	268	270	272	253	255	257	246	
	15" o.c.	353	349	346	343	321	320	319	319	318	302	296	296	296	296	
	12" o.c.	408	399	392	386	381	376	372	369	366	363	353	351	348	346	
	8" o.c.	567	546	550	533	538	524	528	516	521	510	506	497	501	492	
	6" o.c.	694	687	680	675	670	665	662	658	655	653	639	636	634	631	
	4" o.c.	954	948	942	937	932	929	925	922	920	917	895	888	813	746	
	3" o.c.	1183	1177	1172	1168	1164	1161	1158	1155	1153	1075	975	888	813	746	

See page 25 for footnotes

3.5D20

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



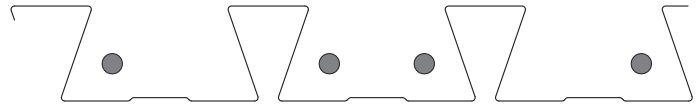
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
25 psf	36" o.c.	215	198	206	191	179	187	168	158	166	157	149	155			
	30" o.c.	243	223	230	213	199	206	186	192	182	172	178	169			
	24" o.c.	271	249	253	235	240	225	222	209	214	203	207	197			
	18" o.c.	326	299	300	300	281	282	276	260	262	263	250	252			
	15" o.c.	353	349	346	343	321	320	311	310	309	294	293	293			
	12" o.c.	408	399	392	386	381	376	364	360	357	353	350	348			
	8" o.c.	567	546	550	533	538	524	518	506	510	499	503	493			
	6" o.c.	694	687	680	675	670	665	649	645	641	638	634	631			
	4" o.c.	954	948	942	937	932	929	903	898	894	889	885	881			
3" o.c.	1183	1177	1172	1168	1164	1161	1121	1115	1109	1075	975	888				
30 psf	36" o.c.	215	198	206	182	169	177	166	156	163	154					
	30" o.c.	243	223	230	204	190	196	184	190	179	169					
	24" o.c.	271	249	253	226	230	215	220	207	211	200					
	18" o.c.	326	299	300	291	271	272	273	257	259	260					
	15" o.c.	353	349	346	334	311	310	309	308	307	291					
	12" o.c.	408	399	392	376	371	366	361	357	354	350					
	8" o.c.	567	546	550	522	526	511	515	502	506	495					
	6" o.c.	694	687	680	660	655	649	644	640	636	632					
	4" o.c.	954	948	942	913	907	901	895	889	884	878					
3" o.c.	1183	1177	1172	1130	1122	1115	1107	1100	1092	1075						
35 psf	36" o.c.	215	187	195	180	167	174	163	153							
	30" o.c.	243	213	218	202	187	193	181	187							
	24" o.c.	271	238	242	224	228	213	217	204							
	18" o.c.	326	288	288	288	268	269	270	254							
	15" o.c.	353	338	335	331	308	307	306	304							
	12" o.c.	408	388	380	374	368	363	358	354							
	8" o.c.	567	533	536	519	522	507	511	498							
	6" o.c.	694	671	663	656	650	644	639	634							
	4" o.c.	954	922	914	906	899	892	885	878							
3" o.c.	1183	1138	1128	1118	1109	1100	1090	1081								
40 psf	36" o.c.	203	185	192	177	164	171	160								
	30" o.c.	231	210	216	199	184	191	178								
	24" o.c.	258	235	239	221	225	210	214								
	18" o.c.	313	286	286	286	265	266	267								
	15" o.c.	340	336	332	328	305	304	302								
	12" o.c.	394	385	378	371	365	359	355								
	8" o.c.	552	530	533	515	518	503	506								
	6" o.c.	676	667	659	652	645	639	633								
	4" o.c.	926	916	907	898	889	881	873								
3" o.c.	1139	1128	1116	1105	1094	1082	1070									
45 psf	36" o.c.	201	182	190	174	161	168									
	30" o.c.	228	207	213	196	181	187									
	24" o.c.	256	233	237	218	222	206									
	18" o.c.	311	283	283	283	262	263									
	15" o.c.	338	333	329	325	302	300									
	12" o.c.	392	382	374	367	361	356									
	8" o.c.	548	526	529	511	514	498									
	6" o.c.	672	663	654	646	639	632									
	4" o.c.	920	909	898	888	878	868									
3" o.c.	1129	1116	1103	1089	1075	1061										
50 psf	36" o.c.	198	179	187	171	158										
	30" o.c.	226	205	210	193	178										
	24" o.c.	253	230	233	215	218										
	18" o.c.	308	280	280	279	259										
	15" o.c.	335	330	326	322	299										
	12" o.c.	389	379	371	364	357										
	8" o.c.	545	523	525	506	508										
	6" o.c.	668	658	649	640	632										
	4" o.c.	913	900	889	877	865										
3" o.c.	1118	1103	1087	1071	1054											

See page 25 for footnotes

3.5D18

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	244	224	235	218	204	214	202	190	200	190	181	189	181	174	181
	30" o.c.	277	254	263	244	228	237	223	231	219	208	216	206	213	204	196
	24" o.c.	310	285	291	270	277	260	266	251	257	245	250	239	245	235	240
	18" o.c.	376	345	347	348	325	328	330	312	315	317	302	305	308	295	298
	15" o.c.	408	405	402	399	373	373	372	372	372	353	354	355	355	355	341
	12" o.c.	473	464	456	450	444	440	435	431	428	425	422	420	417	415	413
	8" o.c.	661	637	643	624	630	614	619	606	611	599	605	594	600	590	595
	6" o.c.	810	802	795	789	784	780	776	772	769	766	764	762	759	757	756
	4" o.c.	1110	1103	1097	1092	1087	1084	1080	1077	1074	1072	1070	1068	1066	1064	1049
	3" o.c.	1367	1361	1356	1352	1348	1345	1342	1339	1337	1335	1333	1331	1240	1138	1049

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	42	40	43	42	46	49	48	48	50	50	49	52	53	53	55
	30" o.c.	45	44	47	46	49	52	51	53	53	53	55	53	55	56	56
	24" o.c.	49	48	50	49	54	54	56	56	58	57	59	56	57	58	60
	18" o.c.	54	53	55	57	58	60	62	62	63	65	65	59	60	61	63
	15" o.c.	56	58	60	61	61	63	65	66	68	68	69	60	62	64	65
	12" o.c.	60	62	63	65	65	66	68	70	71	73	74	62	64	65	67
	8" o.c.	68	70	72	74	71	73	75	77	79	80	82	65	67	68	70
	6" o.c.	72	75	77	80	74	76	79	81	83	85	87	66	68	70	72
	4" o.c.	78	81	84	87	78	81	83	86	88	91	93	68	70	72	74
	3" o.c.	81	85	88	91	80	83	86	89	91	94	96	69	71	73	75

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	312	286	300	279	260	273	257	243	255	242	231	242	231	222	232
	30" o.c.	354	325	336	312	291	302	285	295	280	266	275	263	272	261	250
	24" o.c.	396	363	372	345	353	332	340	321	329	312	320	305	312	299	306
	18" o.c.	480	440	443	444	415	418	421	398	402	405	386	390	393	377	381
	15" o.c.	521	517	513	510	476	476	475	475	474	451	452	453	453	454	436
	12" o.c.	604	592	583	575	567	561	556	551	546	542	539	536	533	530	527
	8" o.c.	844	813	821	796	804	783	791	773	781	765	772	759	765	753	760
	6" o.c.	1034	1024	1015	1008	1001	995	990	986	982	978	975	972	969	967	965
	4" o.c.	1417	1408	1400	1394	1388	1383	1379	1375	1371	1368	1365	1355	1240	1138	1049
	3" o.c.	1745	1738	1731	1726	1721	1717	1713	1710	1707	1639	1487	1355	1240	1138	1049
20 psf	36" o.c.	312	286	300	279	260	273	257	243	255	242	231	242	231	222	232
	30" o.c.	354	325	336	312	291	302	285	295	280	266	275	263	272	261	250
	24" o.c.	396	363	372	345	353	332	340	321	329	312	320	305	312	299	306
	18" o.c.	480	440	443	444	415	418	421	398	402	405	386	390	393	377	381
	15" o.c.	521	517	513	510	476	476	475	475	474	451	452	453	453	454	436
	12" o.c.	604	592	583	575	567	561	556	551	546	542	539	536	533	530	527
	8" o.c.	844	813	821	796	804	783	791	773	781	765	772	759	765	753	760
	6" o.c.	1034	1024	1015	1008	1001	995	990	986	982	978	975	972	969	967	965
	4" o.c.	1417	1408	1400	1394	1388	1383	1379	1375	1371	1368	1365	1355	1240	1138	1049
	3" o.c.	1745	1738	1731	1726	1721	1717	1713	1710	1707	1639	1487	1355	1240	1138	1049
30 psf	36" o.c.	312	286	300	279	260	273	257	234	245	232	221	231	220		
	30" o.c.	354	325	336	312	291	302	285	285	270	256	265	252	261		
	24" o.c.	396	363	372	345	353	332	340	311	319	302	309	295	301		
	18" o.c.	480	440	443	444	415	418	421	388	392	395	375	379	382		
	15" o.c.	521	517	513	510	476	476	475	465	464	440	441	441	441		
	12" o.c.	604	592	583	575	567	561	556	540	535	531	527	523	520		
	8" o.c.	844	813	821	796	804	783	791	760	766	750	756	742	748		
	6" o.c.	1034	1024	1015	1008	1001	995	990	968	963	958	953	949	945		
	4" o.c.	1417	1408	1400	1394	1388	1383	1379	1341	1334	1328	1322	1317	1240		
	3" o.c.	1745	1738	1731	1726	1721	1717	1713	1652	1644	1636	1487	1355	1240		

See page 25 for footnotes

3.5D18

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



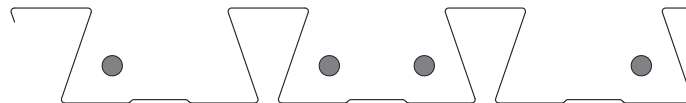
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
40 psf	36" o.c.	312	286	300	266	247	259	243	228	240	227					
	30" o.c.	354	325	336	299	278	289	270	280	264	250					
	24" o.c.	396	363	372	332	340	318	325	306	313	296					
	18" o.c.	480	440	443	431	401	404	406	383	386	388					
	15" o.c.	521	517	513	496	462	461	460	459	458	434					
	12" o.c.	604	592	583	560	552	546	539	534	529	524					
	8" o.c.	844	813	821	779	785	764	770	751	757	741					
	6" o.c.	1034	1024	1015	985	977	969	962	956	950	944					
	4" o.c.	1417	1408	1400	1354	1345	1335	1326	1318	1309	1300					
	3" o.c.	1745	1738	1731	1661	1649	1637	1626	1614	1601	1588					
50 psf	36" o.c.	296	269	283	261	241	254	237	222							
	30" o.c.	338	308	318	294	272	283	264	274							
	24" o.c.	380	347	354	327	334	312	319	299							
	18" o.c.	463	423	424	425	395	398	400	376							
	15" o.c.	505	499	494	490	456	455	453	452							
	12" o.c.	586	574	563	554	546	539	532	526							
	8" o.c.	823	791	797	771	777	755	760	741							
	6" o.c.	1009	996	985	975	965	957	948	940							
	4" o.c.	1375	1361	1348	1335	1323	1311	1299	1286							
	3" o.c.	1679	1662	1646	1630	1614	1597	1579	1561							
60 psf	36" o.c.	291	264	277	254	235	247									
	30" o.c.	333	303	312	288	266	276									
	24" o.c.	375	341	348	321	328	305									
	18" o.c.	458	418	418	419	389	391									
	15" o.c.	499	493	488	483	449	447									
	12" o.c.	580	568	557	547	538	530									
	8" o.c.	816	784	788	762	766	744									
	6" o.c.	1000	986	973	962	951	940									
	4" o.c.	1359	1343	1327	1311	1295	1279									
	3" o.c.	1654	1633	1612	1591	1568	1543									
70 psf	36" o.c.	285	258	270	248	228										
	30" o.c.	327	296	306	281	259										
	24" o.c.	369	335	341	314	320										
	18" o.c.	452	411	411	411	381										
	15" o.c.	493	486	481	476	441										
	12" o.c.	574	561	549	539	529										
	8" o.c.	807	775	778	751	753										
	6" o.c.	989	974	960	946	932										
	4" o.c.	1340	1321	1301	1280	1258										
	3" o.c.	1625	1598	1570	1540	1508										
80 psf	36" o.c.	279	251	263	240											
	30" o.c.	321	290	298	273											
	24" o.c.	362	328	334	306											
	18" o.c.	445	404	404	403											
	15" o.c.	486	479	473	466											
	12" o.c.	567	553	540	529											
	8" o.c.	798	764	766	737											
	6" o.c.	976	959	942	925											
	4" o.c.	1318	1294	1268	1240											
	3" o.c.	1589	1555	1517	1475											
90 psf	36" o.c.	271	243	255												
	30" o.c.	313	282	290												
	24" o.c.	355	320	325												
	18" o.c.	438	396	395												
	15" o.c.	478	470	463												
	12" o.c.	558	543	530												
	8" o.c.	787	752	750												
	6" o.c.	962	941	920												
	4" o.c.	1291	1260	1225												
	3" o.c.	1547	1501	1450												

See page 25 for footnotes

3.5D16

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	326	299	316	294	274	290	273	258	272	258	246	258	247	237	248
	30" o.c.	373	342	356	331	309	322	303	315	299	284	295	282	292	280	269
	24" o.c.	420	385	395	367	377	354	364	344	353	336	344	329	337	323	331
	18" o.c.	512	470	474	477	446	450	454	429	434	438	418	422	426	409	413
	15" o.c.	558	554	551	549	513	514	514	514	514	489	490	491	493	494	474
	12" o.c.	648	637	628	620	613	607	602	597	593	589	586	583	580	577	575
	8" o.c.	910	879	888	863	872	850	859	841	849	833	841	827	835	822	829
	6" o.c.	1116	1106	1098	1091	1085	1080	1075	1071	1067	1063	1060	1058	1055	1053	1051
	4" o.c.	1519	1511	1504	1498	1493	1489	1485	1481	1478	1475	1473	1470	1468	1466	1464
	3" o.c.	1853	1847	1841	1836	1832	1828	1825	1822	1820	1817	1815	1813	1759	1616	1489

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	53	51	55	53	61	64	63	62	65	64	62	74	75	75	77
	30" o.c.	59	57	60	58	65	68	67	70	69	68	70	77	80	80	80
	24" o.c.	64	62	64	62	73	72	75	74	76	75	77	81	83	84	86
	18" o.c.	72	70	72	74	80	82	84	83	85	87	86	87	89	90	92
	15" o.c.	75	77	79	80	85	87	89	91	92	92	93	90	92	94	95
	12" o.c.	82	83	85	86	91	93	95	96	98	99	101	94	96	98	100
	8" o.c.	95	96	100	101	102	104	107	109	111	113	115	99	102	104	106
	6" o.c.	102	105	108	111	108	111	114	117	119	121	123	102	105	107	110
	4" o.c.	113	117	120	123	116	119	123	126	129	131	134	106	109	111	114
	3" o.c.	119	123	127	131	120	124	128	131	134	137	140	108	111	113	116

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	416	382	404	375	350	370	348	329	347	329	314	330	315	302	317
	30" o.c.	476	437	454	422	394	411	387	402	381	362	377	360	373	358	343
	24" o.c.	536	492	505	469	482	452	464	439	451	428	440	420	430	413	423
	18" o.c.	654	600	605	609	569	575	580	548	554	559	533	539	544	522	527
	15" o.c.	712	708	704	701	655	656	656	656	656	624	626	627	629	630	605
	12" o.c.	827	814	802	792	783	776	769	763	757	753	748	744	741	737	734
	8" o.c.	1162	1122	1134	1101	1113	1086	1097	1073	1084	1064	1074	1056	1065	1049	1058
	6" o.c.	1424	1412	1402	1393	1385	1378	1372	1367	1362	1358	1354	1350	1347	1344	1341
	4" o.c.	1940	1929	1920	1913	1906	1901	1896	1891	1887	1883	1880	1877	1759	1616	1489
	3" o.c.	2366	2357	2350	2344	2339	2334	2330	2326	2323	2320	2110	1923	1759	1616	1489
30 psf	36" o.c.	416	382	404	375	350	370	348	329	347	329	314	320	306	293	307
	30" o.c.	476	437	454	422	394	411	387	402	381	362	377	350	363	348	333
	24" o.c.	536	492	505	469	482	452	464	439	451	428	440	410	420	402	412
	18" o.c.	654	600	605	609	569	575	580	548	554	559	533	529	534	511	516
	15" o.c.	712	708	704	701	655	656	656	656	656	624	626	617	618	619	594
	12" o.c.	827	814	802	792	783	776	769	763	757	753	748	733	729	725	721
	8" o.c.	1162	1122	1134	1101	1113	1086	1097	1073	1084	1064	1074	1039	1048	1031	1039
	6" o.c.	1424	1412	1402	1393	1385	1378	1372	1367	1362	1358	1354	1326	1321	1317	1312
	4" o.c.	1940	1929	1920	1913	1906	1901	1896	1891	1887	1883	1880	1826	1759	1616	1489
	3" o.c.	2366	2357	2350	2344	2339	2334	2330	2326	2323	2320	2110	1923	1759	1616	1489
40 psf	36" o.c.	416	382	404	375	350	370	335	316	333	315	299	315	300		
	30" o.c.	476	437	454	422	394	411	374	389	368	348	362	345	358		
	24" o.c.	536	492	505	469	482	452	451	426	437	414	425	405	415		
	18" o.c.	654	600	605	609	569	575	566	534	539	544	518	523	528		
	15" o.c.	712	708	704	701	655	656	642	641	641	609	610	611	611		
	12" o.c.	827	814	802	792	783	776	754	747	741	735	730	726	721		
	8" o.c.	1162	1122	1134	1101	1113	1086	1076	1052	1061	1040	1048	1029	1037		
	6" o.c.	1424	1412	1402	1393	1385	1378	1343	1336	1329	1322	1316	1310	1304		
	4" o.c.	1940	1929	1920	1913	1906	1901	1839	1830	1820	1811	1802	1793	1759		
	3" o.c.	2366	2357	2350	2344	2339	2334	2236	2223	2211	2198	2110	1923	1759		

