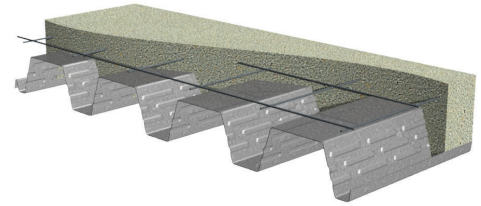


PLN3™-32/N3-32 FORMLOK® COMPOSITE DECKS GRADE 50 STEEL

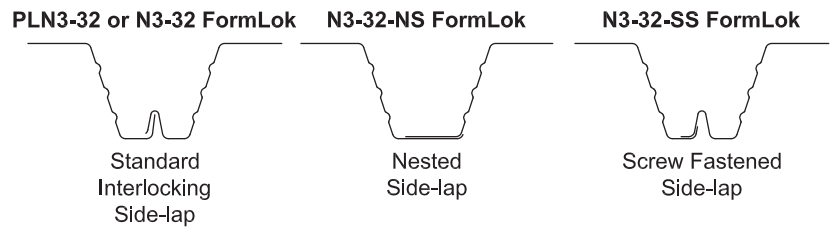
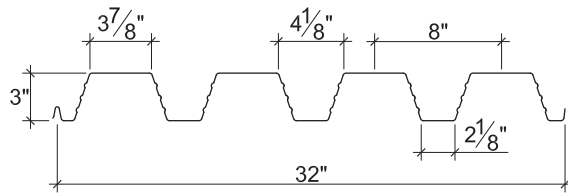
LRFD

N3 FORMLOK DECKS

- PLN3-32 FormLok Deck used with PunchLok® II System
- N3-32 FormLok Deck used with TSWs or BPs
- N3-32-NS FormLok Deck used with Side-lap Screws
- N3-32-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 ϕV_n (lb/ft)
				I_{d+} (in ⁴ /ft)	I_{d-} (in ⁴ /ft)	S_{e+} (in ³ /ft)	S_{e-} (in ³ /ft)	
20	2.4	0.0359	50	0.890	0.953	0.452	0.509	5821
18	3.1	0.0478	50	1.229	1.273	0.671	0.722	10371
16	3.9	0.0598	50	1.570	1.587	0.883	0.932	13843

Design Reactions at Supports Based on Web Crippling, ϕR_n (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"
20	1215	1331	1525	1690	2584	3203	1241	1332	1485	1614	3072	3861
18	2079	2266	2581	2846	4374	5476	2325	2484	2749	2973	5315	6763
16	3155	3427	3882	4266	6586	8173	3752	3992	4393	4731	8115	10239

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

PLN3™-32/N3-32 FORMLOK® DECK-SLABS

NORMAL WEIGHT CONCRETE (145 pcf)

LRFD

		Maximum Unshored Spans			Composite Deck-Slab Properties				
Slab Depth	Deck Gage	Maximum Unshored Construction Clear Span			Concrete + Deck (psf)	Deflection $I_d = (I_{cr} + I_u)/2$ (in ⁴ /ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)	
		1	2	3					
Total	Topping								
5"	2"	20	11'-4"	12'-6"	12'-11"	40.7	7.31	5.65	4.68
		18	12'-10"	14'-10"	15'-2"	41.4	8.12	7.20	4.68
		16	13'-7"	16'-10"	16'-0"	42.2	8.87	8.67	4.68
6½"	3½"	20	9'-10"	10'-11"	11'-4"	58.9	15.64	7.78	6.88
		18	11'-10"	13'-0"	13'-6"	59.6	17.32	9.97	6.88
		16	12'-6"	14'-9"	14'-8"	60.4	18.86	12.05	6.88
7½"	4½"	20	9'-1"	10'-2"	10'-6"	71.0	23.86	9.33	8.55
		18	11'-3"	12'-2"	12'-7"	71.7	26.37	12.00	8.55
		16	12'-0"	13'-9"	14'-1"	72.5	28.66	14.54	8.55

Note:

