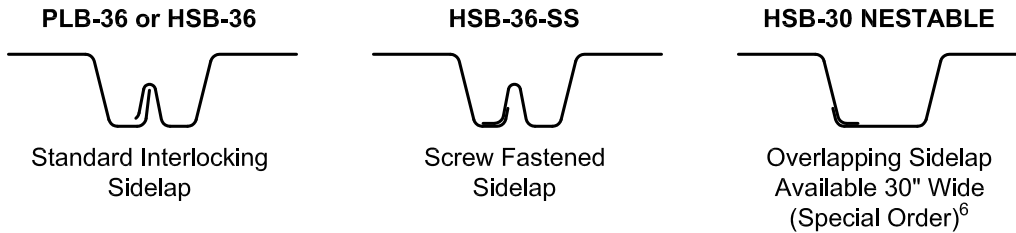
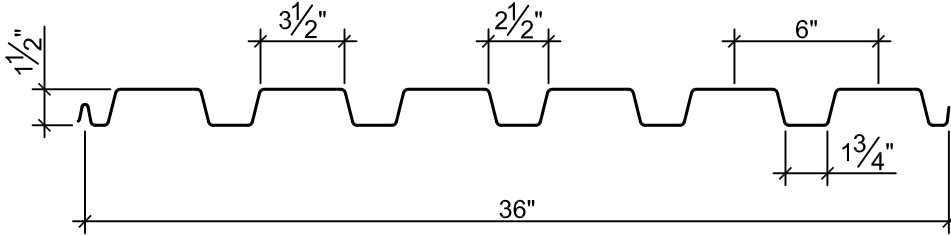


# Type PLB™ -36 or HSB® -36



- 1½" Deep Roof Deck
- Primer Painted or Galvanized
- PLB-36 Deck used with PunchLok II System
- HSB-36 Deck used with TSWs, BPs or Screws

## Dimensions



## Deck Weight and Section Properties

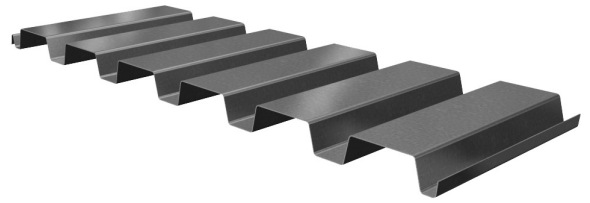
Gage	Weight		$I_d$ for Deflection		Moment		Allowable Reactions per ft of Width (lb) due to Web Crippling									
	Galv (psf)	Painted (psf)	Single Span (in. <sup>4</sup> /ft)	Multi Span (in. <sup>4</sup> /ft)	+ $S_{eff}$ (in. <sup>3</sup> /ft)	- $S_{eff}$ (in. <sup>3</sup> /ft)	One Flange Loading				Two Flange Loading					
							End Bearing Length			Interior Bearing Length		End Bearing Length			Interior Bearing Length	
22	1.9	1.8	0.177	0.192	0.176	0.188	935	1076	1163	1559	1671	962	1078	1150	1935	2084
20	2.3	2.2	0.219	0.231	0.230	0.237	1301	1492	1609	2190	2340	1413	1576	1675	2744	2947
18	2.9	2.8	0.302	0.306	0.314	0.331	2181	2484	2667	3714	3950	2551	2823	2987	4713	5038
16	3.5	3.4	0.381	0.381	0.399	0.410	3265	3699	3955	5607	5938	4018	4422	4660	7168	7631

- 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:

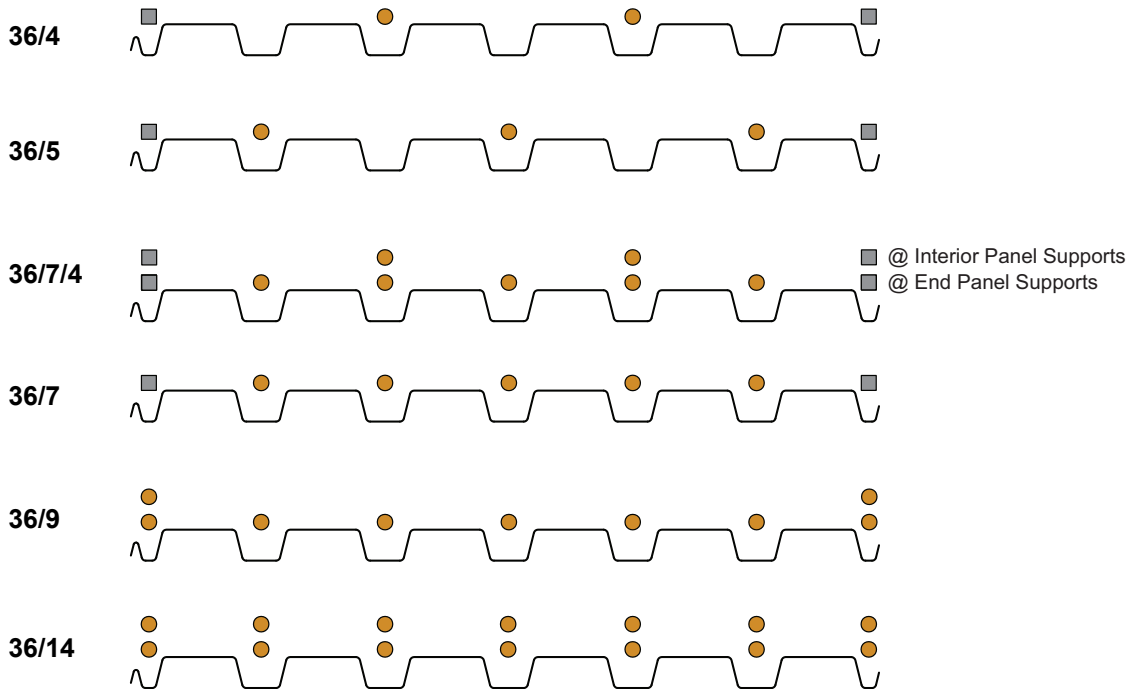
Deck Type	$I_d$ for Deflection		Moment		Allowable Reactions per ft of Width (lb) One Flange Loading			
	Single Span	Multi Span	+ $S_{eff}$	- $S_{eff}$	End Bearing		Interior Bearing	
B - Acoustical	0.98	0.98	0.97	0.97	1.00		0.76	