See page 25 for footnotes

3.5D16

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



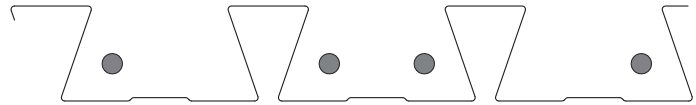
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
50 psf	36" o.c.	416	382	388	359	333	352	330	310	327	310					
	30" o.c.	476	437	439	406	377	393	369	383	362	342					
	24" o.c.	536	492	489	453	465	434	446	420	431	408					
	18" o.c.	654	600	589	592	551	556	560	528	533	538					
	15" o.c.	712	708	687	683	637	636	636	635	634	602					
	12" o.c.	827	814	784	773	763	755	747	740	734	728					
	8" o.c.	1162	1122	1111	1077	1086	1058	1067	1042	1050	1028					
	6" o.c.	1424	1412	1371	1359	1349	1339	1330	1321	1313	1304					
	4" o.c.	1940	1929	1864	1850	1837	1825	1812	1799	1786	1773					
	3" o.c.	2366	2357	2259	2242	2225	2208	2191	2173	2154	2135					
60 psf	36" o.c.	398	362	383	354	328	347	324	304	321						
	30" o.c.	457	417	433	401	372	388	363	377	355						
	24" o.c.	517	472	484	447	459	428	440	413	424						
	18" o.c.	634	580	583	586	545	550	554	521	526						
	15" o.c.	692	686	681	677	631	630	629	628	626						
	12" o.c.	806	791	778	767	757	748	739	732	725						
	8" o.c.	1135	1093	1103	1068	1077	1048	1055	1030	1036						
	6" o.c.	1390	1374	1360	1347	1335	1324	1313	1302	1291						
	4" o.c.	1879	1861	1843	1827	1810	1794	1777	1760	1742						
	3" o.c.	2269	2248	2226	2204	2181	2158	2134	2109	2082						
70 psf	36" o.c.	393	357	377	348	322	340	317								
	30" o.c.	452	412	428	395	366	381	356								
	24" o.c.	511	466	478	441	453	422	433								
	18" o.c.	628	574	577	580	539	543	546								
	15" o.c.	686	680	675	670	624	622	621								
	12" o.c.	800	785	771	759	749	739	730								
	8" o.c.	1127	1085	1093	1058	1065	1035	1041								
	6" o.c.	1380	1363	1347	1332	1318	1305	1291								
	4" o.c.	1860	1839	1819	1798	1778	1756	1733								
	3" o.c.	2240	2213	2186	2158	2128	2096	2063								
80 psf	36" o.c.	387	351	371	341	315	333									
	30" o.c.	447	406	421	388	359	373									
	24" o.c.	506	460	471	434	445	414									
	18" o.c.	623	568	570	572	531	535									
	15" o.c.	680	674	668	663	616	613									
	12" o.c.	794	778	764	751	740	729									
	8" o.c.	1119	1076	1082	1046	1052	1020									
	6" o.c.	1368	1349	1332	1315	1298	1281									
	4" o.c.	1839	1814	1789	1764	1737	1708									
	3" o.c.	2207	2174	2139	2102	2062	2019									
90 psf	36" o.c.	381	345	364	334	307										
	30" o.c.	440	399	414	381	351										
	24" o.c.	499	454	464	427	437										
	18" o.c.	616	561	563	564	523										
	15" o.c.	674	667	660	654	606										
	12" o.c.	787	770	755	742	729										
	8" o.c.	1109	1065	1070	1032	1035										
	6" o.c.	1355	1334	1313	1293	1272										
	4" o.c.	1814	1785	1754	1721	1685										
	3" o.c.	2168	2127	2083	2035	1981										
100 psf	36" o.c.	375	338	357	326											
	30" o.c.	434	392	407	372											
	24" o.c.	493	446	457	419											
	18" o.c.	609	553	555	555											
	15" o.c.	666	658	651	644											
	12" o.c.	779	761	745	731											
	8" o.c.	1098	1053	1055	1015											
	6" o.c.	1339	1316	1292	1267											
	4" o.c.	1786	1750	1711	1668											
	3" o.c.	2123	2072	2016	1952											

See page 25 for footnotes

3.5D14

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	430	395	420	391	365	388	365	345	365	347	331	349	334	320	336
	30" o.c.	496	455	476	442	413	433	408	425	403	383	400	382	397	380	365
	24" o.c.	561	515	531	494	509	478	493	466	479	456	469	447	460	441	452
	18" o.c.	690	634	641	647	604	612	618	585	592	599	571	578	584	560	567
	15" o.c.	753	751	749	747	699	700	701	703	704	670	672	674	677	678	652
	12" o.c.	879	866	855	846	838	830	824	819	814	809	805	801	798	795	792
	8" o.c.	1238	1197	1212	1178	1192	1164	1177	1153	1165	1144	1156	1137	1148	1131	1141
	6" o.c.	1514	1503	1494	1486	1479	1473	1468	1463	1459	1455	1451	1448	1445	1442	1440
	4" o.c.	2041	2032	2024	2018	2012	2007	2003	1999	1996	1993	1990	1987	1985	1983	1981
	3" o.c.	2455	2448	2443	2438	2433	2429	2426	2423	2420	2418	2416	2414	2412	2266	2088

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	65	62	66	64	76	81	79	76	81	78	76	101	101	100	104
	30" o.c.	73	70	73	70	83	87	85	88	86	84	88	105	109	108	108
	24" o.c.	80	76	80	76	95	93	96	94	97	95	97	112	115	115	118
	18" o.c.	92	88	91	93	104	107	109	107	109	111	110	123	125	126	128
	15" o.c.	97	99	100	102	112	115	117	118	120	118	120	129	131	133	134
	12" o.c.	106	107	109	110	122	124	126	127	129	130	131	135	137	139	142
	8" o.c.	126	127	131	131	141	142	146	147	150	151	154	145	148	151	154
	6" o.c.	138	141	144	147	151	154	157	160	162	165	167	151	154	157	160
	4" o.c.	156	160	164	167	165	169	172	176	179	182	185	158	162	165	168
	3" o.c.	167	171	176	180	173	177	181	185	189	192	195	162	166	169	172

See page 25 for footnotes

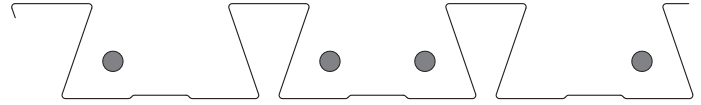
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	549	504	537	499	466	495	466	440	466	443	422	445	426	408	429
	30" o.c.	633	581	608	565	528	553	520	543	515	489	510	487	507	486	466
	24" o.c.	716	657	678	630	650	610	629	594	612	582	598	571	587	563	577
	18" o.c.	880	809	818	825	772	781	790	747	756	764	729	738	746	715	724
	15" o.c.	962	958	956	953	892	894	895	897	898	855	858	861	864	866	832
	12" o.c.	1122	1105	1091	1080	1069	1060	1052	1045	1039	1033	1028	1023	1019	1015	1011
	8" o.c.	1580	1528	1547	1504	1522	1486	1503	1472	1487	1460	1475	1451	1465	1443	1456
	6" o.c.	1933	1919	1907	1897	1888	1881	1874	1868	1862	1857	1853	1849	1845	1841	1838
	4" o.c.	2605	2594	2584	2576	2569	2563	2557	2552	2548	2544	2540	2537	2467	2266	2088
	3" o.c.	3134	3126	3118	3112	3106	3101	3097	3093	3090	3087	2959	2697	2467	2266	2088
40 psf	36" o.c.	549	504	537	499	466	495	466	440	466	431	409	432	413	395	415
	30" o.c.	633	581	608	565	528	553	520	543	515	477	497	474	493	472	452
	24" o.c.	716	657	678	630	650	610	629	594	612	569	585	558	573	548	563
	18" o.c.	880	809	818	825	772	781	790	747	756	751	715	723	731	700	708
	15" o.c.	962	958	956	953	892	894	895	897	898	840	843	845	847	849	815
	12" o.c.	1122	1105	1091	1080	1069	1060	1052	1045	1039	1017	1011	1005	1000	996	991
	8" o.c.	1580	1528	1547	1504	1522	1486	1503	1472	1487	1436	1448	1423	1435	1413	1423
	6" o.c.	1933	1919	1907	1897	1888	1881	1874	1868	1862	1819	1811	1805	1798	1791	1785
	4" o.c.	2605	2594	2584	2576	2569	2563	2557	2552	2548	2463	2453	2443	2433	2266	2088
	3" o.c.	3134	3126	3118	3112	3106	3101	3097	3093	3090	2952	2938	2697	2467	2266	2088
50 psf	36" o.c.	549	504	537	499	466	479	450	424	449	426	404	427	407		
	30" o.c.	633	581	608	565	528	537	504	526	498	472	492	469	487		
	24" o.c.	716	657	678	630	650	594	612	577	594	564	579	552	567		
	18" o.c.	880	809	818	825	772	764	772	729	737	745	709	717	724		
	15" o.c.	962	958	956	953	892	876	877	878	878	834	837	839	840		
	12" o.c.	1122	1105	1091	1080	1069	1041	1032	1024	1016	1009	1003	997	992		
	8" o.c.	1580	1528	1547	1504	1522	1458	1472	1440	1453	1424	1436	1410	1421		
	6" o.c.	1933	1919	1907	1897	1888	1839	1828	1818	1809	1800	1791	1783	1774		
	4" o.c.	2605	2594	2584	2576	2569	2478	2465	2451	2438	2424	2410	2396	2382		
	3" o.c.	3134	3126	3118	3112	3106	2964	2946	2927	2908	2889	2869	2697	2467		

See page 25 for footnotes

3.5D14

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



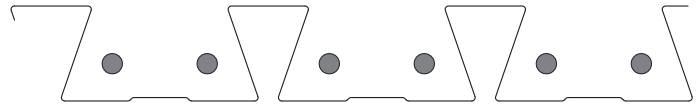
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
60 psf	36" o.c.	549	504	537	480	446	474	445	419	443	420	398				
	30" o.c.	633	581	608	546	508	532	499	521	492	466	486				
	24" o.c.	716	657	678	611	630	589	607	572	588	557	573				
	18" o.c.	880	809	818	805	750	759	766	723	731	738	702				
	15" o.c.	962	958	956	932	870	870	871	871	871	827	829				
	12" o.c.	1122	1105	1091	1056	1044	1034	1025	1016	1008	1001	994				
	8" o.c.	1580	1528	1547	1471	1485	1448	1461	1428	1439	1410	1420				
	6" o.c.	1933	1919	1907	1849	1836	1823	1811	1800	1788	1777	1766				
	4" o.c.	2605	2594	2584	2482	2464	2447	2429	2412	2394	2375	2356				
	3" o.c.	3134	3126	3118	2960	2937	2913	2889	2864	2838	2811	2782				
70 psf	36" o.c.	549	482	514	475	441	469	439	412	437						
	30" o.c.	633	559	584	540	502	526	493	515	486						
	24" o.c.	716	635	654	606	624	583	601	565	582						
	18" o.c.	880	786	793	799	745	753	760	716	724						
	15" o.c.	962	934	929	925	863	864	864	863	863						
	12" o.c.	1122	1079	1063	1049	1037	1026	1016	1007	999						
	8" o.c.	1580	1492	1506	1462	1474	1436	1447	1414	1423						
	6" o.c.	1933	1868	1850	1834	1819	1805	1791	1777	1762						
	4" o.c.	2605	2496	2474	2453	2431	2409	2387	2364	2340						
	3" o.c.	3134	2971	2943	2914	2884	2854	2821	2788	2752						
80 psf	36" o.c.	524	477	508	469	435	463	433	406							
	30" o.c.	607	554	579	535	496	520	487	508							
	24" o.c.	690	630	649	600	618	577	594	558							
	18" o.c.	853	780	787	793	738	746	752	708							
	15" o.c.	933	928	923	919	856	856	855	854							
	12" o.c.	1091	1072	1056	1042	1029	1018	1007	997							
	8" o.c.	1538	1483	1496	1450	1462	1422	1431	1396							
	6" o.c.	1875	1855	1835	1817	1800	1783	1766	1748							
	4" o.c.	2497	2471	2445	2419	2392	2365	2336	2305							
	3" o.c.	2965	2931	2896	2860	2823	2783	2741	2695							
90 psf	36" o.c.	518	472	502	463	429	456	425								
	30" o.c.	602	548	573	529	490	513	479								
	24" o.c.	684	624	643	594	611	570	586								
	18" o.c.	847	774	781	786	731	738	743								
	15" o.c.	927	921	916	911	848	847	846								
	12" o.c.	1084	1065	1049	1034	1020	1008	996								
	8" o.c.	1528	1473	1484	1438	1447	1406	1412								
	6" o.c.	1862	1840	1818	1797	1777	1756	1735								
	4" o.c.	2472	2442	2411	2379	2346	2311	2273								
	3" o.c.	2926	2886	2843	2799	2751	2699	2644								
100 psf	36" o.c.	513	466	496	456	422	448									
	30" o.c.	596	542	566	522	483	505									
	24" o.c.	678	618	636	587	604	562									
	18" o.c.	841	768	774	778	723	729									
	15" o.c.	921	914	908	903	840	838									
	12" o.c.	1077	1057	1040	1024	1010	996									
	8" o.c.	1518	1462	1471	1423	1429	1386									
	6" o.c.	1847	1822	1798	1774	1750	1724									
	4" o.c.	2445	2409	2372	2333	2291	2246									
	3" o.c.	2883	2835	2783	2727	2666	2600									
110 psf	36" o.c.	507	459	489	449	414										
	30" o.c.	590	536	559	514	475										
	24" o.c.	672	611	629	579	595										
	18" o.c.	834	761	766	770	714										
	15" o.c.	914	907	900	893	830										
	12" o.c.	1070	1049	1030	1014	998										
	8" o.c.	1507	1449	1455	1405	1408										
	6" o.c.	1831	1803	1775	1747	1716										
	4" o.c.	2414	2371	2327	2279	2225										
	3" o.c.	2835	2777	2714	2644	2567										

See page 25 for footnotes

3.5D20

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	201	184	189	175	164	169	159	150	155	147	140	145	138	133	137
	30" o.c.	223	205	207	193	180	184	173	177	168	159	163	156	159	153	147
	24" o.c.	245	225	226	210	212	199	201	190	193	183	186	178	180	173	176
	18" o.c.	288	265	263	261	244	244	244	230	231	231	220	221	222	213	214
	15" o.c.	310	304	300	295	276	274	272	270	269	255	255	254	254	253	243
	12" o.c.	353	344	336	330	324	319	314	310	306	303	300	298	295	293	291
	8" o.c.	482	462	463	448	450	437	439	428	431	422	424	416	419	412	414
	6" o.c.	586	577	570	563	558	553	549	545	541	538	535	533	530	528	526
	4" o.c.	809	800	793	787	781	777	773	769	766	763	760	758	755	746	688
	3" o.c.	1017	1009	1002	997	992	987	983	980	977	974	972	888	813	746	688

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	31	31	33	33	33	34	35	35	36	36	36	32	33	34	35
	30" o.c.	33	33	35	35	34	36	36	38	38	38	39	33	34	35	35
	24" o.c.	35	35	36	36	36	37	38	39	40	40	42	34	35	36	37
	18" o.c.	37	38	39	40	38	39	41	41	43	44	44	35	36	37	38
	15" o.c.	38	40	41	43	39	41	42	43	45	45	46	35	37	38	39
	12" o.c.	40	41	43	44	41	42	44	45	46	47	49	36	37	38	39
	8" o.c.	43	45	47	49	43	45	47	48	50	51	52	37	38	39	41
	6" o.c.	45	47	49	51	44	46	48	50	51	53	54	38	39	40	41
	4" o.c.	47	50	52	54	46	48	50	52	54	55	57	38	39	41	42
	3" o.c.	49	51	54	56	47	49	51	53	55	57	58	38	40	41	42

See page 25 for footnotes

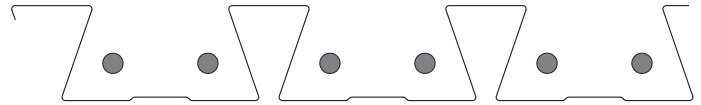
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	257	236	241	224	209	215	203	191	198	188	179	185	177	169	175
	30" o.c.	285	261	265	246	230	235	221	226	214	203	208	199	204	195	187
	24" o.c.	313	287	288	268	271	254	257	243	246	234	238	227	230	221	224
	18" o.c.	368	338	336	334	311	311	311	294	295	295	281	283	284	272	273
	15" o.c.	396	389	382	377	352	350	347	345	343	326	325	324	324	323	310
	12" o.c.	451	439	429	421	413	407	401	396	391	387	383	380	377	374	371
	8" o.c.	615	590	591	571	574	558	561	547	550	538	542	531	535	525	529
	6" o.c.	749	737	728	719	712	706	700	695	691	687	683	680	677	674	672
	4" o.c.	1032	1021	1012	1004	998	992	986	982	978	974	970	888	813	746	688
	3" o.c.	1298	1288	1279	1272	1266	1260	1255	1251	1191	1075	975	888	813	746	688
15 psf	36" o.c.	257	236	241	224	209	215	203	191	198	188	179	185	177	169	175
	30" o.c.	285	261	265	246	230	235	221	226	214	203	208	199	204	195	187
	24" o.c.	313	287	288	268	271	254	257	243	246	234	238	227	230	221	224
	18" o.c.	368	338	336	334	311	311	311	294	295	295	281	283	284	272	273
	15" o.c.	396	389	382	377	352	350	347	345	343	326	325	324	324	323	310
	12" o.c.	451	439	429	421	413	407	401	396	391	387	383	380	377	374	371
	8" o.c.	615	590	591	571	574	558	561	547	550	538	542	531	535	525	529
	6" o.c.	749	737	728	719	712	706	700	695	691	687	683	680	677	674	672
	4" o.c.	1032	1021	1012	1004	998	992	986	982	978	974	970	888	813	746	688
	3" o.c.	1298	1288	1279	1272	1266	1260	1255	1251	1191	1075	975	888	813	746	688
20 psf	36" o.c.	257	236	241	224	209	215	203	191	198	188	179	185	177	169	175
	30" o.c.	285	261	265	246	230	235	221	226	214	203	208	199	204	195	187
	24" o.c.	313	287	288	268	271	254	257	243	246	234	238	227	230	221	224
	18" o.c.	368	338	336	334	311	311	311	294	295	295	281	283	284	272	273
	15" o.c.	396	389	382	377	352	350	347	345	343	326	325	324	324	323	310
	12" o.c.	451	439	429	421	413	407	401	396	391	387	383	380	377	374	371
	8" o.c.	615	590	591	571	574	558	561	547	550	538	542	531	535	525	529
	6" o.c.	749	737	728	719	712	706	700	695	691	687	683	680	677	674	672
	4" o.c.	1032	1021	1012	1004	998	992	986	982	978	974	970	888	813	746	688
	3" o.c.	1298	1288	1279	1272	1266	1260	1255	1251	1191	1075	975	888	813	746	688

