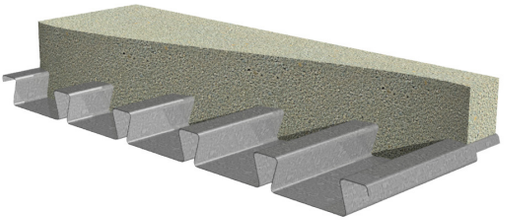
2.0DF-30 FL FORMLOK® DOVETAIL DECK
GRADE 50 STEEL

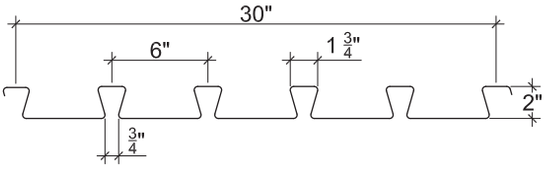
LRFD

2.0DF-30 FL DOVETAIL DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**
- **UL Listed**



Nominal Dimensions



Nested
Side-lap

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)	Design Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
20	2.7	0.0359	50	0.524	0.468	0.380	0.344	1424	1291	6047
18	3.6	0.0478	50	0.699	0.660	0.530	0.491	1987	1841	7949
16	4.5	0.0598	50	0.877	0.857	0.670	0.632	2514	2369	9812

Design Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	5"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	5"
20	1785	1955	2241	2482	3252	3724	1946	2090	2330	2532	4025	4656
18	3014	3286	3743	4127	5514	6249	3553	3794	4200	4541	6926	7930
16	4534	4924	5578	6130	8315	9340	5637	5996	6599	7108	10538	11960

Standard Features

- ASTM A653 SS GR 50 Min. with G90
- Standard lengths – 6'-0" to 40'-0"
- Tables conform to ANSI/SDI C-2017
- IAPMO UES ER-423 and UL Listed

Optional Features

- Inquire regarding cost and lead times for:
  - -19 or 17 gage
  - -Alternative metallic and painted finishes

2.0DF-30 FL FORMLOK® DOVETAIL DECK-SLAB
NORMAL WEIGHT CONCRETE (145 pcf)

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
4”	2”	20	9'-9"	9'-10"	10'-2"
		18	10'-8"	11'-9"	12'-2"
		16	11'-5"	13'-3"	13'-4"
5¼”	3¼”	20	8'-9"	8'-11"	9'-2"
		18	9'-10"	10'-7"	10'-11"
		16	10'-6"	12'-0"	12'-4"
5½”	3½”	20	8'-7"	8'-9"	9'-0"
		18	9'-8"	10'-5"	10'-9"
		16	10'-4"	11'-9"	12'-2"

Composite Deck-Slab Properties

Concrete + Deck	Deflection	Moment	Shear
	$I_d = (I_{cr}+I_u)/2$	$\varnothing M_{no}$	$\varnothing V_{no}$
(psf)	(in^4/ft)	(kip-ft/ft)	(kip/ft)
46.0	6.14	7.60	5.59
46.9	6.85	9.75	5.59
47.8	7.49	11.8	5.59
47.0	10.03	9.48	7.33
47.9	11.23	12.15	7.33
48.8	12.23	14.70	7.33
64.1	14.78	10.36	7.68
65.0	16.41	13.37	7.68
65.9	17.87	16.27	7.68

Notes:

1. Maximum unshored spans are based on 20 psf uniform construction live load and 150 plf concentrated construction live load.
2. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Design Load, $\varnothing W_n$, / Deflection at L/360 (psf)

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

Total Slab Depth	Deck Gage	Span (ft-in.)							
		10'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	18'-0"	20'-0"
4"	20	552/268	367/155	304/122	255/97	215/79	182/65	132/46	96/33
	18	723/299	485/173	405/136	341/109	290/88	248/73	184/51	138/37
	16	886/327	598/189	501/148	424/119	362/96	311/79	233/56	178/40
5¼"	20	717/567	476/328	394/258	330/206	278/168	235/138	170/97	124/70
	18	945/630	634/364	529/287	446/229	378/186	324/153	240/108	180/78
	16	1164/687	785/397	658/312	557/250	475/203	408/167	307/117	234/85
5½"	20	751/645	498/373	413/294	345/235	291/191	246/157	178/110	130/80
	18	991/716	664/414	554/326	467/261	397/212	339/175	252/122	189/89
	16	1222/780	824/451	691/355	584/284	499/231	429/190	322/133	246/97

Notes:

1. For high loads long term concrete creep should be considered.
2. See Composite Deck-Slab Superimposed Load tool for alternate slabs or ASD design.

