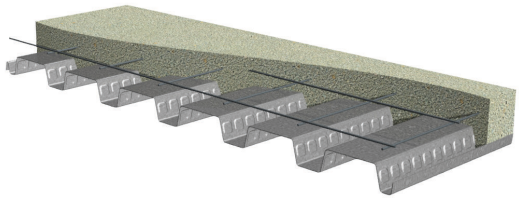
PLB™-36/B-36 FORMLOK® COMPOSITE DECKS
GRADE 50 STEEL

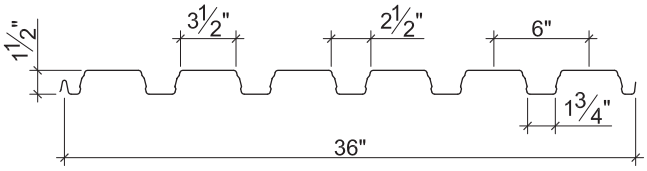
LRFD

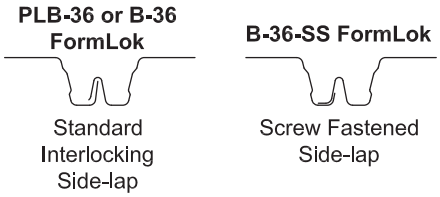
B FORMLOK DECKS

- **PLB-36 FormLok Deck used with PunchLok® II System**
- **B-36 FormLok Deck used with TSWs or BPs**
- **B-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 $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Vertical Web Shear øVn (lb/ft)
22	1.9	0.0299	50	0.178	0.192	0.176	0.188	4085
20	2.3	0.0359	50	0.219	0.231	0.230	0.237	4894
18	2.9	0.0478	50	0.302	0.306	0.314	0.331	6481
16	3.5	0.0598	50	0.381	0.381	0.399	0.410	8059

Design Reactions at Supports Based on Web Crippling, øRn (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"
22	1301	1430	1645	1779	2318	2484	1366	1472	1648	1757	2876	3097
20	1817	1991	2282	2461	3256	3479	2014	2162	2410	2562	4081	4383
18	3062	3338	3801	4080	5524	5874	3653	3902	4318	4569	7010	7493
16	4599	4994	5658	6049	8336	8828	5775	6144	6761	7125	10656	11345

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

PLB™-36/B-36 FORMLOK® DECK-SLABS
NORMAL WEIGHT CONCRETE (145 pcf)

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
3½"	2"	22	6'-8"	7'-10"	7'-11"
		20	7'-11"	9'-2"	9'-5"
		18	9'-0"	10'-9"	11'-2"
		16	9'-8"	11'-11"	11'-9"
5"	3½"	22	5'-9"	6'-9"	6'-10"
		20	6'-10"	7'-11"	8'-1"
		18	7'-10"	9'-4"	9'-7"
		16	8'-5"	10'-4"	10'-5"
6"	4½"	22	5'-5"	6'-3"	6'-4"
		20	6'-4"	7'-3"	7'-6"
		18	7'-4"	8'-7"	8'-11"
		16	7'-11"	9'-7"	9'-9"

Composite Deck-Slab Properties

Deck Gage	Concrete + Deck (psf)	Deflection $I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
22	32.5	2.68	2.81	3.02
20	32.9	2.88	3.28	3.02
18	33.5	3.22	4.14	3.02
16	34.1	3.53	4.94	3.02
22	50.6	7.74	5.00	4.93
20	51.0	8.28	5.87	4.93
18	51.6	9.24	7.52	4.93
16	52.2	10.10	9.09	4.93
22	62.7	13.32	6.58	6.41
20	63.1	14.20	7.76	6.41
18	63.7	15.79	10.00	6.41
16	64.3	17.22	12.14	6.41

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)