See page 25 for footnotes

3.5D20

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



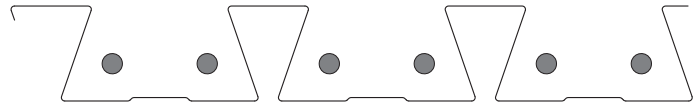
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
25 psf	36" o.c.	257	236	241	224	209	215	203	191	198	188	179	185			
	30" o.c.	285	261	265	246	230	235	221	226	214	203	208	199			
	24" o.c.	313	287	288	268	271	254	257	243	246	234	238	227			
	18" o.c.	368	338	336	334	311	311	311	294	295	295	281	283			
	15" o.c.	396	389	382	377	352	350	347	345	343	326	325	324			
	12" o.c.	451	439	429	421	413	407	401	396	391	387	383	380			
	8" o.c.	615	590	591	571	574	558	561	547	550	538	542	531			
	6" o.c.	749	737	728	719	712	706	700	695	691	687	683	680			
	4" o.c.	1032	1021	1012	1004	998	992	986	982	978	974	970	888			
30 psf	3" o.c.	1298	1288	1279	1272	1266	1260	1255	1251	1191	1075	975	888			
	36" o.c.	257	236	241	224	209	215	203	191	198	179					
	30" o.c.	285	261	265	246	230	235	221	226	214	194					
	24" o.c.	313	287	288	268	271	254	257	243	246	225					
	18" o.c.	368	338	336	334	311	311	311	294	295	287					
	15" o.c.	396	389	382	377	352	350	347	345	343	317					
	12" o.c.	451	439	429	421	413	407	401	396	391	378					
	8" o.c.	615	590	591	571	574	558	561	547	550	528					
	6" o.c.	749	737	728	719	712	706	700	695	691	676					
35 psf	4" o.c.	1032	1021	1012	1004	998	992	986	982	978	958					
	3" o.c.	1298	1288	1279	1272	1266	1260	1255	1251	1191	1075					
	36" o.c.	257	236	241	224	209	215	193	181							
	30" o.c.	285	261	265	246	230	235	211	215							
	24" o.c.	313	287	288	268	271	254	247	232							
	18" o.c.	368	338	336	334	311	311	301	283							
	15" o.c.	396	389	382	377	352	350	337	334							
	12" o.c.	451	439	429	421	413	407	390	385							
	8" o.c.	615	590	591	571	574	558	549	535							
40 psf	6" o.c.	749	737	728	719	712	706	688	682							
	4" o.c.	1032	1021	1012	1004	998	992	969	963							
	3" o.c.	1298	1288	1279	1272	1266	1260	1230	1223							
	36" o.c.	257	236	241	224	197	203	190								
	30" o.c.	285	261	265	246	218	222	208								
	24" o.c.	313	287	288	268	259	242	244								
	18" o.c.	368	338	336	334	300	299	299								
	15" o.c.	396	389	382	377	340	337	334								
	12" o.c.	451	439	429	421	401	394	388								
45 psf	8" o.c.	615	590	591	571	561	544	547								
	6" o.c.	749	737	728	719	698	691	685								
	4" o.c.	1032	1021	1012	1004	979	971	965								
	3" o.c.	1298	1288	1279	1272	1238	1230	1223								
	36" o.c.	257	236	228	211	195	201									
	30" o.c.	285	261	252	232	216	220									
	24" o.c.	313	287	275	254	257	239									
	18" o.c.	368	338	322	320	297	297									
	15" o.c.	396	389	369	363	338	335									
50 psf	12" o.c.	451	439	416	407	399	392									
	8" o.c.	615	590	577	557	559	542									
	6" o.c.	749	737	712	703	695	688									
	4" o.c.	1032	1021	992	983	974	967									
	3" o.c.	1298	1288	1251	1241	1232	1224									
	36" o.c.	257	221	226	208	193										
	30" o.c.	285	247	250	230	213										
	24" o.c.	313	272	273	252	254										
	18" o.c.	368	323	320	318	295										
50 psf	15" o.c.	396	374	367	361	336										
	12" o.c.	451	424	414	404	396										
	8" o.c.	615	574	575	554	556										
	6" o.c.	749	720	709	700	692										
	4" o.c.	1032	999	988	979	970										
50 psf	3" o.c.	1298	1257	1246	1235	1225										

See page 25 for footnotes

3.5D18

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	289	265	273	253	236	245	230	218	226	214	204	212	202	194	201
	30" o.c.	322	295	301	279	261	268	252	258	245	233	239	228	234	225	216
	24" o.c.	355	326	329	306	310	291	295	279	283	269	274	262	266	255	260
	18" o.c.	421	387	385	384	359	359	360	340	341	343	326	328	330	316	318
	15" o.c.	454	447	441	436	407	405	402	401	399	379	379	378	378	377	362
	12" o.c.	520	507	497	488	480	473	467	461	456	452	448	444	441	438	435
	8" o.c.	714	686	689	667	671	652	656	641	645	631	636	624	628	618	622
	6" o.c.	873	860	850	842	834	827	821	816	811	807	803	800	797	794	791
	4" o.c.	1205	1194	1184	1176	1169	1163	1157	1152	1148	1144	1141	1137	1134	1132	1049
	3" o.c.	1513	1503	1494	1486	1480	1474	1469	1465	1460	1457	1454	1355	1240	1138	1049

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	45	44	46	45	49	51	51	51	53	52	52	53	54	54	56
	30" o.c.	48	47	50	49	52	54	54	56	55	55	57	54	56	57	58
	24" o.c.	51	51	53	52	56	56	58	58	60	59	61	56	58	59	61
	18" o.c.	56	56	57	59	59	61	63	63	65	66	66	59	61	62	64
	15" o.c.	58	60	61	63	62	64	66	67	69	69	70	61	62	64	65
	12" o.c.	61	63	65	66	65	67	69	71	72	73	75	62	64	66	67
	8" o.c.	69	71	73	75	71	73	76	77	79	81	83	65	67	68	70
	6" o.c.	73	75	78	80	74	77	79	81	83	85	87	66	68	70	72
	4" o.c.	78	81	85	87	78	81	84	86	89	91	93	68	70	72	74
	3" o.c.	81	85	88	92	80	83	86	89	91	94	96	69	71	73	75

See page 25 for footnotes

Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	369	338	348	323	302	312	294	278	288	274	261	270	258	248	257
	30" o.c.	411	377	384	357	333	342	322	330	313	297	305	291	299	287	275
	24" o.c.	453	416	420	390	395	371	377	356	362	344	350	334	340	326	332
	18" o.c.	538	494	492	490	458	458	459	434	436	437	417	419	421	404	406
	15" o.c.	580	571	563	556	520	517	514	511	509	484	483	483	482	482	462
	12" o.c.	664	648	634	622	612	603	596	589	582	577	572	567	563	559	555
	8" o.c.	912	876	880	851	856	832	838	818	823	806	812	796	802	789	794
	6" o.c.	1114	1098	1085	1074	1065	1056	1049	1042	1036	1030	1026	1021	1017	1013	1010
	4" o.c.	1539	1524	1512	1502	1492	1485	1477	1471	1466	1461	1456	1355	1240	1138	1049
	3" o.c.	1931	1918	1907	1897	1889	1882	1875	1870	1817	1639	1487	1355	1240	1138	1049
20 psf	36" o.c.	369	338	348	323	302	312	294	278	288	274	261	270	258	248	257
	30" o.c.	411	377	384	357	333	342	322	330	313	297	305	291	299	287	275
	24" o.c.	453	416	420	390	395	371	377	356	362	344	350	334	340	326	332
	18" o.c.	538	494	492	490	458	458	459	434	436	437	417	419	421	404	406
	15" o.c.	580	571	563	556	520	517	514	511	509	484	483	483	482	482	462
	12" o.c.	664	648	634	622	612	603	596	589	582	577	572	567	563	559	555
	8" o.c.	912	876	880	851	856	832	838	818	823	806	812	796	802	789	794
	6" o.c.	1114	1098	1085	1074	1065	1056	1049	1042	1036	1030	1026	1021	1017	1013	1010
	4" o.c.	1539	1524	1512	1502	1492	1485	1477	1471	1466	1461	1456	1355	1240	1138	1049
	3" o.c.	1931	1918	1907	1897	1889	1882	1875	1870	1817	1639	1487	1355	1240	1138	1049
30 psf	36" o.c.	369	338	348	323	302	312	294	278	288	274	261	270	258		
	30" o.c.	411	377	384	357	333	342	322	330	313	297	305	291	299		
	24" o.c.	453	416	420	390	395	371	377	356	362	344	350	334	340		
	18" o.c.	538	494	492	490	458	458	459	434	436	437	417	419	421		
	15" o.c.	580	571	563	556	520	517	514	511	509	484	483	483	482		
	12" o.c.	664	648	634	622	612	603	596	589	582	577	572	567	563		
	8" o.c.	912	876	880	851	856	832	838	818	823	806	812	796	802		
	6" o.c.	1114	1098	1085	1074	1065	1056	1049	1042	1036	1030	1026	1021	1017		
	4" o.c.	1539	1524	1512	1502	1492	1485	1477	1471	1466	1461	1456	1355	1240		
	3" o.c.	1931	1918	1907	1897	1889	1882	1875	1870	1817	1639	1487	1355	1240		

See page 25 for footnotes

3.5D18

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



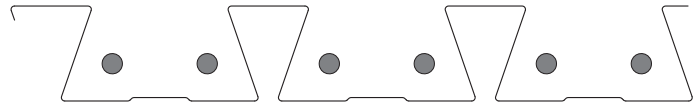
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
40 psf	36" o.c.	369	338	348	323	302	312	294	278	276	261					
	30" o.c.	411	377	384	357	333	342	322	330	301	285					
	24" o.c.	453	416	420	390	395	371	377	356	350	331					
	18" o.c.	538	494	492	490	458	458	459	434	423	425					
	15" o.c.	580	571	563	556	520	517	514	511	497	471					
	12" o.c.	664	648	634	622	612	603	596	589	570	564					
	8" o.c.	912	876	880	851	856	832	838	818	809	792					
	6" o.c.	1114	1098	1085	1074	1065	1056	1049	1042	1020	1014					
	4" o.c.	1539	1524	1512	1502	1492	1485	1477	1471	1441	1434					
	3" o.c.	1931	1918	1907	1897	1889	1882	1875	1870	1817	1639					
50 psf	36" o.c.	369	338	348	323	302	297	278	261							
	30" o.c.	411	377	384	357	333	326	306	313							
	24" o.c.	453	416	420	390	395	355	361	339							
	18" o.c.	538	494	492	490	458	443	443	417							
	15" o.c.	580	571	563	556	520	501	497	494							
	12" o.c.	664	648	634	622	612	587	579	571							
	8" o.c.	912	876	880	851	856	815	819	799							
	6" o.c.	1114	1098	1085	1074	1065	1036	1027	1020							
	4" o.c.	1539	1524	1512	1502	1492	1455	1446	1437							
	3" o.c.	1931	1918	1907	1897	1889	1837	1826	1817							
60 psf	36" o.c.	369	338	330	304	282	292									
	30" o.c.	411	377	366	338	313	321									
	24" o.c.	453	416	402	371	376	350									
	18" o.c.	538	494	473	471	438	438									
	15" o.c.	580	571	544	537	499	496									
	12" o.c.	664	648	615	603	592	582									
	8" o.c.	912	876	859	829	833	809									
	6" o.c.	1114	1098	1062	1050	1039	1029									
	4" o.c.	1539	1524	1480	1467	1455	1444									
	3" o.c.	1931	1918	1860	1846	1832	1820									
70 psf	36" o.c.	347	316	325	299	277										
	30" o.c.	390	355	361	332	308										
	24" o.c.	432	394	397	366	370										
	18" o.c.	516	471	468	465	432										
	15" o.c.	558	548	539	532	494										
	12" o.c.	642	625	610	597	586										
	8" o.c.	888	851	853	823	827										
	6" o.c.	1088	1071	1056	1043	1031										
	4" o.c.	1504	1486	1470	1456	1443										
	3" o.c.	1882	1863	1846	1830	1814										
80 psf	36" o.c.	342	311	319	293											
	30" o.c.	385	350	355	327											
	24" o.c.	427	388	391	360											
	18" o.c.	512	466	463	460											
	15" o.c.	553	543	534	526											
	12" o.c.	637	619	604	591											
	8" o.c.	883	845	847	817											
	6" o.c.	1082	1064	1049	1035											
	4" o.c.	1495	1476	1460	1444											
	3" o.c.	1869	1849	1829	1811											
90 psf	36" o.c.	337	305	314												
	30" o.c.	380	344	349												
	24" o.c.	422	383	385												
	18" o.c.	506	460	457												
	15" o.c.	548	537	528												
	12" o.c.	631	614	598												
	8" o.c.	877	839	840												
	6" o.c.	1075	1057	1041												
	4" o.c.	1485	1465	1447												
	3" o.c.	1855	1832	1810												

See page 25 for footnotes

3.5D16

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	381	350	363	337	315	328	309	291	304	288	275	286	274	262	273
	30" o.c.	429	393	403	374	349	360	339	349	331	314	324	310	319	306	293
	24" o.c.	476	436	443	411	419	393	400	378	386	366	374	357	364	349	356
	18" o.c.	569	522	522	522	488	490	491	464	467	470	448	451	454	435	439
	15" o.c.	616	608	601	595	556	554	552	550	549	522	521	521	521	521	501
	12" o.c.	708	693	680	668	658	650	642	636	630	624	619	615	611	607	603
	8" o.c.	981	944	950	920	927	902	909	888	895	877	884	868	875	860	867
	6" o.c.	1202	1188	1175	1165	1155	1147	1140	1134	1128	1123	1118	1114	1110	1107	1103
	4" o.c.	1662	1648	1637	1627	1619	1611	1605	1599	1593	1589	1584	1580	1577	1574	1489
	3" o.c.	2078	2066	2056	2047	2039	2033	2027	2022	2017	2013	2009	1923	1759	1616	1489

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	58	56	59	57	65	68	67	66	69	67	66	77	77	77	80
	30" o.c.	63	61	64	62	69	72	71	74	72	71	74	79	81	82	82
	24" o.c.	68	66	68	66	76	76	78	77	79	78	80	83	85	86	88
	18" o.c.	75	74	75	77	82	84	86	86	87	89	88	88	90	91	93
	15" o.c.	78	80	82	83	87	89	91	92	94	94	95	91	93	95	96
	12" o.c.	84	86	87	88	93	95	96	98	99	101	102	94	96	98	100
	8" o.c.	96	98	101	102	103	105	108	110	112	114	116	100	102	104	107
	6" o.c.	103	106	109	112	109	112	115	117	120	122	124	103	105	108	110
	4" o.c.	113	117	121	124	116	120	123	126	129	132	134	106	109	111	114
	3" o.c.	119	124	128	131	121	124	128	131	134	137	140	108	111	113	116

See page 25 for footnotes

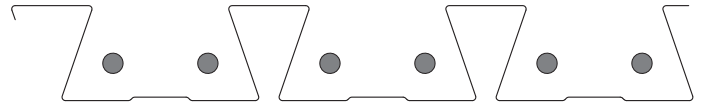
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	487	447	463	430	402	418	394	372	387	368	351	365	349	335	348
	30" o.c.	547	502	514	478	446	460	433	446	422	401	414	395	407	390	375
	24" o.c.	607	557	565	525	534	501	511	483	492	468	477	456	465	445	454
	18" o.c.	727	667	666	666	622	625	627	593	597	600	572	576	580	556	560
	15" o.c.	786	776	767	760	710	707	705	702	700	666	666	666	666	666	639
	12" o.c.	904	884	868	853	841	830	820	811	804	797	790	785	780	775	770
	8" o.c.	1253	1205	1213	1174	1183	1152	1161	1134	1143	1119	1128	1108	1116	1098	1106
	6" o.c.	1535	1516	1500	1487	1475	1465	1455	1447	1440	1433	1428	1422	1417	1413	1408
	4" o.c.	2121	2104	2090	2077	2066	2057	2048	2041	2034	2028	2023	1923	1759	1616	1489
	3" o.c.	2653	2638	2625	2613	2604	2595	2587	2581	2575	2326	2110	1923	1759	1616	1489
30 psf	36" o.c.	487	447	463	430	402	418	394	372	387	368	351	365	349	335	348
	30" o.c.	547	502	514	478	446	460	433	446	422	401	414	395	407	390	375
	24" o.c.	607	557	565	525	534	501	511	483	492	468	477	456	465	445	454
	18" o.c.	727	667	666	666	622	625	627	593	597	600	572	576	580	556	560
	15" o.c.	786	776	767	760	710	707	705	702	700	666	666	666	666	666	639
	12" o.c.	904	884	868	853	841	830	820	811	804	797	790	785	780	775	770
	8" o.c.	1253	1205	1213	1174	1183	1152	1161	1134	1143	1119	1128	1108	1116	1098	1106
	6" o.c.	1535	1516	1500	1487	1475	1465	1455	1447	1440	1433	1428	1422	1417	1413	1408
	4" o.c.	2121	2104	2090	2077	2066	2057	2048	2041	2034	2028	2023	1923	1759	1616	1489
	3" o.c.	2653	2638	2625	2613	2604	2595	2587	2581	2575	2326	2110	1923	1759	1616	1489
40 psf	36" o.c.	487	447	463	430	402	418	394	372	387	368	351	365	349		
	30" o.c.	547	502	514	478	446	460	433	446	422	401	414	395	407		
	24" o.c.	607	557	565	525	534	501	511	483	492	468	477	456	465		
	18" o.c.	727	667	666	666	622	625	627	593	597	600	572	576	580		
	15" o.c.	786	776	767	760	710	707	705	702	700	666	666	666	666		
	12" o.c.	904	884	868	853	841	830	820	811	804	797	790	785	780		
	8" o.c.	1253	1205	1213	1174	1183	1152	1161	1134	1143	1119	1128	1108	1116		
	6" o.c.	1535	1516	1500	1487	1475	1465	1455	1447	1440	1433	1428	1422	1417		
	4" o.c.	2121	2104	2090	2077	2066	2057	2048	2041	2034	2028	2023	1923	1759		
	3" o.c.	2653	2638	2625	2613	2604	2595	2587	2581	2575	2326	2110	1923	1759		

See page 25 for footnotes

3.5D16

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



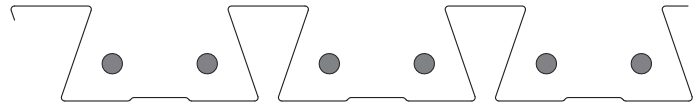
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
50 psf	36" o.c.	487	447	463	430	402	418	394	372	372	353					
	30" o.c.	547	502	514	478	446	460	433	446	407	386					
	24" o.c.	607	557	565	525	534	501	511	483	477	452					
	18" o.c.	727	667	666	666	622	625	627	593	581	584					
	15" o.c.	786	776	767	760	710	707	705	702	685	650					
	12" o.c.	904	884	868	853	841	830	820	811	787	780					
	8" o.c.	1253	1205	1213	1174	1183	1152	1161	1134	1124	1100					
	6" o.c.	1535	1516	1500	1487	1475	1465	1455	1447	1417	1410					
	4" o.c.	2121	2104	2090	2077	2066	2057	2048	2041	1996	1988					
	3" o.c.	2653	2638	2625	2613	2604	2595	2587	2581	2513	2326					
60 psf	36" o.c.	487	447	463	430	402	400	375	353	367						
	30" o.c.	547	502	514	478	446	441	414	426	402						
	24" o.c.	607	557	565	525	534	483	492	463	472						
	18" o.c.	727	667	666	666	622	606	608	573	576						
	15" o.c.	786	776	767	760	710	688	685	682	679						
	12" o.c.	904	884	868	853	841	810	800	791	782						
	8" o.c.	1253	1205	1213	1174	1183	1130	1138	1110	1118						
	6" o.c.	1535	1516	1500	1487	1475	1438	1428	1418	1409						
	4" o.c.	2121	2104	2090	2077	2066	2015	2003	1993	1982						
	3" o.c.	2653	2638	2625	2613	2604	2529	2515	2502	2489						
70 psf	36" o.c.	487	447	463	409	380	395	370								
	30" o.c.	547	502	514	456	424	437	409								
	24" o.c.	607	557	565	503	512	478	487								
	18" o.c.	727	667	666	644	600	601	603								
	15" o.c.	786	776	767	738	687	683	680								
	12" o.c.	904	884	868	830	817	805	794								
	8" o.c.	1253	1205	1213	1149	1156	1124	1131								
	6" o.c.	1535	1516	1500	1457	1443	1431	1420								
	4" o.c.	2121	2104	2090	2031	2016	2002	1990								
	3" o.c.	2653	2638	2625	2542	2525	2508	2492								
80 psf	36" o.c.	487	422	438	404	374	390									
	30" o.c.	547	477	489	451	419	431									
	24" o.c.	607	532	540	498	507	472									
	18" o.c.	727	642	641	639	594	596									
	15" o.c.	786	751	741	732	682	677									
	12" o.c.	904	859	841	825	811	799									
	8" o.c.	1253	1177	1183	1143	1150	1117									
	6" o.c.	1535	1484	1466	1450	1435	1422									
	4" o.c.	2121	2056	2037	2019	2003	1988									
	3" o.c.	2653	2564	2543	2523	2503	2484									
90 psf	36" o.c.	459	417	433	399	369										
	30" o.c.	519	473	484	446	413										
	24" o.c.	579	528	534	493	501										
	18" o.c.	698	637	635	634	589										
	15" o.c.	757	746	736	727	676										
	12" o.c.	875	854	835	819	805										
	8" o.c.	1221	1171	1177	1136	1143										
	6" o.c.	1498	1477	1458	1441	1426										
	4" o.c.	2068	2045	2025	2006	1988										
	3" o.c.	2573	2548	2524	2501	2479										
100 psf	36" o.c.	454	412	427	393											
	30" o.c.	514	467	478	440											
	24" o.c.	574	522	529	487											
	18" o.c.	693	632	630	628											
	15" o.c.	752	740	730	721											
	12" o.c.	870	848	829	813											
	8" o.c.	1215	1165	1170	1129											
	6" o.c.	1491	1469	1450	1432											
	4" o.c.	2058	2034	2011	1991											
	3" o.c.	2558	2530	2503	2477											

