

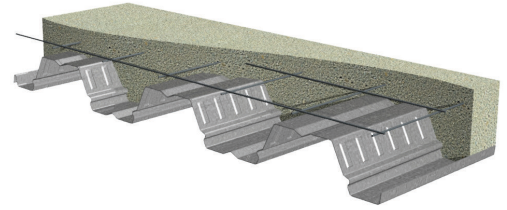
# PLW3™-36/W3-36 FORMLOK® COMPOSITE DECKS

## GRADE 50 STEEL

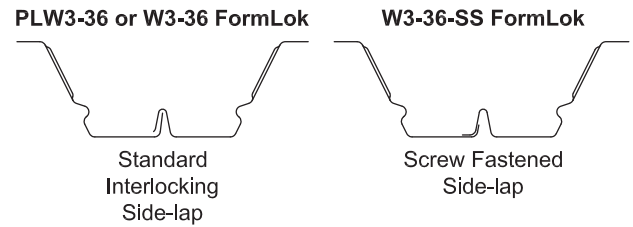
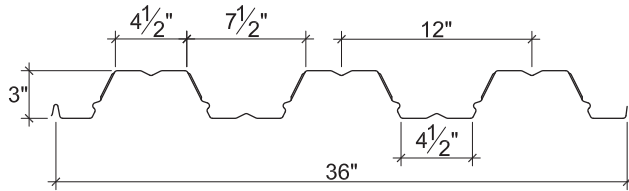
ASD

### W3 FORMLOK DECKS

- PLW3-36 FormLok Deck used with PunchLok® II System
- W3-36 FormLok Deck used with TSWs or BPs
- W3-36-SS FormLok Deck used with Side-lap Screws



### Nominal Dimensions



### Section Properties

Deck Gage	Deck Weight $w_{dd}$ (psf)	Base Metal Thickness $t$ (in.)	Yield Strength $F_y$ (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e + I_g)/3$		Effective Section Modulus at $F_y = 50$ ksi		Vertical Web Shear $V_n/\Omega$ (lb/ft)
				$I_{d+}$ (in <sup>4</sup> /ft)	$I_{d-}$ (in <sup>4</sup> /ft)	$S_{e+}$ (in <sup>3</sup> /ft)	$S_{e-}$ (in <sup>3</sup> /ft)	
22	1.9	0.0299	50	0.736	0.730	0.393	0.410	1364
20	2.3	0.0359	50	0.907	0.899	0.510	0.528	2360
18	2.9	0.0478	50	1.213	1.211	0.752	0.768	4286
16	3.5	0.0598	50	1.516	1.516	0.968	0.966	6199

### Allowable Reactions at Supports Based on Web Crippling, $R_n/\Omega$ (lb/ft)

Deck Gage	Bearing Length of Webs											
	One-Flange Loading						Two-Flange Loading					
	End Bearing			Interior Bearing			End Bearing			Interior Bearing		
	1 1/2"	2"	3"	4"	4"	8"	1 1/2"	2"	3"	4"	4"	8"
22	349	383	441	490	778	908	329	354	397	432	901	1063
20	493	540	619	686	1090	1351	498	535	596	648	1286	1617
18	845	922	1049	1157	1845	2310	938	1001	1108	1198	2228	2835
16	1285	1395	1581	1737	2779	3449	1517	1614	1776	1913	3406	4297

### Standard Features

- ASTM A653 SS GR50 Min., with G60 or G90, white or gray primer bottom optional
- ASTM A1008 SS GR50 Min. with gray primer bottom
- Standard lengths – 6'-0" to 40'-0"
- IAPMO UES ER-2018 and UL Listed
- Tables conform to ANSI/SDI C-2017

### Optional Features

- Inquire regarding cost and lead times for:
  - Short cuts < 6'-0"
  - Sheet Lengths > 40'-0"
  - Alternative metallic and painted finishes
- Factory Vent Tabs

