

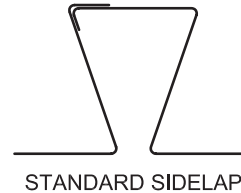
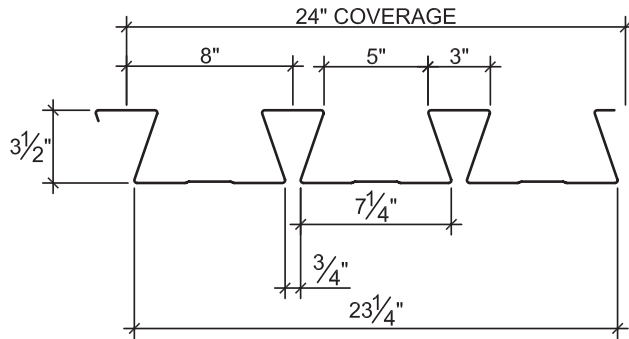
3.5D DOVETAIL FORMLOK® DECK

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- 3½" Deep Composite Deck
- UL Fire Rated
- IAPMO UES ER-423



Nominal Dimensions



3.5D FormLok Deck Section Properties - Deck Only

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 $F_y = 40$ 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)	
20	3.25	0.0358	40	1.762	1.646	0.676	0.781	3434
18	4.31	0.0474	40	2.415	2.272	0.980	1.070	6010
16	5.44	0.0598	40	3.133	2.968	1.317	1.377	8313

Allowable Reactions at Supports Based on Web Crippling, R_n/Ω (lb/ft)

Deck Gage	Bearing Length of Webs											
	End Bearing						Interior Bearing					
	2"	3"	4"	5"	6"	8"	2"	3"	4"	5"	6"	8"
20	693	794	880	955	1023	1117	1185	1333	1459	1570	1670	1807
18	1168	1330	1467	1588	1697	1890	1989	2224	2422	2596	2753	3033
16	1793	2032	2233	2410	2569	2854	3054	3394	3681	3933	4162	4567

Standard Features

- ASTM A653 or A1063 SS GR 40 minimum steel with $F_y = 40$ ksi.
- G60 stocked standard
- Standard lengths – 6'-0" to 42'-0"
- Tables conform to ANSI/SDI C-2017.

Optional Features

- Inquire regarding cost and lead times for:
 - 19 or 14 gage
 - Short cuts < 6'-0"
 - Alternative metallic and painted finishes



3.5D DOVETAIL FORMLOK® DECK-SLAB

NORMAL WEIGHT CONCRETE (145 pcf)

			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 M_{no}/Ω (kip-ft/ft)	Shear V_{no}/Ω (kip/ft)
Total	Topping		1	2	3				
5½"	2"	20	10'-11"	12'-1"	12'-6"	59.8	14.40	5.52	4.52
		18	13'-5"	14'-2"	14'-8"	60.9	15.99	7.03	4.52
		16	14'-9"	16'-0"	16'-6"	62.0	17.61	8.31	4.52
5¾"	2¼"	20	10'-8"	11'-11"	12'-4"	62.8	16.27	5.89	4.72
		18	13'-2"	13'-11"	14'-5"	63.9	18.03	7.56	4.72
		16	14'-7"	15'-9"	16'-3"	65.0	19.75	9.20	4.72
6"	2½"	20	10'-6"	11'-8"	12'-1"	65.9	18.29	6.27	4.93
		18	12'-11"	13'-8"	14'-2"	66.9	20.24	8.04	4.93
		16	14'-5"	15'-5"	16'-0"	68.1	22.14	9.85	4.93

Notes:

- Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions using the allowable reactions shown in the attached table or the Maximum Unshored Span Calculator.

Allowable Superimposed Load, W_n/Ω , Limited by L/360 (psf)

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

Total Slab Depth	Deck Gage	Span (ft-in.)										
		15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
5½"	20	136	112	93	76	62	50	40	31	23	-	-
	18	189	158	133	112	95	79	66	55	45	36	29
	16	228	187	156	131	112	96	83	72	63	53	44
5¾"	20	146	121	100	82	67	55	44	34	26	-	-
	18	204	172	145	122	103	87	73	61	50	41	32
	16	255	210	175	147	125	107	93	81	70	62	52
6"	20	157	130	107	89	73	59	47	37	28	21	-
	18	219	184	155	131	111	93	79	66	54	44	36
	16	282	236	196	165	141	120	104	90	79	68	58

Notes:

- For high loads, commonly in excess of 200 psf, dynamic or impact loading and long term concrete creep should be considered. Contact Vulcraft/Verco for further assistance.
- Use Composite Deck-Slab Strength Calculator for alternate slabs or for LRFD design.