See page 25 for footnotes

3.5D14

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	497	456	477	443	414	434	408	386	404	384	366	382	366	351	366
	30" o.c.	563	517	533	495	462	479	451	467	442	420	435	415	429	411	395
	24" o.c.	629	577	589	547	559	525	537	507	519	493	504	482	493	472	483
	18" o.c.	760	697	700	702	656	660	665	628	633	638	608	614	619	593	599
	15" o.c.	825	817	810	805	752	750	749	748	747	710	711	712	713	714	685
	12" o.c.	954	936	920	906	895	884	875	867	860	854	848	842	838	833	829
	8" o.c.	1333	1284	1296	1256	1268	1235	1246	1218	1229	1205	1216	1194	1204	1185	1195
	6" o.c.	1637	1620	1605	1593	1582	1573	1564	1557	1550	1544	1538	1533	1529	1525	1521
	4" o.c.	2258	2243	2230	2219	2209	2200	2193	2186	2180	2175	2170	2165	2161	2157	2088
	3" o.c.	2805	2792	2781	2771	2762	2755	2748	2743	2737	2733	2728	2697	2467	2266	2088

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	72	69	73	70	82	86	84	82	86	84	82	105	105	104	108
	30" o.c.	79	76	79	76	89	92	90	93	91	89	92	109	112	112	111
	24" o.c.	85	82	85	82	99	97	100	98	101	99	101	115	118	118	121
	18" o.c.	96	93	95	97	108	110	113	111	113	115	113	125	127	128	130
	15" o.c.	101	103	104	105	116	118	120	121	123	121	123	130	133	135	136
	12" o.c.	110	111	112	113	125	127	128	130	131	132	134	136	138	140	143
	8" o.c.	129	130	133	134	142	144	147	149	151	152	155	146	149	151	154
	6" o.c.	140	143	146	148	152	155	158	161	163	166	168	152	155	158	161
	4" o.c.	157	161	165	168	165	169	173	176	180	182	185	158	162	165	168
	3" o.c.	167	172	177	180	173	178	182	186	189	192	195	162	166	169	172

See page 25 for footnotes

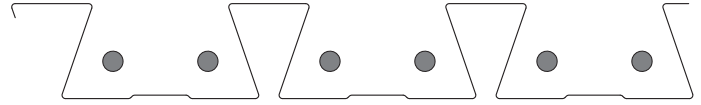
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	635	582	609	566	528	554	521	492	516	490	467	488	467	447	467
	30" o.c.	719	659	680	632	590	612	576	596	565	537	555	530	548	525	504
	24" o.c.	803	737	752	698	714	670	685	647	662	630	644	615	629	603	616
	18" o.c.	970	890	894	896	837	843	848	802	809	815	776	783	790	757	764
	15" o.c.	1053	1043	1035	1027	960	958	956	955	954	907	908	909	910	911	875
	12" o.c.	1218	1195	1174	1157	1142	1129	1118	1107	1098	1090	1082	1075	1069	1063	1058
	8" o.c.	1702	1640	1654	1604	1618	1576	1591	1555	1569	1538	1552	1524	1537	1513	1525
	6" o.c.	2090	2068	2050	2034	2020	2007	1997	1987	1979	1971	1964	1958	1952	1946	1941
	4" o.c.	2883	2863	2847	2832	2820	2809	2799	2791	2783	2776	2770	2697	2467	2266	2088
	3" o.c.	3581	3564	3550	3537	3526	3517	3509	3501	3494	3263	2959	2697	2467	2266	2088
40 psf	36" o.c.	635	582	609	566	528	554	521	492	516	490	467	488	467	447	467
	30" o.c.	719	659	680	632	590	612	576	596	565	537	555	530	548	525	504
	24" o.c.	803	737	752	698	714	670	685	647	662	630	644	615	629	603	616
	18" o.c.	970	890	894	896	837	843	848	802	809	815	776	783	790	757	764
	15" o.c.	1053	1043	1035	1027	960	958	956	955	954	907	908	909	910	911	875
	12" o.c.	1218	1195	1174	1157	1142	1129	1118	1107	1098	1090	1082	1075	1069	1063	1058
	8" o.c.	1702	1640	1654	1604	1618	1576	1591	1555	1569	1538	1552	1524	1537	1513	1525
	6" o.c.	2090	2068	2050	2034	2020	2007	1997	1987	1979	1971	1964	1958	1952	1946	1941
	4" o.c.	2883	2863	2847	2832	2820	2809	2799	2791	2783	2776	2770	2697	2467	2266	2088
	3" o.c.	3581	3564	3550	3537	3526	3517	3509	3501	3494	3263	2959	2697	2467	2266	2088
50 psf	36" o.c.	635	582	609	566	528	554	521	492	516	490	467	488	467	447	467
	30" o.c.	719	659	680	632	590	612	576	596	565	537	555	530	548	525	504
	24" o.c.	803	737	752	698	714	670	685	647	662	630	644	615	629	603	616
	18" o.c.	970	890	894	896	837	843	848	802	809	815	776	783	790	757	764
	15" o.c.	1053	1043	1035	1027	960	958	956	955	954	907	908	909	910	911	875
	12" o.c.	1218	1195	1174	1157	1142	1129	1118	1107	1098	1090	1082	1075	1069	1063	1058
	8" o.c.	1702	1640	1654	1604	1618	1576	1591	1555	1569	1538	1552	1524	1537	1513	1525
	6" o.c.	2090	2068	2050	2034	2020	2007	1997	1987	1979	1971	1964	1958	1952	1946	1941
	4" o.c.	2883	2863	2847	2832	2820	2809	2799	2791	2783	2776	2770	2697	2467	2266	2088
	3" o.c.	3581	3564	3550	3537	3526	3517	3509	3501	3494	3263	2959	2697	2467	2266	2088

See page 25 for footnotes

3.5D14

- 3/4" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



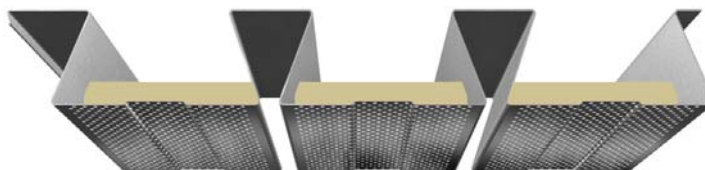
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
60 psf	36" o.c.	635	582	609	566	528	554	521	492	516	472	448				
	30" o.c.	719	659	680	632	590	612	576	596	565	518	537				
	24" o.c.	803	737	752	698	714	670	685	647	662	611	625				
	18" o.c.	970	890	894	896	837	843	848	802	809	796	757				
	15" o.c.	1053	1043	1035	1027	960	958	956	955	954	888	888				
	12" o.c.	1218	1195	1174	1157	1142	1129	1118	1107	1098	1069	1061				
	8" o.c.	1702	1640	1654	1604	1618	1576	1591	1555	1569	1513	1526				
	6" o.c.	2090	2068	2050	2034	2020	2007	1997	1987	1979	1938	1929				
	4" o.c.	2883	2863	2847	2832	2820	2809	2799	2791	2783	2715	2705				
	3" o.c.	3581	3564	3550	3537	3526	3517	3509	3501	3494	3263	2959				
70 psf	36" o.c.	635	582	609	566	528	554	500	471	493						
	30" o.c.	719	659	680	632	590	612	555	574	542						
	24" o.c.	803	737	752	698	714	670	664	625	640						
	18" o.c.	970	890	894	896	837	843	827	779	785						
	15" o.c.	1053	1043	1035	1027	960	958	934	932	930						
	12" o.c.	1218	1195	1174	1157	1142	1129	1094	1083	1073						
	8" o.c.	1702	1640	1654	1604	1618	1576	1563	1526	1539						
	6" o.c.	2090	2068	2050	2034	2020	2007	1961	1949	1938						
	4" o.c.	2883	2863	2847	2832	2820	2809	2736	2722	2709						
	3" o.c.	3581	3564	3550	3537	3526	3517	3403	3386	3369						
80 psf	36" o.c.	635	582	609	566	504	529	495	466							
	30" o.c.	719	659	680	632	566	587	550	569							
	24" o.c.	803	737	752	698	690	644	659	620							
	18" o.c.	970	890	894	896	812	817	821	774							
	15" o.c.	1053	1043	1035	1027	934	932	929	927							
	12" o.c.	1218	1195	1174	1157	1116	1102	1089	1077							
	8" o.c.	1702	1640	1654	1604	1587	1544	1556	1519							
	6" o.c.	2090	2068	2050	2034	1980	1966	1952	1940							
	4" o.c.	2883	2863	2847	2832	2752	2735	2719	2704							
	3" o.c.	3581	3564	3550	3537	3416	3396	3375	3355							
90 psf	36" o.c.	635	582	582	538	499	523	490								
	30" o.c.	719	659	653	604	561	581	545								
	24" o.c.	803	737	725	670	685	639	654								
	18" o.c.	970	890	866	867	807	812	816								
	15" o.c.	1053	1043	1006	998	929	926	923								
	12" o.c.	1218	1195	1145	1127	1110	1096	1083								
	8" o.c.	1702	1640	1620	1568	1580	1537	1548								
	6" o.c.	2090	2068	2008	1989	1972	1956	1942								
	4" o.c.	2883	2863	2778	2757	2737	2718	2701								
	3" o.c.	3581	3564	3440	3415	3391	3367	3344								
100 psf	36" o.c.	635	552	577	533	494	518									
	30" o.c.	719	629	649	599	556	576									
	24" o.c.	803	706	720	665	679	634									
	18" o.c.	970	860	861	862	802	806									
	15" o.c.	1053	1011	1001	992	924	920									
	12" o.c.	1218	1162	1140	1121	1105	1090									
	8" o.c.	1702	1602	1614	1561	1573	1529									
	6" o.c.	2090	2022	2000	1980	1962	1946									
	4" o.c.	2883	2789	2765	2742	2720	2699									
	3" o.c.	3581	3447	3418	3391	3363	3335									
110 psf	36" o.c.	601	547	572	528	488										
	30" o.c.	685	624	644	594	550										
	24" o.c.	769	701	715	660	674										
	18" o.c.	936	855	856	857	796										
	15" o.c.	1018	1006	996	987	918										
	12" o.c.	1182	1157	1135	1115	1098										
	8" o.c.	1661	1596	1607	1554	1565										
	6" o.c.	2041	2015	1992	1971	1952										
	4" o.c.	2805	2776	2750	2725	2701										
	3" o.c.	3460	3426	3394	3363	3331										

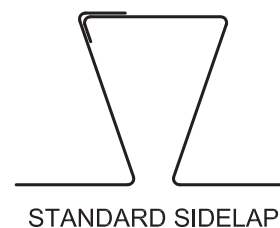
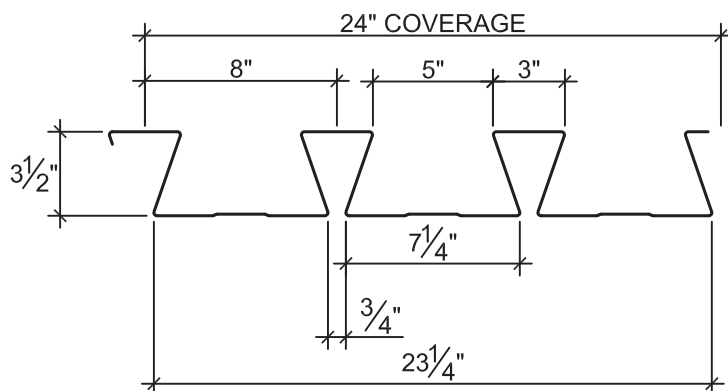
See page 25 for footnotes

3.5DA

■ 3½" Deep Acoustic DoveTail Deck



Approximate Dimensions



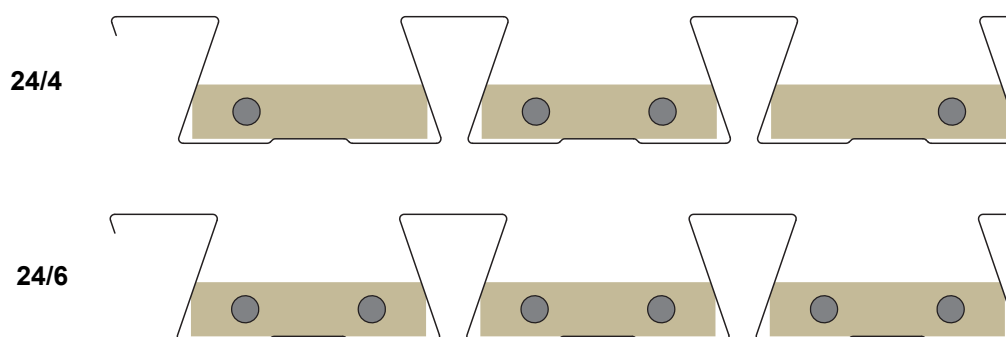
Deck Weight and Section Properties

Deck Type	Design Thickness (in.)	Weight (psf)	I_x (in ⁴ /ft)	I_{d+} (in ⁴ /ft)	I_{d-} (in ⁴ /ft)	S_{e+} (in ³ /ft)	S_{e-} (in ³ /ft)	V_a (lb/ft)
3.5DA20	0.0358	3.06	1.639	1.531	1.430	0.655	0.657	3619
3.5DA18	0.0474	4.06	2.174	2.098	1.950	0.934	0.928	6345
3.5DA16	0.0598	5.13	2.748	2.719	2.533	1.255	1.241	8792
3.5DA14	0.0747	6.27	3.236	3.227	3.049	1.624	1.500	10970

Notes:

1. Section properties are based on $F_y = 40,000$ psi
2. I_x = Gross Moment of Inertia
3. I_{d+} = Moment of Inertia for Deflection due to Uniform Loads (Normal Position)
4. I_{d-} = Moment of Inertia for Deflection due to Uniform Loads (Inverted Position)
5. S_{e+} = Positive Effective Section Modulus
6. S_{e-} = Negative Effective Section Modulus
7. V_a = Allowable Reaction governed by web shear

Attachment Patterns to Supports



GRAVITY LOAD TABLES

3.5DA20

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	86	73	62	53	46	41	36	32	29	26	24	22	20	18	17
	L/360	50	39	31	24	20	16	14	11	10	8	7	6	6	5	4
	L/240	76	58	46	37	30	25	20	17	15	13	11	9	8	7	6
	L/180	♦♦♦	♦♦♦	61	49	40	33	27	23	20	17	14	13	11	10	9
DOUBLE	Stress	87	73	62	54	47	41	36	32	29	26	24	22	20	18	17
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	45	37	31	26	22	19	16	14	12	11	10
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	21	19	16	14
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	108	91	78	67	58	51	45	40	36	33	30	27	25	23	21
	L/360	89	68	54	43	35	29	24	20	17	15	13	11	10	9	8
	L/240	♦♦♦	♦♦♦	♦♦♦	64	52	43	36	30	26	22	19	17	15	13	11
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	40	34	29	25	22	19	17	15

3.5DA18

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	123	104	88	76	66	58	52	46	41	37	34	31	28	26	24
	L/360	69	53	42	33	27	22	19	16	13	11	10	9	8	7	6
	L/240	103	80	63	50	41	34	28	24	20	17	15	13	11	10	9
	L/180	♦♦♦	♦♦♦	84	67	54	45	37	31	27	23	20	17	15	13	12
DOUBLE	Stress	122	103	88	76	66	58	51	46	41	37	34	31	28	26	24
	L/360	♦♦♦	♦♦♦	♦♦♦	75	61	50	42	35	30	26	22	19	17	15	13
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	33	29	25	22	20
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	153	129	110	95	82	72	64	57	51	46	42	38	35	32	30
	L/360	121	93	73	59	48	39	33	28	23	20	17	15	13	12	10
	L/240	♦♦♦	♦♦♦	♦♦♦	88	71	59	49	41	35	30	26	23	20	17	15
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	55	47	40	35	30	26	23	21

3.5DA16

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	166	139	119	102	89	78	69	62	56	50	45	41	38	35	32
	L/360	89	69	54	43	35	29	24	20	17	15	13	11	10	9	8
	L/240	134	103	81	65	53	44	36	31	26	22	19	17	15	13	11
	L/180	♦♦♦	138	108	87	71	58	48	41	35	30	26	22	20	17	15
DOUBLE	Stress	164	138	117	101	88	77	69	61	55	50	45	41	37	34	32
	L/360	♦♦♦	♦♦♦	♦♦♦	97	79	65	54	46	39	33	29	25	22	19	17
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	43	38	33	29	26
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	205	172	147	126	110	97	86	76	69	62	56	51	47	43	40
	L/360	157	121	95	76	62	51	43	36	30	26	23	20	17	15	13
	L/240	♦♦♦	♦♦♦	143	114	93	76	64	54	46	39	34	29	26	23	20
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	85	72	61	52	45	39	34	30	27

3.5DA14

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	214	180	153	132	115	101	90	80	72	65	59	54	49	45	41
	L/360	106	82	64	51	42	34	29	24	21	18	15	13	12	10	9
	L/240	159	123	96	77	63	52	43	36	31	26	23	20	17	15	14
	L/180	212	164	129	103	84	69	58	48	41	35	31	27	23	20	18
DOUBLE	Stress	198	166	142	122	106	94	83	74	66	60	54	49	45	42	38
	L/360	♦♦♦	♦♦♦	♦♦♦	117	95	78	65	55	47	40	35	30	26	23	21
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	52	45	40	35	31
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	247	208	177	153	133	117	104	92	83	75	68	62	57	52	48
	L/360	189	146	114	92	75	61	51	43	37	31	27	24	21	18	16
	L/240	♦♦♦	♦♦♦	172	137	112	92	77	65	55	47	41	35	31	27	24
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	102	86	73	63	54	47	41	36	32

See page 24 for footnotes

ALLOWABLE REACTIONS DUE TO WEB CRIPPLING

3.5DA20

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	632	1096	665	1263
2.00	693	1185	714	1376
2.50	746	1263	757	1475
3.00	794	1333	796	1565
3.50	839	1399	832	1647
4.00	880	1459	865	1724
4.50	919	1516	897	1796
5.00	955	1570	926	1864
5.50	990	1621	954	1929
6.00	1023	1670	981	1991
6.50	1055	1717	1007	2051
7.00	1086	1762	1032	2108
7.50	1116	1805	1056	2163
≥ 8.00	1117	1807	1057	2165