# PLW3™-36/W3-36 FORMLOK® DECK-SLABS

## NORMAL WEIGHT CONCRETE (145 pcf)

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Slab Depth		Maximum Unshored Spans			Composite Deck-Slab Properties				
		Deck Gage	Maximum Unshored Construction Clear Span			Concrete + Deck (psf)	Deflection $I_d = (I_{cr} + I_u)/2$ (in <sup>4</sup> /ft)	Moment $M_{no}/\Omega$ (kip-ft/ft)	Shear $V_{no}/\Omega$ (kip/ft)
Total	Topping		1	2	3				
5"	2"	22	10'-1"	10'-9"	11'-1"	44.2	7.52	3.45	3.16
		20	11'-8"	12'-4"	12'-9"	44.6	7.98	4.05	3.83
		18	12'-7"	14'-11"	14'-8"	45.2	8.83	5.20	3.83
		16	13'-3"	16'-6"	15'-6"	45.8	9.61	6.30	3.83
6½"	3½"	22	8'-11"	8'-6"	9'-8"	62.3	15.90	4.54	4.01
		20	10'-4"	10'-11"	11'-3"	62.7	16.81	5.35	4.92
		18	11'-7"	13'-3"	13'-7"	63.3	18.50	6.89	5.52
		16	12'-3"	14'-10"	14'-4"	63.9	20.05	8.37	5.52
7½"	4½"	22	8'-4"	7'-5"	8'-6"	74.4	24.07	5.33	4.64
		20	9'-8"	10'-2"	10'-6"	74.8	25.40	6.28	5.55
		18	11'-1"	12'-5"	12'-10"	75.4	27.87	8.12	6.78
		16	11'-9"	13'-11"	13'-9"	76.0	30.15	9.88	6.78

**Note:**

- Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

### Superimposed Allowable Load, $W_n/\Omega$ , Limited by L/360 (psf)

NWC (145 pcf),  $f'_c = 3000$  psi

Total Slab Depth	Deck Gage	Span (ft-in.)								
		8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"
5"	22	386	296	231	183	147	118	96	78	63
	20	462	355	279	223	180	147	120	99	82
	18	604	468	370	289	223	175	140	114	94
	16	741	575	419	315	242	191	153	124	102
6½"	22	505	386	301	238	190	152	123	99	79
	20	606	465	365	291	234	190	155	127	104
	18	798	617	488	392	319	262	218	181	152
	16	982	763	605	489	401	332	277	233	197
7½"	22	591	451	351	277	221	177	142	114	92
	20	710	545	427	340	274	222	181	148	121
	18	939	726	573	461	375	308	255	213	178
	16	1159	900	714	577	473	391	327	275	232

**Notes:**

- For high loads long term concrete creep should be considered.
- See Composite Deck-Slab Strength Web Based Solutions for alternate slabs or LRFD design.

# PLW3™-36/W3-36 FORMLOK® DECK-SLABS

## LIGHT WEIGHT CONCRETE (110 pcf)

ASD

Slab Depth		Maximum Unshored Spans			Composite Deck-Slab Properties				
		Deck Gage	Maximum Unshored Construction Clear Span			Concrete + Deck (psf)	Deflection $I_d = (I_{cr} + I_u)/2$ (in <sup>4</sup> /ft)	Moment $M_{no}/\Omega$ (kip-ft/ft)	Shear $V_{no}/\Omega$ (kip/ft)
Total	Topping		1	2	3				
5"	2"	22	11'-2"	11'-10"	12'-2"	34.0	5.73	3.30	2.69
		20	12'-6"	13'-6"	14'-0"	34.4	6.14	3.87	3.60
		18	13'-5"	16'-4"	15'-8"	35.0	6.88	4.94	3.83
		16	14'-1"	17'-7"	16'-6"	35.6	7.56	5.97	3.83
5½"	2½"	22	10'-8"	11'-4"	11'-8"	38.6	7.49	3.64	2.89
		20	12'-2"	13'-0"	13'-5"	39.0	8.01	4.27	3.80
		18	13'-0"	15'-8"	15'-3"	39.6	8.95	5.45	4.37
		16	13'-9"	17'-1"	16'-1"	40.2	9.80	6.58	4.37
6¼"	¾"	22	10'-1"	10'-8"	11'-1"	45.4	10.75	4.18	3.21
		20	11'-8"	12'-4"	12'-9"	45.8	11.48	4.91	4.12
		18	12'-6"	14'-11"	14'-8"	46.4	12.79	6.28	5.22
		16	13'-3"	16'-5"	15'-6"	47.0	13.99	7.59	5.22

