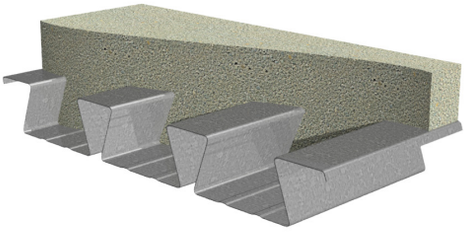
3.5DS-24 FL FORMLOK® DOVETAIL DECK
GRADE 50 STEEL

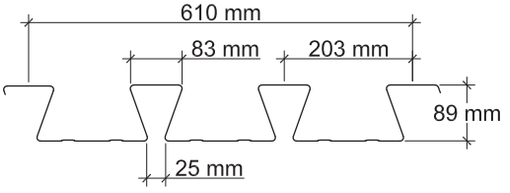
Metric LSD

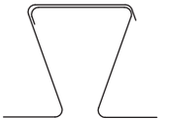
3.5DS-24 FL DOVETAIL DECK

- **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} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
20	16.60	0.912	345	2664.3	2464.9	38.39	40.70	11910	12631	70
18	21.97	1.214	345	3661.1	3420.8	56.56	59.57	17556	18488	127
16	27.34	1.519	345	4671.7	4428.6	76.02	80.91	23579	25112	183

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	50	75	100	125	100	150	50	75	100	125	100	150
20	17.0	19.4	21.5	23.4	33.1	37.8	15.6	17.4	18.9	20.2	39.0	45.0
18	28.9	32.9	36.3	39.3	55.9	63.5	29.2	32.3	34.9	37.2	67.5	77.5
16	43.8	49.6	54.5	58.8	84.2	95.1	47.0	51.7	55.7	59.2	103.1	117.7

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.8 m to 12.2 m
- UL Listed
- Cold-formed steel deck conforms to AISI S100-16 and meets the guidelines of CSSBI 12M-2024.

Optional Features

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

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NORMAL WEIGHT CONCRETE (2325 kg/m³)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
140	51	20	4047	4169	4307
		18	4365	5046	5028
		16	4618	5676	5339
145	56	20	3980	4106	4242
		18	4323	4972	4979
		16	4574	5622	5288
150	61	20	3916	4046	4180
		18	4282	4901	4933
		16	4532	5570	5239

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^4x10^3/m)	Moment $øM_{no}$ (kN-m/m)	Shear $øV_{no}$ (kN/m)
2.8	19212.45	51.15	86
2.9	21404.22	65.61	86
2.9	23504.45	76.88	86
2.9	21142.04	52.68	90
3.0	23514.57	67.71	90
3.0	25706.96	81.43	90
3.0	23201.67	54.27	93
3.1	25769.04	69.74	93
3.2	28132.50	84.64	93

Notes:

1. Maximum unshored spans are based on 1.0 kPa uniform construction live load and 2.2 kN/m concentrated construction live load.
2. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, $øW_n$, / Deflection at L/360 (kPa)

NWC (2325 kg/m³), f'_c = 20 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		4500	5100	5400	5700	6000	6300	6900	7500
140	20	16.7/9.1	12.2/6.3	10.5/5.3	9.0/4.5	7.8/3.8	6.8/3.3	5.0/2.5	3.7/2.0
	18	22.3/10.2	16.6/7.0	14.4/5.9	12.5/5.0	11.0/4.3	9.6/3.7	7.4/2.8	5.7/2.2
	16	26.7/11.2	20.0/7.7	17.4/6.5	15.3/5.5	13.4/4.7	11.8/4.1	9.2/3.1	7.3/2.4
145	20	17.1/10.1	12.5/6.9	10.8/5.8	9.3/4.9	8.0/4.2	6.9/3.6	5.2/2.8	3.8/2.2
	18	23.0/11.2	17.1/7.7	14.8/6.5	12.9/5.5	11.3/4.7	9.9/4.1	7.6/3.1	5.9/2.4
	16	28.3/12.2	21.2/8.4	18.5/7.0	16.2/6.0	14.3/5.1	12.6/4.5	9.9/3.4	7.8/2.6
150	20	17.6/11.0	12.9/7.6	11.1/6.4	9.5/5.4	8.2/4.6	7.1/4.0	5.3/3.1	3.9/2.3
	18	23.7/12.3	17.6/8.4	15.2/7.1	13.3/6.0	11.6/5.2	10.2/4.5	7.8/3.4	6.0/2.6
	16	29.5/13.4	22.1/9.2	19.2/7.7	16.9/6.6	14.8/5.6	13.1/4.8	10.2/3.7	8.1/2.9

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2024.
2. For high loads long term concrete creep should be considered.
3. See Composite Deck-Slab Superimposed Load tool for alternate slabs.