3.5D DOVETAIL FORMLOK® DECK-SLAB LIGHT WEIGHT CONCRETE (110 pcf)

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				
5½"	2"	20	12'-2"	13'-5"	13'-10"	46.2	11.18	5.13	4.52
		18	14'-9"	15'-7"	16'-2"	47.2	12.69	6.33	4.52
		16	15'-8"	17'-7"	18'-2"	48.4	14.26	7.60	4.52
5¾"	2¼"	20	11'-11"	13'-2"	13'-7"	48.5	12.57	5.63	4.72
		18	14'-7"	15'-4"	15'-11"	49.5	14.13	6.91	4.72
		16	15'-6"	17'-4"	17'-11"	50.6	15.75	8.19	4.72
8"	4½"	20	10'-4"	11'-7"	11'-11"	69.1	31.09	9.16	5.60
		18	12'-9"	13'-6"	14'-0"	70.1	34.56	11.74	6.57
		16	14'-3"	15'-3"	15'-9"	71.3	37.85	14.36	6.57

Notes:

- Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions using the allowable reactions shown in the attached table or the Maximum Unshored Span Calculator.

Allowable Superimposed Load, W_n/Ω , Limited by L/360 (psf)

LWC (110 pcf), $f'_c = 3000$ psi

Total Slab Depth	Deck Gage	Span (ft-in.)										
		15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
5½"	20	136	114	95	80	67	56	46	38	31	25	-
	18	164	135	112	95	80	69	59	52	45	40	33
	16	184	152	126	106	90	77	67	58	51	45	39
5¾"	20	151	127	107	90	76	64	53	44	36	29	23
	18	182	150	125	105	90	77	66	57	50	44	38
	16	203	168	140	118	100	86	74	64	56	49	44
8"	20	256	217	184	157	134	114	97	82	69	58	48
	18	347	296	254	219	189	164	142	123	107	92	80
	16	439	377	326	283	241	206	178	155	135	119	105

Notes:

- For high loads, commonly in excess of 200 psf, dynamic or impact loading and long term concrete creep should be considered. Contact Vulcraft/Verco for further assistance.
- Use Composite Deck-Slab Strength Calculator for alternate slabs or for LRFD design.

3.5D DOVETAIL FORMLOK® DECK-SLAB

3.5D FormLok Deck-Slab Information

Total Slab Depth (in.)	Concrete Type	Theoretical Concrete Volume (yd ³ /100 ft ²)	Recommended Reinforcing for Temperature and Shrinkage				
			WWR	Bekaert Dramix® Steel Fibers			
				3D 65/60BG (pcy)	3D 80/60BG (pcy)	4D 65/60BG (pcy)	4D 80/60BG or 5D 65/60BG (pcy)
5½	NW	1.45	6x6 -W1.4xW1.4	27	22	33	34
5¾	NW	1.52	6x6 -W1.4xW1.4	25	16	33	34
6	NW	1.60	6x6 -W1.4xW1.4	22	14	33	34
5½	LW	1.45	6x6 -W1.4xW1.4	35	33	33	34
5¾	LW	1.52	6x6 -W1.4xW1.4	34	30	33	34
8	LW	2.22	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 ISO 17025 facility test data.
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 $f'_c = 4$ ksi.
4. Dramix® fibers may be used in UL or ULC fire rated assemblies in lieu of WWR. Fiber dosages shown are compliant with all the UL designs on the DoveTail UL data sheet. See UL file R13907 for additional information.

DOVETAIL DECK SOLUTIONS



Catalog Solutions

2.0D DoveTail FormLok Deck
 DoveTail Fire Rated Assemblies
 DoveTail Hanging Solutions
 DoveTail Acoustic Solutions
 DoveTail Roof Deck



Web Based Solutions

Calculators available at www.dovetaildeck.com
 Maximum Unshored Span
 Composite Deck-Slab Strength
 Composite Deck-Slab Diaphragm Strength
 Roof Deck Diaphragm Strength
 Steel Deck Roving Load

ARCAT Specifications for DoveTail Roof and FormLok Composite Decks are available for free download on Arcat at: www.arcat.com

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