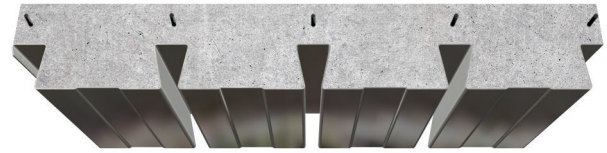


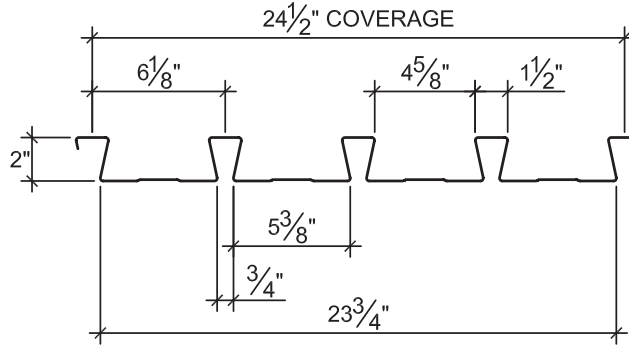
# 2.0D DOVETAIL FORMLOK® DECK

## 2.0D DOVETAIL FORMLOK DECK

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



### Nominal Dimensions



### 2.0D 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 $V_n/\Omega$ (lb/ft)
				$I_{d+}$ (in <sup>4</sup> /ft)	$I_{d-}$ (in <sup>4</sup> /ft)	$S_{e+}$ (in <sup>3</sup> /ft)	$S_{e-}$ (in <sup>3</sup> /ft)	
22	2.13	0.0295	40	0.387	0.359	0.272	0.272	2896
20	2.59	0.0358	40	0.472	0.447	0.343	0.334	3496
18	3.43	0.0474	40	0.626	0.612	0.463	0.450	4584
16	4.34	0.0598	40	0.792	0.791	0.587	0.576	5722

### Allowable Reactions at Supports Based on Web Crippling, $R_n/\Omega$ (lb/ft)

Deck Gage	Bearing Length of Webs											
	End Bearing						Interior Bearing					
	1 1/2"	2"	3"	4"	5"	≥ 5 1/4"	1 1/2"	2"	3"	4"	5"	≥ 5 1/4"
22	653	718	827	918	999	1006	1045	1133	1282	1407	1517	1527
20	932	1021	1171	1297	1408	1415	1499	1621	1825	1996	2148	2158
18	1557	1698	1934	2134	2309	2314	2527	2718	3039	3309	3547	3554
16	2380	2585	2928	3217	3469	3469	3891	4168	4632	5024	5364	5364

### 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 gage
  - Short cuts < 6'-0"
  - Alternative metallic and painted finishes



# 2.0D DOVETAIL FORMLOK® DECK-SLAB

## NORMAL WEIGHT CONCRETE (145 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 <sup>4</sup> /ft)	Moment $M_{no}/\Omega$ (kip-ft/ft)	Shear $V_{no}/\Omega$ (kip/ft)
Total	Topping		1	2	3				
4"	2"	22	6'-10"	7'-10"	8'-0"	46.0	5.75	2.11	3.97
		20	7'-10"	8'-8"	9'-0"	46.5	6.16	2.51	3.97
		18	9'-5"	10'-1"	10'-5"	47.3	6.85	3.21	3.97
		16	10'-10"	11'-4"	11'-8"	48.3	7.50	3.93	3.97
5¼"	¾"	22	6'-2"	7'-1"	7'-3"	61.2	12.19	3.08	5.21
		20	7'-2"	7'-10"	8'-2"	61.6	13.03	3.67	5.21
		18	8'-6"	9'-1"	9'-5"	62.5	14.42	4.72	5.21
		16	9'-10"	10'-3"	10'-7"	63.4	15.75	5.79	5.21
5½"	¾"	22	6'-1"	7'-0"	7'-2"	64.2	13.87	3.28	5.42
		20	7'-0"	7'-9"	8'-0"	64.6	14.81	3.91	5.46
		18	8'-5"	8'-11"	9'-3"	65.5	16.39	5.03	5.46
		16	9'-7"	10'-1"	10'-5"	66.4	17.90	6.18	5.46