3.5DA18

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	1071	1849	1226	2180
2.00	1168	1989	1310	2362
2.50	1253	2112	1383	2523
3.00	1330	2224	1450	2669
3.50	1401	2326	1511	2802
4.00	1467	2422	1568	2927
4.50	1529	2511	1622	3044
5.00	1588	2596	1672	3154
5.50	1643	2676	1720	3259
6.00	1697	2753	1766	3360
6.50	1748	2827	1811	3456
7.00	1797	2898	1853	3549
7.50	1844	2967	1894	3639
8.00	1890	3033	1934	3725
8.50	1935	3097	1972	3809
9.00	1978	3160	2009	3891
9.50	2020	3220	2046	3970
≥ 10.00	2048	3261	2070	4023

3.5DA16

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	1651	2851	2009	3409
2.00	1793	3054	2137	3679
2.50	1919	3232	2250	3918
3.00	2032	3394	2352	4133
3.50	2136	3542	2446	4331
4.00	2233	3681	2533	4515
4.50	2323	3810	2615	4688
5.00	2410	3933	2693	4852
5.50	2491	4050	2767	5008
6.00	2569	4162	2837	5157
6.50	2644	4269	2905	5299
7.00	2717	4372	2970	5437
7.50	2786	4471	3033	5569
8.00	2854	4567	3093	5697
8.50	2919	4661	3152	5822
9.00	2982	4751	3209	5942
9.50	3044	4839	3265	6059
≥ 10.00	3080	4891	3298	6129

3.5DA14

Bearing Length (in.)	Allowable Reaction (lb/ft)			
	One Flange Loading		Two Flange Loading	
	End	Interior	End	Interior
1.50	2515	4347	3225	5259
2.00	2721	4637	3417	5653
2.50	2902	4893	3586	6001
3.00	3065	5125	3739	6314
3.50	3216	5337	3880	6603
4.00	3356	5535	4011	6872
4.50	3487	5721	4134	7124
5.00	3612	5897	4250	7363
5.50	3730	6065	4360	7590
6.00	3843	6225	4466	7806
6.50	3952	6378	4568	8014
7.00	4056	6525	4665	8215
7.50	4157	6668	4759	8408
8.00	4254	6805	4850	8595
8.50	4348	6939	4939	8776
9.00	4440	7068	5024	8951
9.50	4529	7194	5108	9122
≥ 10.00	4573	7256	5149	9206

See page 24 for footnotes

UPLIFT LOAD TABLES

3.5DA20

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	87	73	62	54	47	41	36	32	29	26	24	22	20	18	17
	L/360	47	36	28	23	19	15	13	11	9	8	7	6	5	5	4
	L/240	71	54	43	34	28	23	19	16	14	12	10	9	8	7	6
	L/180	♦♦♦	72	57	46	37	31	25	21	18	16	14	12	10	9	8
DOUBLE	Stress	86	73	62	53	46	41	36	32	29	26	24	22	20	18	17
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	39	33	28	24	20	17	15	13	12	10
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	18	15
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	108	91	77	67	58	51	45	40	36	33	30	27	25	23	21
	L/360	95	73	57	46	37	31	26	22	18	16	14	12	10	9	8
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	56	46	39	32	28	24	20	18	16	14	12
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	32	27	24	21	18	16

3.5DA18

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	122	103	88	76	66	58	51	46	41	37	34	31	28	26	24
	L/360	64	49	39	31	25	21	17	15	12	11	9	8	7	6	5
	L/240	96	74	58	47	38	31	26	22	19	16	14	12	11	9	8
	L/180	♦♦♦	99	78	62	51	42	35	29	25	21	18	16	14	12	11
DOUBLE	Stress	123	104	88	76	66	58	52	46	41	37	34	31	28	26	24
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	66	54	45	38	32	28	24	21	18	16	14
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	27	24	21
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	154	129	110	95	83	73	65	58	52	47	42	39	35	32	30
	L/360	130	100	79	63	51	42	35	30	25	22	19	16	14	13	11
	L/240	♦♦♦	♦♦♦	♦♦♦	95	77	63	53	45	38	32	28	24	21	19	17
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	50	43	37	32	28	25	22

3.5DA16

Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	164	138	117	101	88	77	69	61	55	50	45	41	37	34	32
	L/360	83	64	50	40	33	27	23	19	16	14	12	10	9	8	7
	L/240	125	96	76	61	49	41	34	29	24	21	18	16	14	12	11
	L/180	♦♦♦	128	101	81	66	54	45	38	32	28	24	21	18	16	14
DOUBLE	Stress	166	139	119	102	89	78	69	62	56	50	45	41	38	35	32
	L/360	♦♦♦	♦♦♦	♦♦♦	♦♦♦	85	70	58	49	42	36	31	27	24	21	18
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	40	35	31	28
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	207	174	148	128	111	98	87	77	69	63	57	52	47	43	40
	L/360	168	130	102	82	66	55	46	38	33	28	24	21	18	16	14
	L/240	♦♦♦	♦♦♦	♦♦♦	123	100	82	68	58	49	42	36	32	28	24	22
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	77	65	56	48	42	37	32	29

3.5DA14

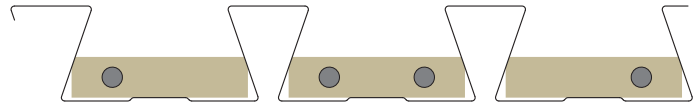
Allowable Uniform Loads Based on Bending Stress and Deflection (psf)

Number of Spans	Criteria	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
SINGLE	Stress	198	166	142	122	106	94	83	74	66	60	54	49	45	42	38
	L/360	100	77	61	49	40	33	27	23	19	17	14	13	11	10	9
	L/240	150	116	91	73	59	49	41	34	29	25	22	19	16	14	13
	L/180	♦♦♦	154	122	97	79	65	54	46	39	33	29	25	22	19	17
DOUBLE	Stress	214	180	153	132	115	101	90	80	72	65	59	54	49	45	41
	L/360	♦♦♦	♦♦♦	♦♦♦	124	101	83	69	58	50	43	37	32	28	25	22
	L/240	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	64	55	48	42	37	33
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦
TRIPLE	Stress	268	225	192	165	144	127	112	100	90	81	74	67	61	56	52
	L/360	200	154	121	97	79	65	54	46	39	33	29	25	22	19	17
	L/240	♦♦♦	♦♦♦	182	145	118	97	81	68	58	50	43	37	33	29	26
	L/180	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	♦♦♦	108	91	78	67	57	50	44	39	34

See page 24 for footnotes

3.5DA20

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	139	127	136	126	118	126	118	112	119	113	107	113	109	104	110
	30" o.c.	160	147	154	143	134	141	132	138	131	125	130	124	129	124	119
	24" o.c.	182	167	172	160	166	155	160	152	156	148	153	146	150	144	148
	18" o.c.	224	206	208	211	197	199	202	191	193	196	186	189	191	183	185
	15" o.c.	245	244	244	243	228	228	229	230	230	219	220	221	221	222	213
	12" o.c.	286	282	279	276	273	271	269	268	266	265	263	262	261	260	259
	8" o.c.	403	390	395	384	389	380	384	377	381	374	378	372	375	370	373
	6" o.c.	493	489	487	484	482	480	479	477	476	475	474	473	472	471	470
	4" o.c.	661	658	656	654	652	651	649	648	647	646	645	645	644	641	590
	3" o.c.	790	788	787	785	784	783	782	781	780	779	779	762	698	641	590

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	24	24	26	26	26	28	28	28	30	30	30	27	28	28	29
	30" o.c.	26	26	28	28	28	30	30	31	32	32	33	28	29	29	30
	24" o.c.	28	28	30	30	30	31	32	33	34	34	36	29	30	30	31
	18" o.c.	31	31	33	35	32	34	35	36	37	38	39	30	31	32	33
	15" o.c.	32	34	35	37	34	35	36	38	39	39	41	30	31	32	33
	12" o.c.	34	36	37	39	35	37	38	39	40	42	43	31	32	33	34
	8" o.c.	37	39	41	43	37	39	41	42	44	45	46	32	33	34	35
	6" o.c.	39	41	43	45	39	40	42	44	45	47	48	32	33	34	35
	4" o.c.	41	44	46	48	40	42	44	45	47	49	50	33	34	35	36
	3" o.c.	42	45	47	50	41	43	44	46	48	50	51	33	34	35	36

See page 25 for footnotes

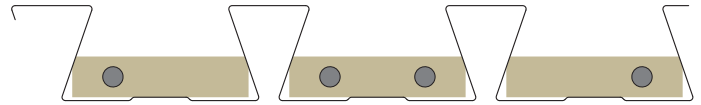
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	177	163	174	161	151	160	151	143	151	144	137	145	139	133	140
	30" o.c.	205	188	197	183	171	179	169	177	167	159	166	159	165	158	152
	24" o.c.	232	213	220	205	211	198	205	193	199	190	195	186	192	184	189
	18" o.c.	286	263	266	269	251	255	258	244	247	250	238	241	244	234	237
	15" o.c.	313	312	311	311	291	292	292	293	294	279	281	282	283	283	272
	12" o.c.	365	360	356	352	349	346	344	342	340	338	336	335	333	332	331
	8" o.c.	515	498	504	491	497	485	491	481	486	477	482	475	479	472	476
	6" o.c.	629	625	621	618	615	613	611	609	607	606	605	603	602	601	590
	4" o.c.	843	840	837	835	833	831	829	828	826	825	824	762	698	641	590
	3" o.c.	1009	1006	1004	1002	1001	999	998	997	996	922	837	762	698	641	590
10 psf	36" o.c.	177	163	167	155	144	154	144	135	144	136	129	136	130	124	131
	30" o.c.	205	188	191	177	164	172	162	169	160	151	158	150	156	149	143
	24" o.c.	232	213	214	198	204	191	197	186	191	181	186	178	182	174	179
	18" o.c.	286	263	259	262	244	247	250	235	238	241	229	231	234	223	226
	15" o.c.	313	312	304	303	283	283	284	284	284	270	270	271	271	271	260
	12" o.c.	365	360	348	344	340	337	334	331	329	326	324	322	320	318	316
	8" o.c.	515	498	493	479	483	471	475	465	468	459	462	453	455	447	448
	6" o.c.	629	625	605	600	596	591	587	583	579	575	571	567	563	558	553
	4" o.c.	843	840	806	799	793	787	781	774	768	761	754	746	698	641	590
	3" o.c.	1009	1006	954	946	938	929	920	911	901	891	837	762	698	641	590
15 psf	36" o.c.	167	152	162	149	138	147	137	128	136	128	121	128	121	114	120
	30" o.c.	194	177	185	171	158	166	155	162	152	143	149	141	146	139	131
	24" o.c.	221	202	208	192	198	185	190	178	183	173	177	168	171	162	165
	18" o.c.	275	251	253	255	237	240	241	227	229	230	218	219	220	208	207
	15" o.c.	301	299	298	296	276	275	275	274	273	258	257	256	254	251	237
	12" o.c.	352	346	341	336	332	327	323	320	316	312	307	303	297	290	282
	8" o.c.	496	478	481	466	469	455	456	444	443	430	427	413	406	389	374
	6" o.c.	603	595	588	580	573	565	557	548	539	528	515	500	482	460	432
	4" o.c.	794	783	772	760	748	734	720	703	685	665	642	615	583	546	502
	3" o.c.	932	917	902	885	867	848	827	803	778	749	717	680	639	591	536

See page 25 for footnotes

3.5DA20

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



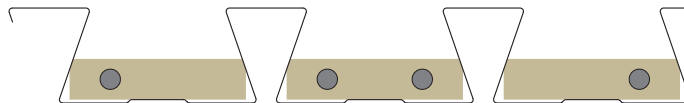
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
20 psf	36" o.c.	161	145	155	142	130	138	128	118	124	115	103	79			
	30" o.c.	188	170	178	163	150	157	145	151	139	128	127	83			
	24" o.c.	215	195	201	184	189	175	179	166	168	155	148	90			
	18" o.c.	268	244	245	246	227	228	228	212	209	202	175	97			
	15" o.c.	293	291	288	286	264	262	259	254	247	223	197	101			
	12" o.c.	344	337	330	324	317	311	303	293	281	260	220	103			
	8" o.c.	483	463	463	445	442	424	415	391	369	325	258	106			
	6" o.c.	584	572	560	547	531	513	491	461	422	365	275	108			
	4" o.c.	758	739	718	695	667	635	596	547	485	404	291	109			
25 psf	3" o.c.	877	851	822	788	750	706	654	592	516	421	297	109			
	36" o.c.	153	137	146	132	119	124	106								
	30" o.c.	180	162	168	152	138	141	120								
	24" o.c.	207	186	190	173	175	157	144								
	18" o.c.	259	234	233	231	210	201	172								
	15" o.c.	284	280	275	268	242	227	186								
	12" o.c.	333	323	313	302	287	261	203								
	8" o.c.	464	440	432	404	379	326	232								
	6" o.c.	555	535	511	479	434	365	244								
30 psf	4" o.c.	704	670	627	574	503	404	255								
	3" o.c.	799	752	695	625	537	421	259								
	36" o.c.	144	126	132	112											
	30" o.c.	170	150	153	129											
	24" o.c.	196	174	173	145											
	18" o.c.	246	219	211	184											
	15" o.c.	270	261	245	205											
	12" o.c.	316	300	275	221											
	8" o.c.	433	395	354	257											
35 psf	6" o.c.	508	465	398	275											
	4" o.c.	619	549	448	291											
	3" o.c.	683	592	472	297											
	36" o.c.	131	107													
	30" o.c.	156	128													
	24" o.c.	180	146													
	18" o.c.	225	177													
	15" o.c.	245	202													
	12" o.c.	282	221													
	8" o.c.	366	257													
	6" o.c.	412	275													
	4" o.c.	468	291													
	3" o.c.	495	297													

See page 25 for footnotes

3.5DA18

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	219	201	213	198	185	196	185	175	185	176	167	176	169	162	170
	30" o.c.	252	231	241	224	209	219	206	215	204	194	202	193	201	192	185
	24" o.c.	284	261	269	250	258	242	249	235	242	230	237	226	232	223	228
	18" o.c.	349	321	324	327	306	309	312	295	299	302	288	292	295	283	286
	15" o.c.	381	380	378	377	353	354	354	355	355	338	339	340	341	342	329
	12" o.c.	444	438	432	427	423	419	416	413	411	408	406	404	402	401	399
	8" o.c.	626	605	612	595	602	588	594	582	588	577	583	573	579	570	575
	6" o.c.	766	760	755	751	747	744	741	739	737	735	733	731	730	728	727
	4" o.c.	1034	1030	1026	1022	1019	1017	1014	1012	1010	1009	1007	1006	1005	977	901
	3" o.c.	1248	1244	1241	1238	1236	1234	1232	1231	1229	1228	1227	1163	1064	977	901

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	34	32	36	35	38	41	41	41	43	43	42	45	45	46	48
	30" o.c.	38	37	40	39	42	44	44	47	46	46	48	46	48	49	49
	24" o.c.	41	41	43	42	47	47	49	49	51	51	53	48	50	51	52
	18" o.c.	47	47	49	50	51	53	55	55	57	58	58	51	53	54	55
	15" o.c.	49	51	53	55	54	56	58	59	61	61	62	53	54	56	57
	12" o.c.	53	55	57	58	57	59	61	62	64	65	67	54	56	57	59
	8" o.c.	60	62	65	67	63	65	67	69	71	73	75	56	58	60	62
	6" o.c.	64	67	70	72	66	68	70	73	75	77	79	58	60	61	63
	4" o.c.	69	73	76	79	69	72	74	77	79	82	84	59	61	63	65
	3" o.c.	72	76	79	82	71	74	77	79	82	84	86	60	62	63	65

See page 25 for footnotes

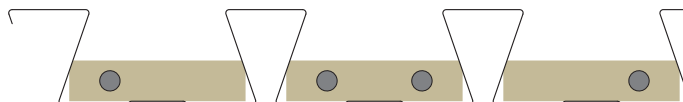
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	279	256	272	253	236	251	236	223	236	224	214	225	216	207	217
	30" o.c.	321	295	308	286	267	280	263	275	260	248	258	246	256	245	236
	24" o.c.	363	333	343	319	329	309	318	301	309	294	302	289	296	284	291
	18" o.c.	446	409	414	417	390	395	399	377	382	386	368	372	376	361	365
	15" o.c.	487	485	483	482	451	451	452	453	453	431	433	434	436	437	420
	12" o.c.	567	559	551	545	540	535	531	527	524	521	518	516	514	512	510
	8" o.c.	799	772	781	760	768	750	758	743	751	737	744	732	739	728	735
	6" o.c.	978	970	964	959	954	950	946	943	940	938	935	933	931	930	901
	4" o.c.	1320	1314	1309	1305	1301	1298	1295	1292	1290	1288	1276	1163	1064	977	901
	3" o.c.	1593	1588	1584	1581	1578	1575	1573	1571	1559	1407	1276	1163	1064	977	901
20 psf	36" o.c.	279	245	261	241	224	238	223	209	221	209	198	209	199	190	200
	30" o.c.	321	284	296	274	255	267	250	261	246	232	242	230	239	228	218
	24" o.c.	363	322	331	307	316	295	304	286	294	278	286	272	279	266	273
	18" o.c.	446	398	401	404	377	381	384	362	366	369	351	354	357	341	345
	15" o.c.	487	472	470	468	436	436	436	436	436	413	414	415	415	415	397
	12" o.c.	567	545	537	530	524	519	514	509	505	500	497	493	489	486	482
	8" o.c.	799	754	762	739	745	726	732	715	720	704	708	694	697	684	685
	6" o.c.	978	945	937	929	921	914	907	900	893	886	879	872	864	856	847
	4" o.c.	1320	1268	1257	1246	1236	1225	1214	1203	1192	1179	1167	1153	1064	977	901
	3" o.c.	1593	1514	1500	1486	1472	1457	1441	1425	1408	1390	1276	1163	1064	977	901
25 psf	36" o.c.	264	240	256	236	218	232	217	203	215	203	191	202	191	181	
	30" o.c.	306	279	291	269	249	261	244	254	239	226	235	223	231	219	
	24" o.c.	348	317	326	302	310	289	298	280	287	271	278	264	270	257	
	18" o.c.	430	393	396	399	371	374	377	355	358	361	342	345	347	330	
	15" o.c.	470	467	464	462	430	430	429	428	427	404	404	403	402	400	
	12" o.c.	549	540	531	524	517	511	505	500	494	489	484	479	473	467	
	8" o.c.	775	746	752	729	734	714	718	699	702	684	685	667	665	646	
	6" o.c.	945	934	923	914	904	894	885	874	864	852	839	825	809	791	
	4" o.c.	1260	1245	1231	1216	1201	1185	1168	1150	1131	1109	1085	1058	1027	977	
	3" o.c.	1498	1479	1459	1439	1417	1394	1369	1342	1313	1281	1245	1163	1064	977	