5. Allowable (ASD) reactions are based on web crippling, per AISI S100 Section C3.4, where  $\Omega_w = 1.70$  for end bearing and 1.75 for interior bearing. Nominal reactions may be determined by multiplying the table values by  $\Omega_w$ . LRFD reactions may be determined by multiplying nominal reactions by  $\Phi_w = 0.90$  for end reactions and 0.85 for interior reactions.
6. Diaphragm values for HSB-30 Nestable are outside the scope of Verco's Evaluation Report.

# Type PLB™ -36 or HSB® -36



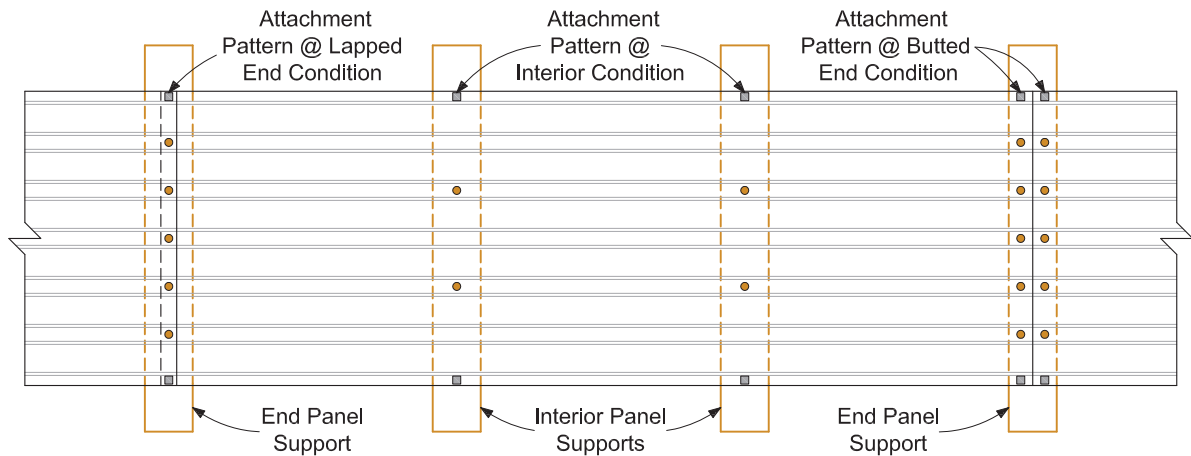
## Attachment Patterns to Supports



**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.

### 36/7/4 Attachment Pattern

The 36/7/4 pattern requires a 36/7 attachment pattern at end panel supports and a 36/4 attachment pattern at interior panel supports.



### Footnotes for Allowable Uniform Load Tables

1. Stress = Allowable uniform load based on maximum allowable flexural stress in deck.
2. L/360, L/240 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 PLB™ -36 or HSB® -36



## Footnotes for Diaphragm Shear Strength and Flexibility Factor Tables

### General Notes

1. VSC2 = Vercó Sidelap Connection 2; BP = Button Punch; TSW = Top Seam Weld; #10 = #10 Generic Screw. Sidelap connections are not required at support locations.
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 flexibility 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 web perforated acoustical deck profiles, modify tabulated q and F values using the following adjustment factors:

Deck Type	$R_q$	$R_F$
B - Acoustical	0.97	1.02

**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.

### Notes Specific to Tables using Welds to Supports

1. The allowable diaphragm shear values in the table utilize a factor of safety,  $\Omega = 3.0$  (limited by connections) with the exception of the gray shaded table values, which utilize a factor of safety of  $\Omega = 2.0$  (limited by panel buckling).
2. A 1" x 3/8" effective arc seam weld is required at supports adjacent to sidelap and 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. Refer to Hilti's Evaluation Report ESR-2776 for additional fastening patterns utilizing Hilti fasteners with the PunchLok II System.
2. 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
3. The allowable diaphragm shear values in the table utilize a factor of safety,  $\Omega = 2.5$  (limited by connections) with the exception of the shaded table values, which utilize a factor of safety of  $\Omega = 2.0$  (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,  $\Omega = 2.5$  (limited by connections) with the exception of the shaded table values, which utilize a factor of safety of  $\Omega = 2.0$  (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.

### Substrate Thickness and Strength

Deck Gage	Factors	Substrate Thickness and Strength									
		20 ga		18 ga		16 ga		14 ga		≥ 12 ga	
		33 mil (0.0345 in) 33 ksi	50 ksi	43 mil (0.0451 in) 33 ksi	50 ksi	54 mil (0.0566 in) 33 ksi	50 ksi	68 mil (0.0713 in) 33 ksi	50 ksi	≥ 97 mil (0.1017 in) 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.