2.0DF-30 FL FORMLOK® DOVETAIL DECK-SLAB
LIGHT WEIGHT CONCRETE (110 pcf)

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Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
4”	2”	20	10'-8"	10'-10"	11'-3"
		18	11'-7"	12'-11"	13'-4"
		16	12'-2"	14'-7"	14'-2"
4½”	2½”	20	10'-3"	10'-5"	10'-9"
		18	11'-3"	12'-5"	12'-10"
		16	11'-10"	14'-0"	13'-10"
5¼”	3¼”	20	9'-9"	9'-10"	10'-2"
		18	10'-8"	11'-9"	12'-2"
		16	11'-5"	13'-3"	13'-4"

Composite Deck-Slab Properties

Concrete + Deck (psf)	Deflection $I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
35.5	4.78	7.24	5.59
36.4	5.37	9.24	5.59
37.3	5.89	11.13	5.59
40.1	6.58	8.11	6.29
41.0	7.37	10.37	6.29
41.9	8.08	12.51	6.29
47.0	10.03	9.48	7.33
47.9	11.23	12.15	7.33
48.8	12.28	14.70	7.33

Notes:

1. Maximum unshored spans are based on 20 psf uniform construction live load and 150 plf concentrated construction live load.
2. 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.)							
		10'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	18'-0"	20'-0"
4"	20	536/208	359/120	300/95	253/76	214/61	183/50	136/35	102/26
	18	695/234	469/135	393/106	333/85	284/69	245/57	184/40	141/29
	16	845/257	573/148	482/117	409/93	350/76	303/62	230/44	177/32
4½"	20	601/287	402/166	335/130	283/104	240/85	205/70	152/49	114/35
	18	780/322	526/186	441/146	374/117	319/95	274/78	206/55	158/40
	16	950/352	644/204	541/160	460/128	394/104	340/86	258/60	199/44
5¼"	20	701/438	470/253	392/199	330/159	280/129	239/107	177/75	133/54
	18	914/490	617/284	517/223	438/178	374/145	322/119	242/84	185/61
	16	1117/536	758/310	637/244	541/195	464/159	400/131	304/92	235/67

Notes:

1. For high loads long term concrete creep should be considered.
2. See Composite Deck-Slab Superimposed Load tool for alternate slabs or ASD design.

2.0DF-30 FL FORMLOK® DOVETAIL DECK-SLAB

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2.0DF-30 FL 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)
					4D 65/60BG
Normal Weight Concrete (145 pcf)					
4	2	1.11	0.028	6x6-W1.4xW1.4	23
4½	2½	1.26	0.028	6x6-W1.4xW1.4	18
4¾	2¾	1.34	0.028	6x6-W1.4xW1.4	16
5	3	1.41	0.028	6x6-W1.4xW1.4	15
5¼	3¼	1.49	0.029	6x6-W2.1xW2.1	15
5½	3½	1.57	0.032	6x6-W2.1xW2.1	15
6	4	1.72	0.036	6x6-W2.1xW2.1	15
6¾	4¾	1.95	0.043	6x6-W2.9xW2.9	15
Light Weight Concrete (110 pcf)					
4	2	1.11	0.028	6X6-W1.4xW1.4	33
4½	2½	1.26	0.028	6x6-W1.4xW1.4	25
5	3	1.41	0.028	6x6-W1.4xW1.4	20
5¼	3¼	1.49	0.029	6x6-W2.1xW2.1	20
5½	3½	1.57	0.032	6x6-W2.1xW2.1	20
6	4	1.72	0.036	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@bekaert.com.

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