See page 25 for footnotes

3.5DA18

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



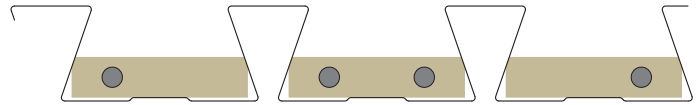
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
30 psf	36" o.c.	259	235	250	230	212	225	210	196	207	194	182	192			
	30" o.c.	301	274	286	263	243	254	237	246	231	217	225	212			
	24" o.c.	342	312	321	295	304	283	290	272	278	262	268	252			
	18" o.c.	424	387	390	392	364	367	369	346	348	349	329	329			
	15" o.c.	464	461	458	454	422	421	420	418	415	391	388	384			
	12" o.c.	543	533	524	516	508	501	494	487	479	472	463	452			
	8" o.c.	766	737	741	716	719	697	697	676	673	650	640	612			
	6" o.c.	933	919	907	894	881	867	852	835	816	793	766	731			
	4" o.c.	1236	1218	1198	1177	1155	1130	1103	1072	1036	994	944	883			
3" o.c.	1461	1435	1408	1378	1345	1309	1269	1224	1172	1114	1046	966				
35 psf	36" o.c.	254	229	244	223	205	218	201	187	197	183					
	30" o.c.	295	268	279	256	236	246	228	237	220	205					
	24" o.c.	337	306	314	288	296	274	281	261	266	248					
	18" o.c.	418	381	383	384	355	357	357	333	332	329					
	15" o.c.	458	454	450	446	413	410	407	402	395	366					
	12" o.c.	536	525	515	506	496	487	477	467	453	435					
	8" o.c.	755	725	727	700	698	672	665	636	617	573					
	6" o.c.	917	901	885	868	848	826	800	768	726	669					
	4" o.c.	1208	1183	1155	1125	1091	1050	1003	945	873	781					
3" o.c.	1417	1382	1343	1299	1249	1192	1125	1046	952	836						
40 psf	36" o.c.	247	223	237	215	197	208	191	174	179						
	30" o.c.	289	261	272	248	227	236	217	222	200						
	24" o.c.	330	299	306	280	286	263	268	245	239						
	18" o.c.	411	373	374	374	344	344	340	311	292						
	15" o.c.	451	445	440	434	400	394	385	370	337						
	12" o.c.	528	516	504	492	480	466	449	423	374						
	8" o.c.	742	710	708	677	667	632	605	546	459						
	6" o.c.	899	878	856	830	799	759	706	627	501						
	4" o.c.	1172	1138	1099	1053	997	927	837	716	543						
3" o.c.	1363	1314	1258	1193	1116	1022	906	758	561							
45 psf	36" o.c.	241	215	228	206	186	195	172	114							
	30" o.c.	282	253	263	238	216	221	195	128							
	24" o.c.	323	291	297	270	274	247	239	133							
	18" o.c.	403	364	364	361	329	320	294	143							
	15" o.c.	442	435	428	419	381	365	326	149							
	12" o.c.	518	504	490	474	454	425	365	152							
	8" o.c.	726	691	681	641	613	547	443	157							
	6" o.c.	875	847	815	773	715	628	480	158							
	4" o.c.	1127	1079	1021	947	850	716	517	159							
3" o.c.	1297	1229	1147	1048	922	758	532	160								
50 psf	36" o.c.	233	207	218	194	171	153									
	30" o.c.	274	244	252	225	198	168									
	24" o.c.	315	281	286	256	250	182									
	18" o.c.	394	354	350	341	297	211									
	15" o.c.	432	423	411	394	339	224									
	12" o.c.	506	489	469	442	392	237									
	8" o.c.	706	664	640	578	490	255									
	6" o.c.	844	805	751	672	540	262									
	4" o.c.	1070	1000	909	782	593	268									
3" o.c.	1214	1118	996	837	617	270										
55 psf	36" o.c.	224	196	205	174											
	30" o.c.	265	234	238	202											
	24" o.c.	305	270	269	227											
	18" o.c.	382	340	329	292											
	15" o.c.	420	406	383	327											
	12" o.c.	491	467	432	356											
	8" o.c.	678	623	565	422											
	6" o.c.	803	740	641	457											
	4" o.c.	994	888	734	488											
3" o.c.	1108	968	779	501												

See page 25 for footnotes

3.5DA16

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	311	285	303	281	263	279	263	248	262	249	238	250	240	230	241
	30" o.c.	357	328	342	318	297	311	293	305	290	275	287	274	285	273	262
	24" o.c.	404	370	382	355	366	343	353	334	344	327	336	321	329	316	324
	18" o.c.	495	455	460	464	434	439	443	419	424	429	409	414	418	401	406
	15" o.c.	541	539	537	535	501	502	502	503	504	479	481	483	484	485	466
	12" o.c.	630	621	613	606	600	595	590	586	582	579	576	573	571	568	566
	8" o.c.	888	858	868	844	854	833	843	825	834	819	827	813	821	809	816
	6" o.c.	1087	1078	1071	1065	1060	1056	1052	1048	1045	1042	1039	1037	1035	1033	1031
	4" o.c.	1468	1461	1456	1451	1447	1443	1440	1437	1434	1432	1430	1428	1426	1387	1278
	3" o.c.	1772	1767	1762	1758	1755	1752	1750	1747	1745	1743	1742	1650	1510	1387	1278

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	43	41	45	43	51	55	54	52	56	55	54	65	65	65	68
	30" o.c.	49	47	51	49	56	59	58	62	61	59	62	67	70	70	71
	24" o.c.	54	52	56	54	64	63	66	65	68	67	70	71	74	74	77
	18" o.c.	63	62	64	66	71	73	75	75	77	79	78	77	79	80	82
	15" o.c.	67	69	71	73	76	78	80	82	84	83	85	80	82	84	85
	12" o.c.	73	75	77	78	82	84	86	88	89	91	92	83	85	87	89
	8" o.c.	86	88	91	92	92	94	97	99	102	103	106	88	91	93	95
	6" o.c.	93	96	99	102	98	101	104	106	109	111	113	91	93	96	98
	4" o.c.	102	106	110	113	105	108	111	114	117	120	123	94	96	99	101
	3" o.c.	108	112	116	120	108	112	116	119	122	125	128	95	98	100	103

See page 25 for footnotes

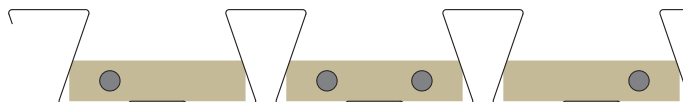
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	396	364	387	359	336	356	335	317	335	318	303	320	306	293	308
	30" o.c.	456	418	437	406	379	397	374	390	370	351	366	350	363	348	334
	24" o.c.	515	473	487	453	467	438	451	426	439	417	429	409	420	403	413
	18" o.c.	632	581	587	592	553	560	566	535	542	547	522	528	534	512	518
	15" o.c.	690	688	685	683	639	640	641	642	643	612	614	616	618	620	595
	12" o.c.	805	793	782	774	766	759	753	748	743	739	735	732	729	726	723
	8" o.c.	1133	1095	1108	1077	1090	1064	1076	1054	1065	1045	1056	1038	1048	1032	1042
	6" o.c.	1387	1377	1368	1360	1354	1348	1343	1338	1334	1330	1327	1324	1321	1319	1278
	4" o.c.	1874	1866	1858	1852	1847	1842	1838	1834	1831	1828	1811	1650	1510	1387	1278
	3" o.c.	2262	2255	2250	2245	2241	2237	2234	2231	2213	1997	1811	1650	1510	1387	1278
20 psf	36" o.c.	396	364	387	359	336	356	335	306	324	307	292	308	294	281	295
	30" o.c.	456	418	437	406	379	397	374	379	358	340	354	338	351	335	321
	24" o.c.	515	473	487	453	467	438	451	415	427	405	417	397	408	390	400
	18" o.c.	632	581	587	592	553	560	566	524	530	535	509	515	520	498	503
	15" o.c.	690	688	685	683	639	640	641	630	630	599	600	602	603	604	580
	12" o.c.	805	793	782	774	766	759	753	734	729	724	720	716	712	708	705
	8" o.c.	1133	1095	1108	1077	1090	1064	1076	1034	1043	1023	1032	1013	1021	1005	1012
	6" o.c.	1387	1377	1368	1360	1354	1348	1343	1308	1302	1296	1290	1284	1279	1273	1268
	4" o.c.	1874	1866	1858	1852	1847	1842	1838	1773	1764	1756	1747	1650	1510	1387	1278
	3" o.c.	2262	2255	2250	2245	2241	2237	2234	2130	2118	1997	1811	1650	1510	1387	1278
30 psf	36" o.c.	396	348	370	342	317	337	316	297	314	297	281	297	282	269	283
	30" o.c.	456	402	420	389	361	378	354	369	348	329	343	326	339	323	309
	24" o.c.	515	457	470	435	448	419	431	406	417	395	405	385	395	377	386
	18" o.c.	632	564	569	573	534	540	544	513	518	523	497	502	506	484	488
	15" o.c.	690	670	667	663	619	619	619	618	618	586	587	587	588	588	563
	12" o.c.	805	774	762	752	743	735	728	721	715	709	704	699	693	688	683
	8" o.c.	1133	1070	1080	1048	1057	1029	1038	1013	1020	998	1004	984	988	969	971
	6" o.c.	1387	1341	1328	1317	1306	1296	1286	1276	1266	1256	1246	1235	1224	1212	1200
	4" o.c.	1874	1799	1783	1768	1753	1738	1722	1706	1689	1672	1653	1634	1510	1387	1278
	3" o.c.	2262	2149	2129	2109	2088	2067	2045	2021	1997	1970	1811	1650	1510	1387	1278

See page 25 for footnotes

3.5DA16

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



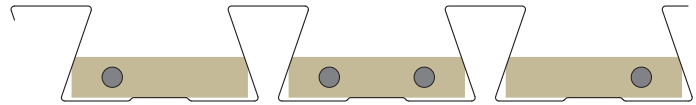
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
40 psf	36" o.c.	373	339	360	332	307	326	304	284	301	283	267	281			
	30" o.c.	432	393	410	378	351	367	342	357	335	316	329	311			
	24" o.c.	491	447	460	425	437	407	419	393	403	380	389	369			
	18" o.c.	607	554	559	562	522	527	531	499	503	506	479	482			
	15" o.c.	664	659	655	651	606	605	604	602	600	567	566	564			
	12" o.c.	776	762	750	739	729	720	711	702	694	686	677	668			
	8" o.c.	1094	1054	1062	1028	1034	1004	1008	981	982	956	952	924			
	6" o.c.	1335	1318	1302	1287	1272	1256	1240	1223	1204	1184	1160	1133			
	4" o.c.	1777	1754	1731	1708	1683	1657	1628	1597	1562	1523	1479	1428			
	3" o.c.	2109	2079	2048	2014	1978	1940	1897	1851	1800	1743	1679	1607			
50 psf	36" o.c.	362	328	349	320	294	312	289	269	284						
	30" o.c.	422	382	399	366	337	352	327	340	317						
	24" o.c.	480	436	448	412	423	392	402	375	383						
	18" o.c.	596	543	546	548	507	510	512	478	479						
	15" o.c.	652	647	641	636	590	587	583	577	570						
	12" o.c.	764	748	734	721	709	697	685	671	656						
	8" o.c.	1076	1033	1037	1000	1000	965	959	922	904						
	6" o.c.	1308	1287	1265	1243	1219	1192	1161	1123	1077						
	4" o.c.	1727	1694	1659	1621	1578	1528	1471	1403	1319						
	3" o.c.	2032	1986	1936	1880	1818	1746	1664	1569	1457						
60 psf	36" o.c.	351	315	335	305	278	294	269	245							
	30" o.c.	410	369	385	351	321	333	306	313							
	24" o.c.	468	423	434	396	405	372	378	345							
	18" o.c.	582	528	530	529	487	486	480	437							
	15" o.c.	639	631	623	615	566	557	544	519							
	12" o.c.	748	730	714	697	679	659	633	593							
	8" o.c.	1052	1006	1002	958	943	891	850	761							
	6" o.c.	1274	1244	1211	1174	1128	1070	989	869							
	4" o.c.	1661	1611	1555	1487	1406	1303	1169	986							
	3" o.c.	1931	1861	1780	1685	1571	1433	1261	1041							
70 psf	36" o.c.	337	300	318	286	256	264									
	30" o.c.	396	354	367	331	298	300									
	24" o.c.	453	407	415	375	378	334									
	18" o.c.	566	511	509	502	453	427									
	15" o.c.	622	611	598	582	523	481									
	12" o.c.	728	707	684	657	619	550									
	8" o.c.	1020	966	946	881	818	677									
	6" o.c.	1226	1181	1125	1049	938	751									
	4" o.c.	1571	1492	1393	1264	1086	823									
	3" o.c.	1798	1687	1552	1381	1159	854									
80 psf	36" o.c.	321	282	296	257	179										
	30" o.c.	379	335	343	298	197										
	24" o.c.	436	387	389	337	223										
	18" o.c.	546	487	475	441	240										
	15" o.c.	600	582	556	500	251										
	12" o.c.	702	671	630	551	261										
	8" o.c.	973	901	836	678	272										
	6" o.c.	1156	1077	959	752	276										
	4" o.c.	1442	1307	1116	824	280										
	3" o.c.	1615	1435	1195	854	281										
90 psf	36" o.c.	302	258	248												
	30" o.c.	358	309	283												
	24" o.c.	413	357	314												
	18" o.c.	519	448	365												
	15" o.c.	569	529	404												
	12" o.c.	663	601	433												
	8" o.c.	897	766	493												
	6" o.c.	1042	873	516												
	4" o.c.	1245	988	538												
	3" o.c.	1355	1042	547												

See page 25 for footnotes

3.5DA14

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



Allowable Diaphragm Shear Strength due to Seismic Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	430	395	420	391	365	388	365	345	365	347	331	349	334	320	336
	30" o.c.	496	455	476	442	413	433	408	425	403	383	400	382	397	380	365
	24" o.c.	561	515	531	494	509	478	493	466	479	456	469	447	460	441	452
	18" o.c.	690	634	641	647	604	612	618	585	592	599	571	578	584	560	567
	15" o.c.	753	751	749	747	699	700	701	703	704	670	672	674	677	678	652
	12" o.c.	879	866	855	846	838	830	824	819	814	809	805	801	798	795	792
	8" o.c.	1238	1197	1212	1178	1192	1164	1177	1153	1165	1144	1156	1137	1148	1131	1141
	6" o.c.	1514	1503	1494	1486	1479	1473	1468	1463	1459	1455	1451	1448	1445	1442	1440
	4" o.c.	2041	2032	2024	2018	2012	2007	2003	1999	1996	1993	1990	1987	1977	1816	1674
	3" o.c.	2455	2448	2443	2438	2433	2429	2426	2423	2420	2418	2372	2161	1977	1816	1674

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	51	48	54	51	62	67	65	63	68	66	65	85	85	84	88
	30" o.c.	59	56	61	58	69	73	72	76	74	72	76	89	92	92	92
	24" o.c.	66	63	67	65	81	79	83	81	84	83	86	96	99	99	102
	18" o.c.	78	76	78	81	90	93	96	94	97	99	98	105	108	108	111
	15" o.c.	83	86	88	90	98	100	103	105	107	106	108	110	113	115	116
	12" o.c.	92	94	96	98	107	109	111	113	115	117	118	115	118	120	122
	8" o.c.	112	113	117	118	123	126	129	131	134	136	139	124	127	129	132
	6" o.c.	122	126	129	132	132	136	139	142	145	148	150	128	131	134	137
	4" o.c.	138	142	146	150	144	148	152	156	159	162	165	133	137	140	143
	3" o.c.	147	152	157	161	150	155	159	163	167	171	174	136	140	143	147

See page 25 for footnotes

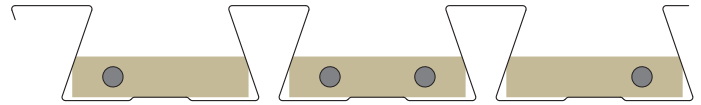
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	549	504	537	499	466	495	466	440	466	443	422	445	426	408	429
	30" o.c.	633	581	608	565	528	553	520	543	515	489	510	487	507	486	466
	24" o.c.	716	657	678	630	650	610	629	594	612	582	598	571	587	563	577
	18" o.c.	880	809	818	825	772	781	790	747	756	764	729	738	746	715	724
	15" o.c.	962	958	956	953	892	894	895	897	898	855	858	861	864	866	832
	12" o.c.	1122	1105	1091	1080	1069	1060	1052	1045	1039	1033	1028	1023	1019	1015	1011
	8" o.c.	1580	1528	1547	1504	1522	1486	1503	1472	1487	1460	1475	1451	1465	1443	1456
	6" o.c.	1933	1919	1907	1897	1888	1881	1874	1868	1862	1857	1853	1849	1845	1816	1674
	4" o.c.	2605	2594	2584	2576	2569	2563	2557	2552	2548	2544	2372	2161	1977	1816	1674
	3" o.c.	3134	3126	3118	3112	3106	3101	3097	3093	2898	2615	2372	2161	1977	1816	1674
40 psf	36" o.c.	549	504	516	477	443	471	441	415	440	416	394	416	396	378	
	30" o.c.	633	581	586	543	505	529	496	517	488	462	482	458	476	454	
	24" o.c.	716	657	656	608	627	586	603	568	584	553	569	541	555	530	
	18" o.c.	880	809	795	801	747	755	762	719	727	734	697	705	711	680	
	15" o.c.	962	958	932	928	866	866	867	867	866	822	824	825	825	826	
	12" o.c.	1122	1105	1066	1052	1040	1030	1020	1011	1003	995	988	981	974	967	
	8" o.c.	1580	1528	1510	1466	1479	1441	1453	1420	1430	1400	1409	1381	1388	1362	
	6" o.c.	1933	1919	1856	1841	1826	1813	1799	1786	1774	1761	1747	1734	1720	1705	
	4" o.c.	2605	2594	2485	2465	2445	2425	2405	2384	2363	2341	2317	2161	1977	1816	
	3" o.c.	3134	3126	2959	2933	2906	2879	2850	2820	2789	2615	2372	2161	1977	1816	
50 psf	36" o.c.	522	476	507	468	433	461	431	404	428	404	382				
	30" o.c.	606	552	577	533	495	518	485	506	476	450	469				
	24" o.c.	688	628	647	598	616	575	592	556	572	540	555				
	18" o.c.	851	779	786	791	736	744	750	706	713	719	682				
	15" o.c.	932	926	921	917	854	854	853	852	851	806	806				
	12" o.c.	1089	1071	1054	1040	1027	1015	1004	994	984	975	965				
	8" o.c.	1535	1481	1493	1447	1458	1419	1427	1391	1397	1364	1366				
	6" o.c.	1872	1851	1831	1813	1795	1777	1759	1740	1720	1700	1677				
	4" o.c.	2491	2464	2437	2410	2382	2352	2321	2288	2253	2214	2171				
	3" o.c.	2956	2920	2884	2846	2806	2764	2718	2670	2617	2560	2372				

