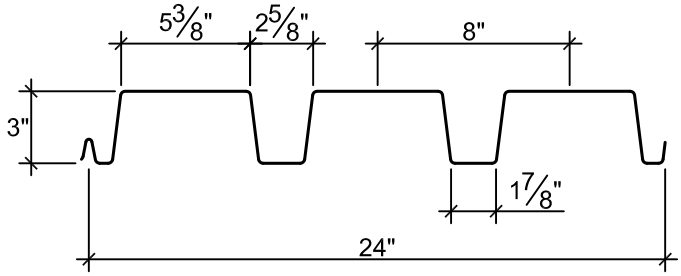
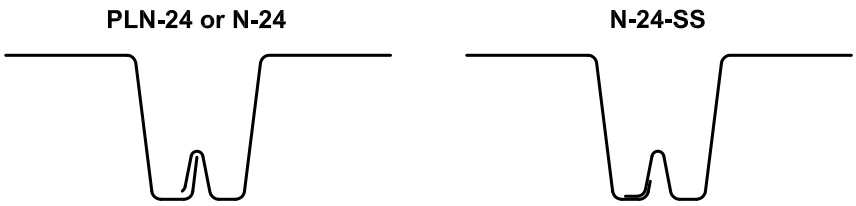
Type PLN™-24 or N-24

- 3" Deep Roof Deck
- Primer Painted or Galvanized
- PLN-24 Deck used with PunchLok II System
- N-24 Deck used with TSWs, BPs or Screws

Dimensions





Standard Interlocking Sidelap

Screw Fastened Sidelap (Special Order)

Deck Weight and Section Properties

Gage	Weight		I_d for Deflection		Moment		Allowable Reactions per ft of Width (lb) One Flange Loading					Two Flange Loading				
	Galv	Painted	Single Span	Multi Span	$+S_{eff}$	$-S_{eff}$	End Bearing Length			Interior Bearing Length		End Bearing Length			Interior Bearing Length	
	(psf)	(psf)	($in.^4$/ft)	($in.^4$/ft)	($in.^3$/ft)	($in.^3$/ft)	2"	3"	4"	4"	8"	2"	3"	4"	4"	8"
22	2.2	2.1	0.733	0.857	0.344	0.429	654	753	836	1300	1518	620	694	757	1530	1804
20	2.6	2.5	0.908	1.032	0.443	0.531	921	1056	1169	1823	2259	931	1038	1128	2182	2742
18	3.5	3.4	1.267	1.369	0.652	0.735	1566	1783	1967	3085	3860	1730	1915	2070	3771	4794
16	4.2	4.1	1.642	1.706	0.837	0.914	2367	2681	2946	4648	5758	2776	3055	3290	5756	7249

Notes:

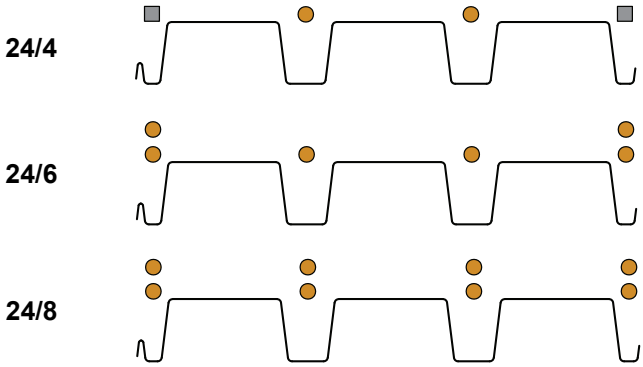
1. Section properties are based on F_y = 50,000 psi.
2. I_d is for deflection due to uniform loads.
3. S_{eff} (+ or -) is the effective section modulus.
4. Multiply tabulated deck values listed above by the following adjustment factors to obtain acoustical deck section properties:

Deck Type	I_d for Deflection		Moment		Allowable Reactions per ft of Width (lb) One Flange Loading	
	Single Span	Multi Span	$+S_{eff}$	$-S_{eff}$	End Bearing	Interior Bearing
N-24 - Acoustical	0.94	0.95	0.92	0.94	1.00	0.84

5. Allowable (ASD) reactions are based on web crippling, per AISI S100 Section C3.4, where Ω_w = 1.70 for end bearing and 1.75 for interior bearing. Nominal reactions may be determined by multiplying the table values by Ω_w. LRFD reactions may be determined by multiplying nominal reactions by Φ_w = 0.90 for end reactions and 0.85 for interior reactions.

Type PLN™-24 or N-24

Attachment Patterns to Supports



Note: ● indicates location of arc spot weld, power actuated fastener, or screw as indicated in the load tables.
■ indicates location of arc seam weld, power actuated fastener, or screw as indicated in the load tables.

Footnotes for Allowable Uniform Load Tables

1. Stress = Allowable uniform load based on maximum allowable flexural stress in deck.
2. L/360, L240 or L/180 = Uniform load which produces selected deflection in deck.
3. The symbol ♦♦♦ indicates allowable uniform load based on deflection exceeds allowable uniform load based on stress.
4. 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 $\Phi_b = 0.95$.