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

Total Slab Depth	Deck Gage	Span (ft-in.) 4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	12'-0"
3½"	22	1365/1830	859/937	585/542	419/341	312/228	238/160	185/117	117/67
	20	1471/1964	1008/1005	688/582	495/366	369/245	284/172	222/125	142/72
	18	1470/2202	1168/1127	878/652	635/410	476/275	368/193	290/140	189/81
	16	1469/2412	1167/1235	966/714	764/450	576/301	446/211	353/154	233/89
5"	22	2405/5288	1537/2707	1049/1566	754/986	563/661	432/464	338/338	216/195
	20	2404/5653	1817/2894	1243/1675	897/1054	672/706	518/496	408/361	264/209
	18	2404/6309	1910/3230	1582/1869	1166/1177	878/788	681/553	540/403	356/233
	16	2403/6898	1910/3531	1581/2043	1346/1287	1073/862	835/605	664/441	442/255
6"	22	3130/9096	2031/4657	1387/2695	999/1697	747/1137	575/798	451/582	290/336
	20	3129/9694	2408/4963	1649/2872	1191/1808	894/1211	690/851	545/620	355/359
	18	3128/10779	2487/5518	2060/3193	1556/2011	1173/1347	911/946	723/689	479/399
	16	3128/11760	2487/6021	2059/3484	1754/2194	1440/1470	1122/1032	894/752	597/435

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.

PLB™-36/B-36 FORMLOK® DECK-SLABS
LIGHT WEIGHT CONCRETE (110 pcf)

LRFD

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
3½"	2"	22	7'-3"	8'-6"	8'-7"
		20	8'-8"	10'-0"	10'-4"
		18	9'-10"	11'-9"	11'-11"
		16	10'-6"	13'-0"	12'-6"
4"	2½"	22	6'-11"	8'-1"	8'-2"
		20	8'-3"	9'-6"	9'-9"
		18	9'-4"	11'-2"	11'-6"
		16	10'-0"	12'-5"	12'-1"
4¾"	3¼"	22	6'-6"	7'-7"	7'-8"
		20	7'-9"	8'-11"	9'-1"
		18	8'-9"	10'-6"	10'-10"
		16	9'-5"	11'-7"	11'-6"

Composite Deck-Slab Properties

Concrete + Deck	Deflection	Moment	Shear
	$I_d = (I_{cr}+I_u)/2$	ϕM_{no}	ϕV_{no}
(psf)	(in^4/ft)	(kip-ft/ft)	(kip/ft)
25.1	2.10	2.65	3.02
25.5	2.26	3.08	3.02
26.1	2.55	3.86	3.02
26.7	2.80	4.57	3.02
29.7	3.11	3.30	3.62
30.1	3.35	3.84	3.62
30.7	3.77	4.85	3.62
31.3	4.14	5.78	3.62
36.6	5.16	4.40	4.59
37.0	5.55	5.15	4.59
37.6	6.25	6.54	4.59
38.2	6.86	7.84	4.59

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.)							
		4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	12'-0"
3½"	22	1295/1431	818/733	559/424	402/267	301/178	231/125	182/91	117/53
	20	1480/1544	954/790	653/457	471/288	354/193	273/135	215/98	140/57
	18	1479/1740	1177/891	825/515	598/324	450/217	349/152	277/111	182/64
	16	1478/1911	1176/978	975/566	713/356	539/238	419/167	333/122	221/70
4"	22	1613/2121	1019/1086	697/628	502/395	376/265	290/186	228/135	147/78
	20	1772/2286	1193/1170	817/677	591/426	444/285	343/200	271/146	177/84
	18	1771/2575	1410/1318	1040/762	754/480	569/321	442/226	351/164	232/95
	16	1771/2825	1409/1446	1168/837	906/527	685/353	533/248	425/180	283/104
4¾"	22	2155/3522	1363/1803	933/1043	674/657	506/440	390/309	308/225	200/130
	20	2249/3792	1602/1941	1099/1123	795/707	598/474	463/332	367/242	241/140
	18	2248/4267	1790/2184	1407/1264	1022/796	771/533	600/374	477/273	318/158
	16	2248/4682	1789/2397	1483/1387	1234/873	934/585	728/411	581/299	389/173

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.

PLB-36/B-36 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)							
3½	0.78	0.028	6x6-W1.4xW1.4	27	22	33	34
4	0.94	0.028	6x6-W1.4xW1.4	22	14	33	34
4½	1.09	0.028	6x6-W1.4xW1.4	19	14	33	34
5	1.24	0.032	6x6-W2.1xW2.1	18	14	33	34
6	1.55	0.041	6x6-W2.1xW2.1	18	14	33	34
Light Weight Concrete (110 pcf)							
3½	0.78	0.028	6x6-W1.4xW1.4	N/A	33	33	34
4	0.94	0.028	6x6-W1.4xW1.4	30	27	33	34
4¾	1.17	0.029	6x6-W2.1xW2.1	22	23	33	34
5¾	1.48	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.