See page 25 for footnotes

3.5DA14

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/4 Attachment Pattern



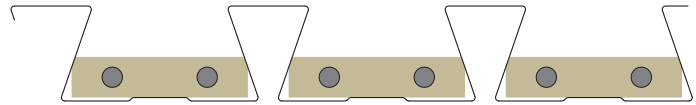
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
60 psf	36" o.c.	513	466	497	457	422	449	418	391	414						
	30" o.c.	596	543	567	522	483	506	472	492	462						
	24" o.c.	679	619	637	587	605	563	579	542	556						
	18" o.c.	841	768	774	779	724	730	735	690	695						
	15" o.c.	921	915	909	904	840	839	836	833	829						
	12" o.c.	1078	1058	1041	1025	1011	997	984	971	958						
	8" o.c.	1519	1463	1472	1424	1431	1388	1391	1350	1347						
	6" o.c.	1849	1824	1800	1777	1753	1728	1701	1671	1638						
	4" o.c.	2448	2413	2376	2338	2298	2253	2204	2149	2087						
	3" o.c.	2888	2840	2790	2735	2676	2611	2539	2460	2371						
70 psf	36" o.c.	503	456	485	445	409	435	403	375							
	30" o.c.	586	532	555	510	470	492	457	475							
	24" o.c.	668	608	625	575	591	548	562	524							
	18" o.c.	830	757	761	765	708	713	715	669							
	15" o.c.	910	902	895	888	824	819	814	807							
	12" o.c.	1065	1044	1025	1007	990	973	956	937							
	8" o.c.	1500	1441	1446	1395	1394	1345	1336	1283							
	6" o.c.	1821	1791	1761	1729	1695	1657	1612	1559							
	4" o.c.	2395	2349	2299	2245	2184	2114	2032	1936							
	3" o.c.	2807	2742	2671	2593	2505	2405	2290	2157							
80 psf	36" o.c.	492	444	472	431	394	418	385								
	30" o.c.	575	520	542	496	455	474	437								
	24" o.c.	657	595	611	560	574	529	540								
	18" o.c.	818	743	746	747	690	690	687								
	15" o.c.	896	887	878	868	802	793	780								
	12" o.c.	1050	1027	1005	984	963	939	911								
	8" o.c.	1476	1414	1412	1354	1341	1279	1242								
	6" o.c.	1787	1750	1709	1664	1611	1546	1462								
	4" o.c.	2330	2269	2199	2118	2023	1907	1762								
	3" o.c.	2709	2621	2522	2408	2274	2116	1925								
90 psf	36" o.c.	480	430	457	415	376	396									
	30" o.c.	562	506	526	479	436	451									
	24" o.c.	644	581	595	542	552	504									
	18" o.c.	803	727	728	725	664	655									
	15" o.c.	881	870	857	842	771	749									
	12" o.c.	1032	1006	980	953	921	878									
	8" o.c.	1448	1380	1366	1296	1256	1155									
	6" o.c.	1745	1696	1639	1569	1477	1350									
	4" o.c.	2251	2166	2065	1941	1784	1577									
	3" o.c.	2590	2470	2329	2160	1952	1691									
100 psf	36" o.c.	466	415	440	395	352										
	30" o.c.	548	490	508	457	410										
	24" o.c.	629	564	575	519	519										
	18" o.c.	787	709	705	694	621										
	15" o.c.	863	848	829	803	715										
	12" o.c.	1012	980	946	904	840										
	8" o.c.	1412	1335	1300	1200	1090										
	6" o.c.	1692	1623	1536	1415	1231										
	4" o.c.	2150	2030	1879	1678	1397										
	3" o.c.	2444	2279	2075	1816	1476										
110 psf	36" o.c.	450	398	418	367											
	30" o.c.	532	472	485	426											
	24" o.c.	612	545	549	482											
	18" o.c.	767	686	672	636											
	15" o.c.	842	819	787	725											
	12" o.c.	986	945	892	803											
	8" o.c.	1365	1269	1190	1005											
	6" o.c.	1621	1519	1371	1127											
	4" o.c.	2020	1845	1605	1251											
	3" o.c.	2262	2029	1725	1307											

See page 25 for footnotes

3.5DA20

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	160	146	154	143	133	140	132	125	131	124	118	124	119	114	119
	30" o.c.	181	166	172	160	149	155	146	151	143	136	141	135	139	134	128
	24" o.c.	203	186	191	177	181	170	174	165	169	160	164	157	160	154	157
	18" o.c.	246	226	227	228	213	215	216	204	206	208	198	200	202	194	195
	15" o.c.	268	265	263	262	245	244	244	244	244	232	232	233	233	233	224
	12" o.c.	310	304	299	295	292	288	286	283	281	279	277	275	274	272	271
	8" o.c.	434	419	423	410	414	403	407	398	402	394	398	391	394	388	391
	6" o.c.	534	528	524	520	517	514	511	509	507	505	503	502	500	499	498
	4" o.c.	735	730	726	723	720	717	715	713	711	710	708	707	698	641	590
	3" o.c.	910	906	903	900	897	895	893	891	890	888	837	762	698	641	590

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	24	24	26	26	26	28	28	29	30	30	30	27	28	28	30
	30" o.c.	27	26	28	28	28	30	30	32	32	32	33	28	29	30	30
	24" o.c.	28	29	30	30	31	31	33	33	34	35	36	29	30	30	31
	18" o.c.	31	32	33	35	32	34	35	36	37	38	39	30	31	32	33
	15" o.c.	32	34	35	37	34	35	36	38	39	40	41	30	31	32	33
	12" o.c.	34	36	37	39	35	37	38	39	40	42	43	31	32	33	34
	8" o.c.	37	39	41	43	37	39	41	42	44	45	46	32	33	34	35
	6" o.c.	39	41	43	45	39	40	42	44	45	47	48	32	33	34	35
	4" o.c.	41	44	46	48	40	42	44	45	47	49	50	33	34	35	36
	3" o.c.	42	45	47	50	41	43	44	46	48	50	51	33	34	35	36

See page 25 for footnotes

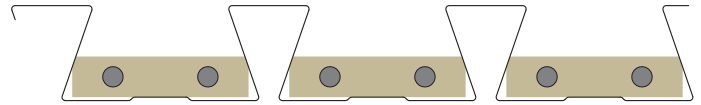
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	204	187	196	182	170	179	168	159	167	159	151	158	151	145	152
	30" o.c.	232	212	220	204	191	198	186	193	183	174	180	172	178	171	164
	24" o.c.	259	238	243	226	231	217	222	210	215	205	209	200	205	196	201
	18" o.c.	314	288	290	291	272	274	276	261	263	266	253	256	258	247	250
	15" o.c.	342	339	336	334	312	312	312	311	311	296	296	297	297	298	286
	12" o.c.	396	389	382	377	372	368	365	361	359	356	354	352	350	348	346
	8" o.c.	555	535	540	523	529	515	520	508	513	503	508	499	503	495	500
	6" o.c.	681	675	669	664	660	656	653	650	647	645	643	641	639	637	590
	4" o.c.	938	932	927	923	919	916	913	910	908	906	837	762	698	641	590
	3" o.c.	1162	1157	1153	1149	1146	1143	1140	1138	1022	922	837	762	698	641	590
10 psf	36" o.c.	204	187	196	182	170	179	168	159	161	152	145	152	145	138	145
	30" o.c.	232	212	220	204	191	198	186	193	177	168	174	166	171	164	157
	24" o.c.	259	238	243	226	231	217	222	210	209	198	203	193	198	189	194
	18" o.c.	314	288	290	291	272	274	276	261	257	259	246	249	251	240	242
	15" o.c.	342	339	336	334	312	312	312	311	305	289	290	290	290	290	278
	12" o.c.	396	389	382	377	372	368	365	361	352	349	346	344	342	340	338
	8" o.c.	555	535	540	523	529	515	520	508	505	494	499	489	493	485	488
	6" o.c.	681	675	669	664	660	656	653	650	636	633	630	627	625	622	590
	4" o.c.	938	932	927	923	919	916	913	910	887	883	837	762	698	641	590
	3" o.c.	1162	1157	1153	1149	1146	1143	1140	1138	1022	922	837	762	698	641	590
15 psf	36" o.c.	204	187	187	173	160	169	158	148	156	147	139	146	139	132	138
	30" o.c.	232	212	211	195	181	188	176	182	172	162	168	160	165	157	150
	24" o.c.	259	238	234	216	221	207	212	199	204	193	197	187	192	183	187
	18" o.c.	314	288	281	281	262	264	265	250	252	253	240	242	244	233	235
	15" o.c.	342	339	327	324	302	301	300	300	299	283	283	283	283	283	271
	12" o.c.	396	389	372	367	361	357	353	349	346	342	340	337	334	332	330
	8" o.c.	555	535	528	511	515	501	505	493	496	486	489	479	482	473	475
	6" o.c.	681	675	654	648	642	637	633	628	624	620	616	612	608	604	590
	4" o.c.	938	932	902	895	888	882	876	869	863	857	837	762	698	641	590
	3" o.c.	1162	1157	1111	1103	1094	1086	1077	1069	1022	922	837	762	698	641	590

See page 25 for footnotes

3.5DA20

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



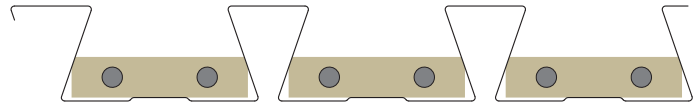
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
20 psf	36" o.c.	191	173	182	167	155	163	152	142	149	140	132	138			
	30" o.c.	219	199	205	189	175	182	170	176	165	155	161	152			
	24" o.c.	246	224	229	211	216	201	205	192	197	185	190	179			
	18" o.c.	301	275	275	276	256	257	258	243	244	245	232	234			
	15" o.c.	328	324	321	318	296	295	293	292	291	275	274	274			
	12" o.c.	382	374	367	360	355	350	345	341	337	333	330	326			
	8" o.c.	538	517	520	503	506	492	495	482	484	472	473	461			
	6" o.c.	661	652	645	637	631	624	618	612	605	598	591	583			
	4" o.c.	905	895	885	875	866	856	846	836	824	812	798	762			
25 psf	3" o.c.	1109	1096	1084	1071	1057	1043	1028	1012	994	922	837	762			
	36" o.c.	185	168	176	161	148	155	144	134	140	131					
	30" o.c.	213	193	199	183	168	174	162	167	156	146					
	24" o.c.	241	218	223	204	209	193	197	184	188	176					
	18" o.c.	295	269	269	269	249	249	250	234	234	234					
	15" o.c.	322	318	314	311	288	286	284	282	280	263					
	12" o.c.	376	367	360	353	346	341	335	330	324	318					
	8" o.c.	530	509	511	493	495	479	479	464	462	445					
	6" o.c.	651	641	632	623	614	605	594	583	570	554					
30 psf	4" o.c.	888	875	862	848	833	816	798	776	750	718					
	3" o.c.	1082	1065	1046	1025	1003	978	949	915	875	826					
	36" o.c.	179	161	169	153	140	146	134	123							
	30" o.c.	207	186	192	175	160	165	152	156							
	24" o.c.	234	212	215	196	200	184	187	172							
	18" o.c.	289	262	261	260	240	239	238	220							
	15" o.c.	316	311	306	302	278	275	271	266							
	12" o.c.	369	359	351	343	335	328	319	309							
	8" o.c.	521	499	499	479	477	457	450	425							
35 psf	6" o.c.	639	627	615	602	588	571	549	518							
	4" o.c.	866	848	828	806	779	747	705	647							
	3" o.c.	1048	1021	992	958	917	868	805	724							
	36" o.c.	172	153	160	144	129	134	119								
	30" o.c.	200	178	183	165	149	153	136								
	24" o.c.	227	204	206	187	189	171	168								
	18" o.c.	281	253	252	249	227	223	212								
	15" o.c.	308	302	296	290	264	256	239								
	12" o.c.	360	350	340	329	318	303	275								
40 psf	8" o.c.	510	485	481	457	445	410	358								
	6" o.c.	624	607	589	567	537	491	405								
	4" o.c.	837	810	778	736	680	597	461								
	3" o.c.	1001	961	912	850	768	655	487								
	36" o.c.	164	144	150	132	114										
	30" o.c.	191	169	173	153	132										
	24" o.c.	218	194	195	173	168										
	18" o.c.	272	243	239	233	201										
	15" o.c.	298	291	282	270	231										
45 psf	12" o.c.	350	337	323	305	270										
	8" o.c.	494	466	453	411	346										
	6" o.c.	602	578	545	492	387										
	4" o.c.	796	752	691	597	434										
	3" o.c.	937	871	782	655	456										
	36" o.c.	154	133	135	100											
	30" o.c.	181	158	157	113											
	24" o.c.	208	182	178	125											
	18" o.c.	261	229	218	149											
	15" o.c.	286	275	255	160											
	12" o.c.	336	318	289	168											
	8" o.c.	472	432	383	182											
	6" o.c.	570	524	438	189											
	4" o.c.	733	651	508	193											
	3" o.c.	842	726	543	195											

See page 25 for footnotes

3.5DA18

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	253	232	243	225	210	220	207	196	205	195	185	194	185	178	185
	30" o.c.	286	263	271	251	235	243	229	237	224	213	220	210	217	208	200
	24" o.c.	319	293	299	278	284	266	272	257	263	250	255	244	249	239	244
	18" o.c.	385	354	355	355	332	334	336	318	320	323	307	310	313	300	302
	15" o.c.	418	414	410	407	380	379	379	378	377	359	359	360	360	360	346
	12" o.c.	483	473	465	458	452	447	442	438	434	431	428	425	423	420	418
	8" o.c.	674	649	654	634	640	623	629	615	620	608	613	602	607	597	602
	6" o.c.	827	818	811	804	799	794	789	785	782	779	776	773	771	769	767
	4" o.c.	1142	1134	1127	1121	1116	1111	1107	1104	1101	1098	1095	1093	1064	977	901
	3" o.c.	1420	1413	1407	1402	1398	1394	1390	1387	1385	1382	1276	1163	1064	977	901

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	34	33	37	36	39	42	42	41	44	43	43	45	46	46	48
	30" o.c.	38	37	40	39	42	45	45	47	47	46	48	46	48	49	49
	24" o.c.	42	41	44	43	47	47	50	49	51	51	53	49	50	51	53
	18" o.c.	47	47	49	51	51	53	55	55	57	58	58	51	53	54	55
	15" o.c.	50	52	53	55	54	56	58	59	61	61	63	53	54	56	57
	12" o.c.	53	55	57	58	57	59	61	63	64	66	67	54	56	57	59
	8" o.c.	61	63	65	67	63	65	67	69	71	73	75	56	58	60	62
	6" o.c.	64	67	70	72	66	68	70	73	75	77	79	58	60	61	63
	4" o.c.	69	73	76	79	69	72	74	77	79	82	84	59	61	63	65
	3" o.c.	72	76	79	82	71	74	77	79	82	84	86	60	62	63	65

See page 25 for footnotes

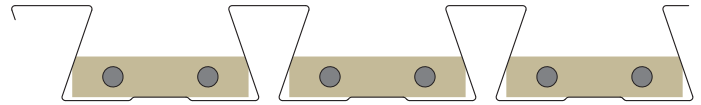
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	323	296	310	288	269	281	265	250	262	249	237	247	237	227	236
	30" o.c.	365	335	345	321	300	310	292	302	286	272	281	269	277	266	255
	24" o.c.	408	374	381	354	362	339	347	328	335	319	326	311	318	305	311
	18" o.c.	492	451	453	454	424	427	429	405	409	412	392	396	399	383	386
	15" o.c.	534	528	524	520	485	484	483	483	482	458	459	459	459	460	442
	12" o.c.	617	604	594	585	577	570	564	559	554	550	546	543	539	536	534
	8" o.c.	860	828	835	810	817	796	803	785	792	776	783	769	775	763	769
	6" o.c.	1056	1045	1035	1027	1019	1013	1008	1003	998	994	991	987	984	977	901
	4" o.c.	1457	1447	1439	1431	1425	1419	1414	1409	1405	1402	1276	1163	1064	977	901
	3" o.c.	1813	1804	1797	1790	1784	1779	1775	1737	1559	1407	1276	1163	1064	977	901
20 psf	36" o.c.	323	296	310	288	269	281	254	239	250	237	225	235	224	214	223
	30" o.c.	365	335	345	321	300	310	282	291	275	260	269	256	265	253	242
	24" o.c.	408	374	381	354	362	339	336	317	324	307	314	299	305	292	298
	18" o.c.	492	451	453	454	424	427	418	394	397	400	380	383	386	369	372
	15" o.c.	534	528	524	520	485	484	472	471	470	446	446	446	446	446	427
	12" o.c.	617	604	594	585	577	570	553	547	542	537	533	529	525	522	519
	8" o.c.	860	828	835	810	817	796	789	770	777	760	766	752	757	744	749
	6" o.c.	1056	1045	1035	1027	1019	1013	990	984	979	973	969	964	960	956	901
	4" o.c.	1457	1447	1439	1431	1425	1419	1383	1377	1370	1364	1276	1163	1064	977	901
	3" o.c.	1813	1804	1797	1790	1784	1779	1725	1716	1559	1407	1276	1163	1064	977	901
30 psf	36" o.c.	323	280	292	270	250	262	245	229	240	226	214	224			
	30" o.c.	365	319	328	303	281	291	272	281	265	250	258	245			
	24" o.c.	408	358	364	336	343	320	327	307	314	296	303	287			
	18" o.c.	492	435	435	435	405	407	408	384	387	389	369	371			
	15" o.c.	534	511	506	501	466	464	462	460	459	434	434	433			
	12" o.c.	617	587	575	566	557	549	542	536	530	525	520	515			
	8" o.c.	860	808	814	787	793	770	776	756	761	744	749	733			
	6" o.c.	1056	1020	1009	999	989	981	973	965	958	951	944	937			
	4" o.c.	1457	1408	1396	1384	1372	1362	1351	1340	1330	1319	1276	1163			
	3" o.c.	1813	1743	1728	1714	1699	1685	1670	1655	1559	1407	1276	1163			

See page 25 for footnotes

3.5DA18

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



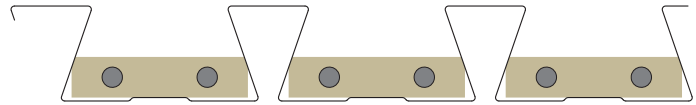
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
40 psf	36" o.c.	299	271	283	259	239	250	233	217	227						
	30" o.c.	341	309	318	293	270	279	260	268	251						
	24" o.c.	383	348	354	326	332	308	315	294	300						
	18" o.c.	467	425	425	425	394	395	396	371	372						
	15" o.c.	508	501	495	490	454	452	449	446	444						
	12" o.c.	590	577	565	554	545	536	528	521	514						
	8" o.c.	830	796	801	773	777	753	757	735	737						
	6" o.c.	1020	1005	992	980	968	957	946	935	923						
	4" o.c.	1400	1383	1366	1350	1333	1316	1298	1279	1257						
	3" o.c.	1724	1703	1681	1658	1635	1609	1582	1551	1517						
50 psf	36" o.c.	288	260	271	247	226	236	218								
	30" o.c.	330	298	307	280	257	265	245								
	24" o.c.	372	337	342	313	318	294	299								
	18" o.c.	456	414	413	411	379	379	379								
	15" o.c.	497	489	482	476	440	436	431								
	12" o.c.	579	564	551	539	529	518	508								
	8" o.c.	816	781	783	754	755	728	726								
	6" o.c.	1003	986	969	953	937	919	900								
	4" o.c.	1371	1348	1324	1299	1272	1240	1203								
	3" o.c.	1678	1646	1613	1575	1533	1484	1425								
60 psf	36" o.c.	276	247	257	232	209										
	30" o.c.	318	285	292	265	240										
	24" o.c.	360	324	328	298	301										
	18" o.c.	443	400	398	395	361										
	15" o.c.	484	475	467	458	420										
	12" o.c.	565	549	534	520	506										
	8" o.c.	799	762	760	726	719										
	6" o.c.	981	959	936	912	882										
	4" o.c.	1332	1299	1261	1217	1161										
	3" o.c.	1615	1566	1510	1442	1356										
70 psf	36" o.c.	262	231	240	213											
	30" o.c.	304	270	275	245											
	24" o.c.	346	308	310	277											
	18" o.c.	428	384	379	372											
	15" o.c.	469	458	446	432											
	12" o.c.	549	530	511	490											
	8" o.c.	777	735	723	676											
	6" o.c.	951	920	882	831											
	4" o.c.	1276	1223	1154	1056											
	3" o.c.	1526	1446	1342	1199											
80 psf	36" o.c.	246	213	217												
	30" o.c.	287	251	251												
	24" o.c.	329	288	285												
	18" o.c.	410	362	350												
	15" o.c.	450	434	412												
	12" o.c.	528	503	471												
	8" o.c.	746	692	646												
	6" o.c.	906	852	763												
	4" o.c.	1191	1091	930												
	3" o.c.	1394	1247	1025												
90 psf	36" o.c.	226	188													
	30" o.c.	267	224													
	24" o.c.	307	260													
	18" o.c.	386	328													
	15" o.c.	424	390													
	12" o.c.	498	448													
	8" o.c.	694	588													
	6" o.c.	828	687													
	4" o.c.	1043	803													
	3" o.c.	1177	863													

