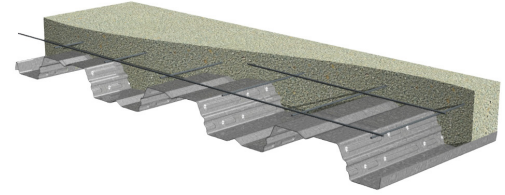


# PLW2™-36/W2-36 FORMLOK® COMPOSITE DECKS GRADE 50 STEEL

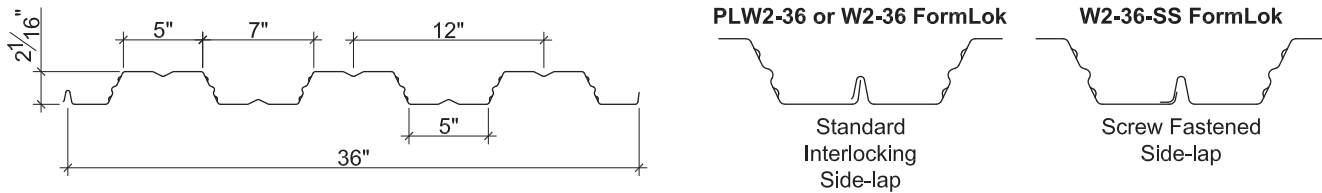
LRFD

## W2 FORMLOK DECKS

- PLW2-36 FormLok Deck used with PunchLok® II System
- W2-36 FormLok Deck used with TSWs or BPs
- W2-36-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 $\phi V_n$ (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	1.8	0.030	50	0.341	0.339	0.246	0.256	2582
20	2.1	0.036	50	0.422	0.419	0.323	0.333	3715
18	2.7	0.047	50	0.564	0.562	0.471	0.481	4900
16	3.3	0.059	50	0.708	0.708	0.623	0.638	6132

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

Deck Gage	Bearing Length of Webs											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	1½"	2"	3"	4"	4"	6"	1½"	2"	3"	4"	4"	6"
22	574	631	726	806	1178	1354	575	619	694	756	1421	1647
20	805	882	1011	1120	1649	1887	857	920	1025	1114	2016	2328
18	1319	1439	1639	1808	2689	3058	1515	1619	1793	1939	3342	3838
16	2005	2177	2468	2712	4071	4604	2439	2595	2857	3078	5116	5844

## 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

# PLW2™-36/W2-36 FORMLOK® DECK-SLABS

## NORMAL WEIGHT CONCRETE (145 pcf)

LRFD

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 $\phi M_{no}$ (kip-ft/ft)	Shear $\phi V_{no}$ (kip/ft)
Total	Topping		1	2	3				
4"	2"	22	7'-11"	9'-0"	9'-4"	38.1	4.17	3.65	4.60
		20	9'-5"	10'-3"	10'-7"	38.4	4.44	4.28	4.60
		18	10'-7"	12'-4"	12'-7"	39.0	4.91	5.39	4.60
		16	11'-4"	14'-1"	13'-3"	39.6	5.37	6.53	4.60
5½"	3½"	22	6'-11"	7'-10"	8'-1"	56.2	10.38	5.22	5.81
		20	8'-2"	9'-0"	9'-3"	56.5	11.02	6.16	6.83
		18	9'-4"	10'-9"	11'-1"	57.1	12.10	7.79	7.00
		16	10'-1"	12'-4"	12'-2"	57.7	13.18	9.49	7.00
6½"	4½"	22	6'-5"	7'-3"	7'-6"	68.3	16.86	6.64	6.72
		20	7'-7"	8'-4"	8'-7"	68.6	17.86	7.84	7.73
		18	8'-10"	10'-0"	10'-4"	69.2	19.55	9.98	8.79
		16	9'-6"	11'-6"	11'-7"	69.8	21.23	11.60	8.81

**Note:**

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

### Superimposed Design Load, $\phi W_n$ , / Deflection at L/360 (psf) NWC (145 pcf), $f'_c = 3000$ psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"
4"	22	765/843	550/530	410/355	314/249	246/182	195/136	157/105	103/66
	20	905/899	653/566	489/379	377/266	296/194	237/145	191/112	128/70
	18	1150/993	832/625	626/418	485/294	384/214	309/161	252/124	173/78
	16	1402/1086	1018/684	768/458	597/321	474/234	384/176	315/135	218/85
5½"	22	1093/2099	785/1322	585/885	448/622	350/453	277/340	222/262	145/165
	20	1300/2229	937/1404	701/940	540/660	424/481	339/361	274/278	183/175
	18	1662/2448	1203/1542	905/1033	700/725	554/528	446/397	364/306	249/192
	16	2039/2666	1480/1679	1117/1124	868/790	689/575	558/432	458/333	318/209
6½"	22	1392/3411	1001/2148	747/1439	573/1010	449/736	356/553	286/426	188/268
	20	1660/3612	1198/2275	898/1524	692/1070	545/780	436/586	353/451	237/284
	18	2133/3954	1545/2490	1163/1668	902/1171	715/854	576/641	471/494	324/311
	16	2493/4295	1810/2705	1366/1812	1061/1272	844/927	683/697	560/536	389/338