### 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, $W_n/\Omega$ , Limited by L/360 (psf)

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

Total Slab Depth	Deck Gage	Span (ft-in.)										
		10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"
4"	22	123	93	71	54	40	29	20	-	-	-	-
	20	154	119	93	72	56	42	32	23	-	-	-
	18	209	165	131	104	83	66	53	41	32	23	-
	16	266	211	169	137	112	91	74	60	48	38	30
5¼"	22	185	142	109	84	64	48	35	24	-	-	-
	20	232	181	142	112	88	68	53	39	29	-	-
	18	314	249	199	160	130	105	84	68	54	42	31
	16	400	319	258	210	173	142	117	97	79	65	52
5½"	22	198	152	117	90	69	52	38	26	-	-	-
	20	248	193	152	120	94	74	57	43	31	22	-
	18	336	267	214	172	139	113	91	73	58	46	35
	16	428	342	277	226	185	153	126	104	86	70	57

### 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.

# 2.0D 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 <sup>4</sup> /ft)	Moment $M_{no}/\Omega$ (kip-ft/ft)	Shear $V_{no}/\Omega$ (kip/ft)
Total	Topping		1	2	3				
4"	2"	22	7'-5"	8'-8"	8'-10"	35.4	4.43	2.03	3.97
		20	8'-8"	9'-6"	9'-10"	35.9	4.79	2.40	3.97
		18	10'-5"	11'-0"	11'-4"	36.7	5.36	3.05	3.97
		16	11'-10"	12'-4"	12'-9"	37.7	5.89	3.71	3.97
4½"	2½"	22	7'-2"	8'-4"	8'-6"	40.0	6.11	2.39	4.37
		20	8'-4"	9'-2"	9'-6"	40.5	6.59	2.84	4.47
		18	10'-0"	10'-7"	10'-11"	41.3	7.36	3.62	4.47
		16	11'-6"	11'-11"	12'-4"	42.2	8.09	4.41	4.47
5¼"	3¼"	22	6'-10"	7'-10"	8'-0"	46.9	9.33	2.96	4.65
		20	7'-11"	8'-8"	9'-0"	47.4	10.04	3.52	5.21
		18	9'-6"	10'-1"	10'-5"	48.2	11.21	4.50	5.21
		16	10'-11"	11'-4"	11'-8"	49.1	12.30	5.51	5.21

### 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, $W_n/\Omega$ , Limited by L/360 (psf)

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

Total Slab Depth	Deck Gage	Span (ft-in.)										
		10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"
4"	22	126	98	77	60	47	36	27	20	-	-	-
	20	156	122	97	78	62	49	39	30	23	-	-
	18	207	165	132	106	85	69	57	47	38	30	24
	16	257	193	149	117	93	76	62	52	44	37	32
4½"	22	151	118	92	73	57	45	34	26	-	-	-
	20	186	147	117	93	75	60	48	38	29	22	-
	18	247	197	159	129	106	87	71	58	47	38	30
	16	310	249	202	160	128	104	86	71	60	51	44
5¼"	22	190	149	117	93	74	58	45	35	26	-	-
	20	234	185	148	119	96	77	62	50	39	30	23
	18	312	249	202	165	135	111	92	76	63	51	41
	16	391	314	256	211	175	146	122	103	86	72	61

### 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.

# 2.0D DOVETAIL FORMLOK® DECK-SLAB

## 2.0D FormLok Deck-Slab Information

Total Slab Depth (in.)	Concrete Type	Theoretical Concrete Volume (yd <sup>3</sup> /100 ft <sup>2</sup> )	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)
4	NW	1.12	6x6 -W1.4xW1.4	27	22	33	34
5¼	NW	1.51	6x6 -W2.1xW2.1	18	14	33	34
5½	NW	1.58	6x6 -W2.1xW2.1	18	14	33	34
4	LW	1.12	6x6 -W1.4xW1.4	35	33	33	34
4½	LW	1.28	6x6 -W1.4xW1.4	30	27	33	34
5¼	LW	1.51	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

3.5D 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](http://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](http://www.arcat.com)

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