**Note:**

- Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

### Superimposed Allowable Load, $W_n/\Omega$ , Limited by L/360 (psf)

LWC (110 pcf),  $f'_c = 3000$  psi

Total Slab Depth	Deck Gage	Span (ft-in.)								
		8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"
5"	22	379	292	230	184	145	114	91	74	61
	20	449	348	268	201	155	122	97	79	65
	18	583	412	300	225	174	136	109	89	73
	16	645	453	330	248	191	150	120	97	80
5½"	22	416	321	252	202	163	133	110	90	75
	20	494	382	302	243	198	159	127	103	85
	18	642	499	391	293	226	177	142	115	95
	16	782	587	428	321	247	195	156	126	104
6¼"	22	477	367	289	231	186	152	125	103	85
	20	568	439	347	278	226	186	154	128	107
	18	739	574	456	369	302	251	203	165	136
	16	902	703	560	455	353	278	222	181	149

**Notes:**

- For high loads long term concrete creep should be considered.
- See Composite Deck-Slab Strength Web Based Solutions for alternate slabs or LRFD design.

## PLW3-36/W3-36 FormLok Deck-Slab Information

Total Slab Depth (in.)	Theoretical Concrete Volume (yd <sup>3</sup> /100 ft <sup>2</sup> )	Min. A <sub>s</sub> for T&S (in. <sup>2</sup> )	Recommended Reinforcing for Temperature and Shrinkage				
			WWR (OR)	Bekaert Dramix® Steel Fiber Alternates to WWR (pcy)			
				3D 65/60BG	3D 80/60BG	4D 65/60BG	4D 80/60BG or 5D 65/60BG
<b>Normal Weight Concrete (145 pcf)</b>							
5	1.08	0.028	6x6-W1.4xW1.4	27	22	33	34
5½	1.24	0.028	6x6-W1.4xW1.4	22	14	33	34
6	1.39	0.028	6x6-W1.4xW1.4	19	14	33	34
6½	1.54	0.032	6x6-W2.1xW2.1	18	14	33	34
7½	1.85	0.041	6x6-W2.1xW2.1	18	14	33	34
<b>Light Weight Concrete (110 pcf)</b>							
5	1.08	0.028	6x6-W1.4xW1.4	N/A	33	33	34
5½	1.24	0.028	6x6-W1.4xW1.4	30	27	33	34
6¼	1.47	0.029	6x6-W2.1xW2.1	22	23	33	34
7¼	1.78	0.038	6x6-W2.1xW2.1	22	23	33	34

### Notes:

1. Recommended WWR reinforcing is for minimum temperature and shrinkage per SDI-C. Larger WWR may be required to comply with UL Fire Resistant Designs.
2. FRC reinforcement is based on IAPMO UES ER-497 and ER-465.
3. Dramix® 4D 65/60BG, 4D 80/60BG and 5D 65/60BG should only be used when both required for diaphragm reinforcement and with minimum  $f'_c = 4000$  psi.
4. Dramix® fibers may be used in UL or ULC fire rated assemblies in lieu of WWR. See UL file R13907 for additional information.
5. For information on Bekaert Dramix® fibers contact 770-514-2295 or [infobuilding@bekaert.com](mailto:infobuilding@bekaert.com).
6. DRAMIX is a registered trademark of Bekaert.

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