**Notes:**

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

# PLW2™-36/W2-36 FORMLOK® DECK-SLABS

## LIGHT WEIGHT CONCRETE (110 pcf)

LRFD

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 $\phi M_{no}$ (kip-ft/ft)	Shear $\phi V_{no}$ (kip/ft)
Total	Topping		1	2	3				
4"	2"	22	8'-8"	9'-11"	10'-2"	29.3	3.21	3.49	4.04
		20	10'-4"	11'-3"	11'-8"	29.6	3.45	4.08	4.60
		18	11'-6"	13'-6"	13'-5"	30.2	3.85	5.10	4.60
		16	12'-1"	15'-0"	14'-2"	30.8	4.24	6.15	4.60
4½"	2½"	22	8'-3"	9'-5"	9'-9"	33.9	4.47	3.98	4.32
		20	9'-10"	10'-9"	11'-2"	34.2	4.80	4.66	5.33
		18	11'-0"	12'-11"	13'-0"	34.8	5.34	5.84	5.36
		16	11'-8"	14'-7"	13'-8"	35.4	5.87	7.05	5.36
5¼"	3¼"	22	7'-9"	8'-10"	9'-2"	40.8	6.93	4.76	4.78
		20	9'-3"	10'-2"	10'-6"	41.1	7.42	5.59	5.79
		18	10'-5"	12'-2"	12'-5"	41.7	8.24	7.03	6.58
		16	11'-2"	13'-11"	13'-2"	42.3	9.04	8.51	6.58

**Note:**

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

### Superimposed Design Load, $\phi W_p$ , / Deflection at L/360 (psf) LWC (110 pcf), $f'_c = 3000$ psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"
4"	22	739/649	534/409	400/274	309/192	243/140	195/105	158/81	107/51
	20	871/698	630/439	474/294	367/206	290/150	234/113	191/87	130/54
	18	1097/779	796/490	601/328	467/230	372/168	301/126	247/97	172/61
	16	1330/858	967/540	732/361	570/254	455/185	369/139	304/107	214/67
4½"	22	843/904	609/569	456/381	352/268	277/195	222/146	180/113	121/71
	20	994/970	720/611	541/409	419/287	331/209	267/157	217/121	149/76
	18	1256/1080	912/680	688/455	535/320	425/233	344/175	282/135	196/85
	16	1524/1187	1109/747	839/500	654/351	521/256	423/192	349/148	245/93
5¼"	22	1008/1402	728/883	546/591	421/415	331/302	265/227	215/175	145/110
	20	1192/1502	862/945	649/633	502/445	397/324	320/243	261/187	178/118
	18	1511/1668	1097/1050	828/703	643/494	512/360	414/270	340/208	236/131
	16	1839/1829	1338/1152	1012/771	789/542	629/395	511/296	421/228	296/144

**Notes:**

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

## PLW2-36/W2-36 FormLok Deck-Slab Information

$f'_c = 3000$  psi

### Recommended Reinforcing for Temperature and Shrinkage

Total Slab Depth (in.)	Cover 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> )	WWR	(OR)	Bekaert Dramix® Steel Fiber Alternate to WWR (lb/yd <sup>3</sup> )
						4D 65/60BG
<b>Normal Weight Concrete (145 pcf)</b>						
4	2	0.93	0.028	6x6-W1.4xW1.4		23
4½	2½	1.08	0.028	6x6-W1.4xW1.4		18
5	3	1.24	0.028	6x6-W1.4xW1.4		15
5½	3½	1.39	0.032	6x6-W2.1xW2.1		15
6½	4½	1.70	0.041	6x6-W2.1xW2.1		15
<b>Light Weight Concrete (110 pcf)</b>						
4	2	0.93	0.028	6x6-W1.4xW1.4		33
4½	2½	1.08	0.028	6x6-W1.4xW1.4		25
5¼	3¼	1.31	0.029	6x6-W2.1xW2.1		20
6¼	4¼	1.62	0.038	6x6-W2.1xW2.1		20

**Notes:**

1. FRC reinforcement is based on IAPMO UES ER-465.
2. Dramix® fibers may be used in UL or ULC fire rated assemblies in lieu of WWR. See UL file R19307 for additional information.

For information on Bekaert Dramix® fibers contact 770-514-2295 or [infobuilding@beckaert.com](mailto:infobuilding@beckaert.com)

NOTICE: Design defects that could cause injury or death may result from relying on the information in this document without independent verification by a qualified professional. The information in this document is provided "AS IS". Nucor Corporation and its affiliates expressly disclaim: (i) any and all representations, warranties and conditions and (ii) all liability arising out of or related to this document and the information in it.