

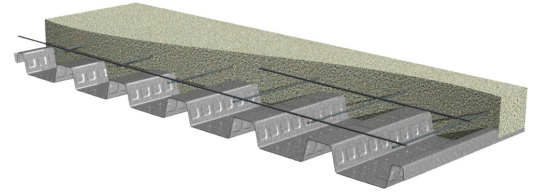
BR-36 FORMLOK® COMPOSITE DECKS

GRADE 50 STEEL

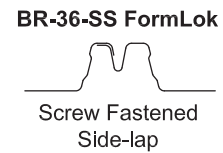
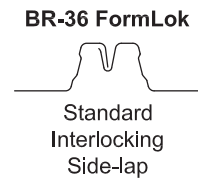
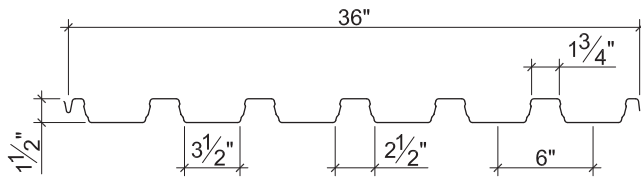
ASD

BR FORMLOK DECKS

- BR-36 FormLok Deck used with Welded Side-laps
- BR-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/Ω (lb/ft)
				I_{d+} (in ⁴ /ft)	I_{d-} (in ⁴ /ft)	S_{e+} (in ³ /ft)	S_{e-} (in ³ /ft)	
22	1.9	0.0299	50	0.192	0.178	0.188	0.176	2688
20	2.3	0.0359	50	0.231	0.219	0.237	0.230	3220
18	2.9	0.0478	50	0.306	0.302	0.331	0.314	4264
16	3.5	0.0598	50	0.381	0.381	0.410	0.399	5302

Allowable Reactions at Supports Based on Web Crippling, R_n/Ω (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"	3"	4"	1 1/2"	2"	3"	4"	3"	4"
22	850	934	1075	1163	1558	1670	893	962	1077	1149	1933	2082
20	1188	1301	1492	1609	2189	2339	1316	1413	1575	1675	2743	2946
18	2001	2182	2485	2667	3714	3949	2388	2550	2822	2986	4713	5038
16	3006	3264	3698	3954	5604	5935	3775	4015	4419	4657	7164	7627

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

BR-36 FORMLOK® DECK-SLABS

NORMAL WEIGHT CONCRETE (145 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 ⁴ /ft)	Moment M_{no}/Ω (kip-ft/ft)	Shear V_{no}/Ω (kip/ft)
			1	2	3				
Total	Topping								
3½"	2"	22	6'-7"	7'-7"	7'-10"	37.8	3.49	2.70	3.36
		20	7'-8"	8'-8"	8'-11"	38.2	3.73	3.17	3.36
		18	8'-7"	10'-1"	10'-5"	38.8	4.16	4.05	3.36
		16	9'-3"	11'-3"	11'-4"	39.4	4.55	4.88	3.36
5"	3½"	22	5'-10"	6'-8"	6'-10"	55.9	9.49	3.98	5.06
		20	6'-9"	7'-7"	7'-10"	56.3	10.11	4.70	5.21
		18	7'-8"	8'-10"	9'-2"	56.9	11.22	6.06	5.21
		16	8'-2"	9'-11"	10'-2"	57.5	12.22	7.38	5.21
6"	4½"	22	5'-5"	6'-2"	6'-5"	68.0	15.87	5.08	5.62
		20	6'-4"	7'-1"	7'-4"	68.4	16.85	6.00	6.11
		18	7'-2"	8'-3"	8'-6"	69.0	18.64	7.78	6.33
		16	7'-9"	9'-3"	9'-6"	69.6	20.27	9.49	6.33

Note:

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

Superimposed Allowable Load, W_n/Ω , Limited by 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"	11'-0"	12'-0"
3½"	22	1312	826	562	403	297	209	152	114	88
	20	1545	975	665	475	318	223	163	122	94
	18	1639	1257	842	530	355	249	182	136	105
	16	1638	1303	920	579	388	272	198	149	115
5"	22	1934	1218	828	594	441	337	262	207	165
	20	2292	1446	987	710	530	407	319	254	204
	18	2545	1883	1290	933	701	542	428	344	280
	16	2544	2024	1581	1146	864	670	532	401	309
6"	22	2469	1556	1059	760	566	433	338	267	213
	20	2931	1851	1264	911	681	524	411	328	264
	18	3094	2419	1659	1200	903	699	553	445	363
	16	3094	2461	2038	1479	1116	867	689	557	457

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.

BR-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 ⁴ /ft)	Moment M_{no}/Ω (kip-ft/ft)	Shear V_{no}/Ω (kip/ft)
Total	Topping		1	2	3				
3½"	2"	22	7'-2"	8'-3"	8'-6"	29.1	2.71	2.58	3.36
		20	8'-5"	9'-5"	9'-9"	29.5	2.91	3.02	3.36
		18	9'-5"	10'-11"	11'-4"	30.1	3.27	3.84	3.36
		16	10'-1"	12'-3"	12'-1"	30.7	3.58	4.60	3.36
4"	2½"	22	6'-10"	7'-11"	8'-2"	33.7	3.92	2.97	3.94
		20	8'-0"	9'-0"	9'-4"	34.1	4.21	3.48	3.95
		18	9'-0"	10'-6"	10'-10"	34.7	4.72	4.44	3.95
		16	9'-8"	11'-9"	11'-9"	35.3	5.17	5.34	3.95
4¾"	¾"	22	6'-6"	7'-6"	7'-8"	40.6	6.32	3.58	4.29
		20	7'-7"	8'-6"	8'-10"	41.0	6.78	4.20	4.77
		18	8'-6"	9'-11"	10'-3"	41.6	7.59	5.39	4.88
		16	9'-1"	11'-1"	11'-3"	42.2	8.31	6.52	4.88

Note:

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

Superimposed Allowable Load, W_n/Ω , Limited by 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"	11'-0"	12'-0"
3½"	22	1261	797	544	344	230	162	118	88	68
	20	1479	936	588	370	248	174	127	95	73
	18	1648	1142	661	416	278	195	142	107	82
	16	1647	1251	724	456	305	214	156	117	90
4"	22	1453	917	627	451	334	234	171	128	99
	20	1707	1080	739	534	359	252	183	138	106
	18	1937	1386	952	601	402	283	206	155	119
	16	1937	1542	1045	658	441	309	225	169	130
4¾"	22	1747	1103	754	543	406	312	245	195	158
	20	2060	1304	893	645	484	374	295	222	171
	18	2398	1684	1156	838	632	455	331	249	192
	16	2397	1909	1407	1022	709	498	363	272	210

Notes:

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

BR-36 FormLok Deck-Slab Information

$f'_c = 3000$ psi

Total Slab Depth (in.)	Cover 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 Alternate to WWR (lb/yd ³)
Normal Weight Concrete (145 pcf)					
3½	2	0.91	0.028	6x6-W1.4xW1.4	23
4	2½	1.07	0.028	6x6-W1.4xW1.4	18
4½	3	1.22	0.028	6x6-W1.4xW1.4	15
5	3½	1.37	0.032	6x6-W2.1xW2.1	15
6	4½	1.68	0.041	6x6-W2.1xW2.1	15
Light Weight Concrete (110 pcf)					
3½	2	0.91	0.028	6x6-W1.4xW1.4	33
4	2½	1.07	0.028	6x6-W1.4xW1.4	25
4¾	3¼	1.30	0.029	6x6-W2.1xW2.1	20
5¾	4¼	1.61	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

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