Type PLN™-24 or N-24

Footnotes for Diaphragm Shear Strength and Flexibility Factor Tables

General Notes

1. VSC2 = Verco Sidelap Connection 2; BP = Button Punch; TSW = Top Seam Weld.
2. The dimension from the first and last sidelap connection within each span is to be no more than one-half of specified spacing.
3. R is the ratio of vertical span (L_V) of the deck to the length (L_S) of the deck sheet: $R = L_V / L_S$.
4. Interpolation of diaphragm shear strength between adjacent spans or sidelap spacings is permissible. For interpolation of the diaphragm flexibility factor between adjacent spans, use the flexiblity factor for the closest adjacent span length.
5. Diaphragm shear values for side seam fasteners placed at spacings other than those in the table should be determined based on the number of fasteners in each span.
6. For acoustical deck profiles, modify tabulated q and F values using the following adjustment factors:

Deck Type	R_q	R_F
N-24 - Acoustical	0.94	1.05

Note: Adjustment Factor, R_q must be applied only to allowable diaphragm shear strengths governed by panel buckling which are shown in the shaded areas of the diaphragm tables.

7. N-24-SS and N-24-SS AC are available upon special order. To calculate diaphragm shear strength and flexibility factors for these profiles, refer to the design equations listed at the end of Verco's Evaluation Report No. 0217.

Notes Specific to Tables using Welds to Supports

1. The allowable diaphragm shear values in the table utilize a factor of safety, Ω = 3.0 (limited by connections) with the exception of the gray shaded table values, which utilize a factor of safety of Ω = 2.0 (limited by panel buckling).
2. A 1" x 3/8" effective arc seam weld is required at supports adjacent to sidelap and a 1/2" effective diameter arc spot welds are required at supports in interior flutes.

Notes Specific to Tables using Hilti or Pneutek Fasteners to Supports

1. X-EDNK22 = Hilti EDNK22 THQ12 fastener; X-ENP-19 = Hilti X-ENP-19 L15 fastener; K66 = Pneutek K66062 or K66075 fasteners; K64 = Pneutek K64062 fastener; SDK63 = Pneutek SDK63075; SDK61 = Pneutek SDK61075
2. The allowable diaphragm shear values in the table utilize a factor of safety, Ω = 2.5 (limited by connections) with the exception of the shaded table values, which utilize a factor of safety of Ω = 2.0 (limited by panel buckling).

Notes Specific to Tables using Screws to Supports

1. The allowable diaphragm shear values in the table utilize a factor of safety, Ω = 2.5 (limited by connections) with the exception of the shaded table values, which utilize a factor of safety of Ω = 2.0 (limited by panel buckling).
2. Deck is attached with minimum #12 Screws (self drilling, self tapping) to supports. Select appropriate screw based on actual substrate thickness. This table is provided as a guide, proper selection should be verified based on the specific fasteners used.

Support Thickness	Fastener Designation
33 mil (0.0346") to 3/16"	#3 Drill Point
1/8" to 1/4"	#4 Drill Point
1/8" to 1/2"	#5 Drill Point

3. All tabulated diaphragm values shown in this section are for a minimum 0.0385 in. thick support with SDI recognized screws produced by Buildex, Elco, Hilti or Simpson Strong-Tie. If the minimum support thickness can not be met or a screw that is not recognized by SDI is used, modify tabulated q and F values based on actual substrate and thickness using Adjustment Factors listed in this table.

Deck Gage	Factors	Substrate Thickness and Strength									
		20 ga		18 ga		16 ga		14 ga		≥ 12 ga	
		33 mil (0.0345 in)		43 mil (0.0451 in)		54 mil (0.0566 in)		68 mil (0.0713 in)		≥ 97 mil (0.1017 in)	
		33 ksi	50 ksi	33 ksi	50 ksi	33 ksi	50 ksi	33 ksi	50 ksi	33 ksi	50 ksi
22	R_q	0.44	0.61	0.67	0.78	0.78	0.78	0.78	0.78	0.78	0.78
	R_F	1.28	1.25	1.17	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	R_q	0.34	0.49	0.54	0.74	0.74	0.78	0.78	0.78	0.78	0.78
	R_F	1.31	1.31	1.24	1.19	1.15	1.00	1.00	1.00	1.00	1.00
18	R_q	0.26	0.37	0.38	0.55	0.55	0.78	0.76	0.78	0.78	0.78
	R_F	1.34	1.39	1.30	1.31	1.26	1.18	1.19	1.00	1.00	1.00
16	R_q	0.20	0.30	0.30	0.44	0.43	0.65	0.61	0.78	0.78	0.78
	R_F	1.43	1.66	1.39	1.54	1.33	1.34	1.25	1.00	1.00	1.00

4. Adjustment factors are based on connection strengths determined in accordance with Section E4 of AISI S100. These self drilling, self tapping screws must be compliant with ASTM C1315.
5. Allowable Diaphragm Strength = $q \cdot R_q$; Flexibility Factor = $F \cdot R_F$.
6. These adjustment factors are based on the maximum adjustment for the tabulated span lengths and fastener patterns. To calculate a specific condition, use design equations listed at the end of Evaluation Report ER-0217.