See page 25 for footnotes

3.5DA16

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	360	330	344	320	299	313	294	278	291	276	263	275	263	252	263
	30" o.c.	407	373	384	357	333	345	325	336	318	302	313	299	308	296	284
	24" o.c.	454	416	424	394	402	377	386	365	373	354	362	346	353	339	346
	18" o.c.	547	502	503	504	471	474	477	451	454	458	436	440	443	425	429
	15" o.c.	593	587	582	578	540	538	537	536	535	509	510	510	510	511	491
	12" o.c.	685	672	660	650	642	634	627	621	616	611	607	603	599	596	593
	8" o.c.	956	921	928	900	908	884	892	872	880	862	869	854	861	847	854
	6" o.c.	1174	1161	1150	1141	1133	1126	1119	1114	1109	1104	1100	1097	1093	1090	1087
	4" o.c.	1620	1608	1599	1590	1583	1577	1571	1566	1562	1557	1554	1550	1510	1387	1278
	3" o.c.	2016	2006	1997	1990	1983	1978	1973	1968	1965	1961	1811	1650	1510	1387	1278

See page 25 for footnotes

Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	44	42	46	44	51	55	54	53	57	56	55	65	65	66	68
	30" o.c.	50	48	52	50	57	60	59	62	61	60	63	68	70	71	71
	24" o.c.	55	53	56	55	65	64	67	66	69	68	70	72	74	75	77
	18" o.c.	64	62	65	67	71	74	76	75	77	79	79	77	80	80	82
	15" o.c.	67	69	71	73	76	78	80	82	84	84	85	80	82	84	86
	12" o.c.	73	75	77	79	82	84	86	88	90	91	93	83	85	87	89
	8" o.c.	86	88	91	93	92	95	98	99	102	104	106	88	91	93	95
	6" o.c.	93	96	99	102	98	101	104	106	109	111	114	91	93	96	98
	4" o.c.	102	106	110	114	105	108	111	115	117	120	123	94	96	99	101
	3" o.c.	108	112	117	120	108	112	116	119	122	125	128	95	98	100	103

See page 25 for footnotes

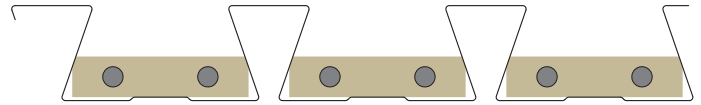
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	459	421	440	409	381	399	376	355	371	353	336	351	336	322	336
	30" o.c.	519	476	491	456	426	441	415	429	406	386	399	381	394	377	362
	24" o.c.	579	531	541	503	514	482	493	465	476	452	462	441	451	433	442
	18" o.c.	698	641	642	644	602	605	609	575	580	584	557	562	566	543	547
	15" o.c.	757	750	743	737	689	687	686	685	684	650	650	651	652	652	626
	12" o.c.	875	858	843	830	819	809	801	793	786	780	775	770	765	761	757
	8" o.c.	1221	1175	1185	1149	1159	1129	1139	1113	1123	1100	1110	1090	1099	1082	1090
	6" o.c.	1498	1482	1468	1456	1446	1437	1429	1422	1416	1410	1405	1400	1396	1387	1278
	4" o.c.	2068	2053	2041	2030	2021	2013	2006	1999	1993	1988	1811	1650	1510	1387	1278
	3" o.c.	2573	2560	2550	2540	2532	2525	2519	2465	2213	1997	1811	1650	1510	1387	1278
30 psf	36" o.c.	459	421	440	409	381	399	360	339	355	336	319	333	318	303	317
	30" o.c.	519	476	491	456	426	441	399	413	390	369	382	364	375	359	343
	24" o.c.	579	531	541	503	514	482	477	450	459	435	445	424	433	414	422
	18" o.c.	698	641	642	644	602	605	593	559	563	567	539	543	547	523	528
	15" o.c.	757	750	743	737	689	687	670	668	666	632	632	632	632	632	606
	12" o.c.	875	858	843	830	819	809	784	776	768	762	755	750	745	740	735
	8" o.c.	1221	1175	1185	1149	1159	1129	1119	1092	1101	1078	1086	1065	1073	1055	1062
	6" o.c.	1498	1482	1468	1456	1446	1437	1404	1395	1388	1380	1373	1367	1361	1355	1278
	4" o.c.	2068	2053	2041	2030	2021	2013	1962	1952	1943	1934	1811	1650	1510	1387	1278
	3" o.c.	2573	2560	2550	2540	2532	2525	2447	2435	2213	1997	1811	1650	1510	1387	1278
40 psf	36" o.c.	459	421	419	387	359	376	352	330	346	326	309	323			
	30" o.c.	519	476	470	434	403	417	391	404	381	360	372	353			
	24" o.c.	579	531	521	481	491	459	468	440	450	426	435	413			
	18" o.c.	698	641	621	622	579	582	584	550	554	557	528	532			
	15" o.c.	757	750	721	715	666	663	661	658	656	622	621	621			
	12" o.c.	875	858	821	807	795	784	774	766	758	751	744	738			
	8" o.c.	1221	1175	1159	1122	1130	1099	1107	1080	1087	1063	1071	1049			
	6" o.c.	1498	1482	1437	1423	1410	1399	1388	1378	1369	1360	1352	1343			
	4" o.c.	2068	2053	1991	1975	1960	1947	1933	1920	1908	1895	1811	1650			
	3" o.c.	2573	2560	2470	2451	2434	2416	2398	2381	2213	1997	1811	1650			

See page 25 for footnotes

3.5DA16

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



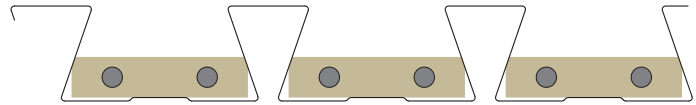
Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
50 psf	36" o.c.	433	393	411	378	350	366	342	320	335						
	30" o.c.	492	448	461	425	394	407	380	393	369						
	24" o.c.	552	503	512	472	482	449	458	430	439						
	18" o.c.	671	612	613	613	569	571	573	539	542						
	15" o.c.	730	720	712	705	656	652	649	647	644						
	12" o.c.	847	828	811	797	784	773	763	753	745						
	8" o.c.	1188	1141	1148	1110	1117	1085	1092	1063	1069						
	6" o.c.	1460	1440	1423	1408	1394	1380	1368	1356	1344						
	4" o.c.	2008	1987	1967	1948	1930	1912	1894	1876	1857						
3" o.c.	2481	2456	2431	2407	2383	2358	2333	2305	2213							
60 psf	36" o.c.	424	384	401	368	339	355	330	307							
	30" o.c.	484	439	451	415	383	396	368	380							
	24" o.c.	543	494	502	462	471	437	446	417							
	18" o.c.	662	603	602	602	558	559	560	525							
	15" o.c.	721	711	702	694	644	640	636	632							
	12" o.c.	837	817	800	785	772	760	748	738							
	8" o.c.	1177	1129	1135	1096	1101	1067	1072	1042							
	6" o.c.	1446	1425	1406	1389	1372	1356	1340	1324							
	4" o.c.	1986	1961	1937	1914	1890	1865	1839	1811							
3" o.c.	2446	2415	2383	2351	2317	2280	2240	2196								
70 psf	36" o.c.	414	374	390	356	327	342									
	30" o.c.	474	429	440	403	371	383									
	24" o.c.	533	483	491	450	458	424									
	18" o.c.	652	592	591	589	545	545									
	15" o.c.	710	700	690	681	630	625									
	12" o.c.	827	806	788	772	757	743									
	8" o.c.	1164	1115	1119	1078	1081	1045									
	6" o.c.	1430	1407	1386	1365	1344	1323									
	4" o.c.	1959	1929	1899	1869	1836	1799									
3" o.c.	2403	2364	2322	2277	2227	2170										
80 psf	36" o.c.	403	362	377	343	312										
	30" o.c.	463	417	428	390	356										
	24" o.c.	522	472	478	437	443										
	18" o.c.	640	580	578	575	529										
	15" o.c.	699	687	676	666	614										
	12" o.c.	815	793	773	756	739										
	8" o.c.	1149	1099	1100	1056	1054										
	6" o.c.	1412	1385	1360	1333	1305										
	4" o.c.	1927	1890	1851	1807	1758										
3" o.c.	2352	2300	2242	2177	2100											
90 psf	36" o.c.	391	349	363	328											
	30" o.c.	451	404	414	374											
	24" o.c.	510	458	464	421											
	18" o.c.	628	566	563	558											
	15" o.c.	686	673	661	648											
	12" o.c.	801	778	756	736											
	8" o.c.	1132	1079	1076	1028											
	6" o.c.	1389	1358	1326	1290											
	4" o.c.	1887	1839	1785	1720											
3" o.c.	2288	2218	2136	2036												
100 psf	36" o.c.	378	335	347	310											
	30" o.c.	438	389	397	356											
	24" o.c.	497	444	447	402											
	18" o.c.	614	551	545	538											
	15" o.c.	672	657	642	625											
	12" o.c.	786	760	735	710											
	8" o.c.	1112	1055	1043	985											
	6" o.c.	1362	1323	1278	1221											
	4" o.c.	1836	1771	1691	1583											
3" o.c.	2207	2110	1987	1825												

See page 25 for footnotes

3.5DA14

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



Allowable Diaphragm Shear Strength due to **Seismic** Loads, q (plf)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic	36" o.c.	497	456	477	443	414	434	408	386	404	384	366	382	366	351	366
	30" o.c.	563	517	533	495	462	479	451	467	442	420	435	415	429	411	395
	24" o.c.	629	577	589	547	559	525	537	507	519	493	504	482	493	472	483
	18" o.c.	760	697	700	702	656	660	665	628	633	638	608	614	619	593	599
	15" o.c.	825	817	810	805	752	750	749	748	747	710	711	712	713	714	685
	12" o.c.	954	936	920	906	895	884	875	867	860	854	848	842	838	833	829
	8" o.c.	1333	1284	1296	1256	1268	1235	1246	1218	1229	1205	1216	1194	1204	1185	1195
	6" o.c.	1637	1620	1605	1593	1582	1573	1564	1557	1550	1544	1538	1533	1529	1525	1521
	4" o.c.	2258	2243	2230	2219	2209	2200	2193	2186	2180	2175	2170	2161	1977	1816	1674
	3" o.c.	2805	2792	2781	2771	2762	2755	2748	2743	2737	2615	2372	2161	1977	1816	1674

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Diaphragm Stiffness, G' (k/in)

Load Type	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
Seismic or Wind	36" o.c.	52	49	54	52	62	68	66	64	69	67	65	85	85	85	89
	30" o.c.	60	57	61	59	69	74	72	76	75	73	77	89	93	93	93
	24" o.c.	67	64	68	65	81	80	83	82	85	83	86	96	99	99	102
	18" o.c.	79	76	79	82	91	93	96	95	97	100	98	105	108	109	111
	15" o.c.	84	86	89	90	98	101	103	105	107	106	108	110	113	115	116
	12" o.c.	93	95	97	98	107	110	112	114	115	117	119	115	118	120	122
	8" o.c.	112	114	117	119	124	126	129	131	134	136	139	124	127	129	132
	6" o.c.	123	126	130	133	133	136	139	142	145	148	150	128	131	135	137
	4" o.c.	138	142	147	150	144	148	152	156	159	162	165	133	137	140	143
	3" o.c.	147	152	157	161	150	155	159	163	167	171	174	136	140	143	147

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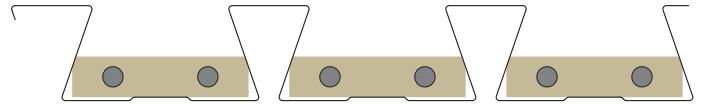
Allowable Diaphragm Shear Strength due to **Wind** Loads, q (plf)

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
No Uplift	36" o.c.	635	582	609	566	528	554	521	492	516	490	467	488	467	447	467
	30" o.c.	719	659	680	632	590	612	576	596	565	537	555	530	548	525	504
	24" o.c.	803	737	752	698	714	670	685	647	662	630	644	615	629	603	616
	18" o.c.	970	890	894	896	837	843	848	802	809	815	776	783	790	757	764
	15" o.c.	1053	1043	1035	1027	960	958	956	955	954	907	908	909	910	911	875
	12" o.c.	1218	1195	1174	1157	1142	1129	1118	1107	1098	1090	1082	1075	1069	1063	1058
	8" o.c.	1702	1640	1654	1604	1618	1576	1591	1555	1569	1538	1552	1524	1537	1513	1525
	6" o.c.	2090	2068	2050	2034	2020	2007	1997	1987	1979	1971	1964	1958	1952	1816	1674
	4" o.c.	2883	2863	2847	2832	2820	2809	2799	2791	2783	2615	2372	2161	1977	1816	1674
	3" o.c.	3581	3564	3550	3537	3526	3517	3509	3228	2898	2615	2372	2161	1977	1816	1674
40 psf	36" o.c.	635	582	609	566	528	554	521	473	495	469	445	466	444	424	
	30" o.c.	719	659	680	632	590	612	576	576	544	515	534	508	525	502	
	24" o.c.	803	737	752	698	714	670	685	627	642	608	622	592	606	579	
	18" o.c.	970	890	894	896	837	843	848	781	787	793	754	760	766	733	
	15" o.c.	1053	1043	1035	1027	960	958	956	934	932	884	885	885	885	886	
	12" o.c.	1218	1195	1174	1157	1142	1129	1118	1085	1075	1066	1058	1050	1043	1037	
	8" o.c.	1702	1640	1654	1604	1618	1576	1591	1529	1541	1509	1521	1493	1504	1478	
	6" o.c.	2090	2068	2050	2034	2020	2007	1997	1953	1942	1932	1923	1914	1906	1816	
	4" o.c.	2883	2863	2847	2832	2820	2809	2799	2729	2716	2615	2372	2161	1977	1816	
	3" o.c.	3581	3564	3550	3537	3526	3517	3509	3228	2898	2615	2372	2161	1977	1816	
50 psf	36" o.c.	635	582	609	541	503	527	494	464	487	460	436				
	30" o.c.	719	659	680	608	565	585	549	568	536	507	525				
	24" o.c.	803	737	752	674	688	643	658	619	633	599	613				
	18" o.c.	970	890	894	871	811	816	820	773	779	784	744				
	15" o.c.	1053	1043	1035	1001	933	930	928	925	923	875	875				
	12" o.c.	1218	1195	1174	1131	1115	1100	1087	1076	1066	1056	1047				
	8" o.c.	1702	1640	1654	1573	1585	1542	1554	1517	1529	1496	1507				
	6" o.c.	2090	2068	2050	1995	1978	1963	1950	1937	1925	1914	1903				
	4" o.c.	2883	2863	2847	2767	2749	2731	2715	2699	2684	2615	2372				
	3" o.c.	3581	3564	3550	3432	3410	3389	3368	3228	2898	2615	2372				

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3.5DA14

- 7/8" Arc Spot Welds
- Sidelaps Fastened with #12 Screws
- 24/6 Attachment Pattern



Allowable Diaphragm Shear Strength due to Wind Loads, q (plf) Continued

Net Wind Uplift Pressure	Sidelap Fastener Spacing	Span Length (ft.-in.)														
		11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
60 psf	36" o.c.	635	552	578	533	495	519	485	455	477						
	30" o.c.	719	630	649	600	557	577	540	558	526						
	24" o.c.	803	707	720	666	680	634	648	609	623						
	18" o.c.	970	860	862	863	803	807	811	763	768						
	15" o.c.	1053	1012	1002	993	924	921	918	915	912						
	12" o.c.	1218	1162	1141	1122	1105	1090	1077	1065	1054						
	8" o.c.	1702	1603	1614	1562	1574	1530	1541	1503	1513						
	6" o.c.	2090	2023	2001	1981	1963	1947	1932	1918	1904						
	4" o.c.	2883	2790	2766	2743	2722	2701	2681	2662	2642						
70 psf	3" o.c.	3581	3449	3421	3393	3366	3339	3311	3228	2898						
	36" o.c.	599	544	569	525	485	509	475	444							
	30" o.c.	683	622	641	591	547	567	529	547							
	24" o.c.	767	699	712	657	670	625	638	599							
	18" o.c.	933	852	853	854	793	797	800	752							
	15" o.c.	1016	1004	993	983	914	911	907	903							
	12" o.c.	1180	1154	1131	1112	1095	1079	1065	1053							
	8" o.c.	1658	1593	1603	1550	1560	1516	1525	1486							
	6" o.c.	2037	2010	1987	1965	1946	1928	1910	1893							
80 psf	4" o.c.	2798	2768	2741	2715	2690	2665	2639	2614							
	3" o.c.	3449	3414	3380	3347	3312	3277	3241	3202							
	36" o.c.	590	535	560	515	475	498	463								
	30" o.c.	674	613	631	581	537	556	518								
	24" o.c.	758	690	702	647	660	614	626								
	18" o.c.	924	843	843	843	782	785	788								
	15" o.c.	1007	994	983	973	903	899	894								
	12" o.c.	1171	1144	1121	1101	1083	1067	1052								
	8" o.c.	1647	1581	1590	1536	1545	1499	1506								
90 psf	6" o.c.	2023	1995	1970	1947	1925	1904	1883								
	4" o.c.	2776	2743	2712	2681	2650	2619	2586								
	3" o.c.	3414	3373	3332	3291	3247	3201	3151								
	36" o.c.	581	526	550	504	464	486									
	30" o.c.	665	603	621	570	526	544									
	24" o.c.	749	680	692	636	648	601									
	18" o.c.	915	833	833	832	770	773									
	15" o.c.	997	984	972	961	891	885									
	12" o.c.	1161	1133	1110	1088	1069	1052									
100 psf	8" o.c.	1635	1568	1575	1520	1527	1479									
	6" o.c.	2009	1979	1951	1925	1900	1875									
	4" o.c.	2751	2713	2677	2640	2602	2561									
	3" o.c.	3374	3326	3276	3223	3167	3104									
	36" o.c.	571	516	539	492	451										
	30" o.c.	655	593	610	558	513										
	24" o.c.	739	669	681	624	636										
	18" o.c.	905	822	821	819	757										
	15" o.c.	987	973	960	948	877										
110 psf	12" o.c.	1150	1122	1097	1075	1054										
	8" o.c.	1621	1554	1559	1502	1505										
	6" o.c.	1992	1959	1929	1899	1869										
	4" o.c.	2722	2679	2636	2590	2541										
	3" o.c.	3328	3270	3208	3141	3066										
	36" o.c.	561	504	527	479											
	30" o.c.	645	581	598	545											
	24" o.c.	728	658	668	611											
	18" o.c.	894	810	808	806											
110 psf	15" o.c.	976	961	947	933											
	12" o.c.	1138	1109	1083	1059											
	8" o.c.	1607	1537	1540	1480											
	6" o.c.	1973	1937	1903	1867											
	4" o.c.	2689	2639	2586	2528											
110 psf	3" o.c.	3276	3205	3127	3039											

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NOTES

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