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

Superimposed Design Load, ϕW_n , / Deflection at 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"	16'-0"
5"	20	656/623	508/437	402/319	324/239	264/184	218/145	181/116	127/77
	18	850/693	661/487	526/355	426/266	350/205	291/161	244/129	175/86
	16	1033/757	805/531	642/387	522/291	431/224	359/176	303/141	220/94
6½"	20	902/1335	698/937	552/683	443/513	361/395	297/311	247/249	172/166
	18	1175/1478	913/1038	726/757	587/568	482/438	400/344	335/275	240/184
	16	1433/1609	1117/1130	891/824	724/619	596/476	497/375	419/300	304/201
7½"	20	1081/2036	836/1430	661/1042	531/783	433/603	356/474	295/380	206/254
	18	1414/2250	1099/1580	874/1152	707/865	580/666	482/524	403/419	289/281
	16	1731/2446	1349/1718	1076/1252	874/941	721/724	601/570	506/456	367/305

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.

PLN3™-32/N3-32 FORMLOK® DECK-SLABS

LIGHT WEIGHT CONCRETE (110 pcf)

LRFD

			Maximum Unshored Spans			Composite Deck-Slab Properties			
Slab Depth		Deck Gage	Maximum Unshored Construction Clear Span			Concrete + Deck (psf)	Deflection $I_d = (I_{cr} + I_u)/2$ (in ⁴ /ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
Total	Topping		1	2	3				
5"	2"	20	12'-7"	13'-9"	14'-2"	31.5	5.67	5.35	4.68
		18	13'-9"	16'-3"	16'-3"	32.2	6.38	6.79	4.68
		16	14'-6"	18'-1"	17'-0"	33.0	7.03	8.13	4.68
5½"	2½"	20	11'-11"	13'-2"	13'-7"	36.1	7.43	5.99	5.37
		18	13'-4"	15'-7"	15'-9"	36.8	8.34	7.60	5.37
		16	14'-1"	17'-7"	16'-6"	37.6	9.16	9.11	5.37
6¼"	¾"	20	11'-2"	12'-4"	12'-9"	43.0	10.75	7.04	6.49
		18	12'-9"	14'-8"	15'-1"	43.7	12.05	8.96	6.49
		16	13'-6"	16'-8"	15'-10"	44.5	13.21	10.75	6.49

Note:

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

		Superimposed Design Load, ϕW_n , / Deflection at 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"	16'-0"	
5"	20	631/483	490/339	390/247	316/186	259/143	215/112	180/90	129/60	
	18	809/544	631/382	504/278	410/209	338/161	282/126	238/101	173/68	
	16	977/599	763/421	611/307	498/230	412/177	345/139	292/111	214/74	
5½"	20	705/634	548/445	436/324	353/244	289/188	240/147	201/118	144/79	
	18	906/712	706/500	564/364	458/274	378/211	315/165	266/132	193/89	
	16	1094/782	855/549	684/400	557/300	461/231	386/182	326/145	239/97	
6¼"	20	828/917	644/644	512/469	414/353	339/271	281/213	235/171	168/114	
	18	1067/1028	832/722	664/526	539/395	445/304	371/239	313/191	227/128	
	16	1290/1127	1008/791	807/577	657/433	544/333	455/262	385/210	282/140	

Notes:

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

PLN3-32/N3-32 FormLok Deck-Slab Information

Total Slab Depth (in.)	Theoretical Concrete Volume (yd ³ /100 ft ²)	Min. A _s for T&S (in. ²)	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
Normal Weight Concrete (145 pcf)							
5	0.98	0.028	6x6-W1.4xW1.4	27	22	33	34
5½	1.13	0.028	6x6-W1.4xW1.4	22	14	33	34
6	1.29	0.028	6x6-W1.4xW1.4	19	14	33	34
6½	1.44	0.032	6x6-W2.1xW2.1	18	14	33	34
7½	1.75	0.041	6x6-W2.1xW2.1	18	14	33	34
Light Weight Concrete (110 pcf)							
5	0.98	0.028	6x6-W1.4xW1.4	N/A	33	33	34
5½	1.13	0.028	6x6-W1.4xW1.4	30	27	33	34
6¼	1.37	0.029	6x6-W2.1xW2.1	22	23	33	34
7¼	1.67	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.
6. DRAMIX is a registered trademark of Bekaert.

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