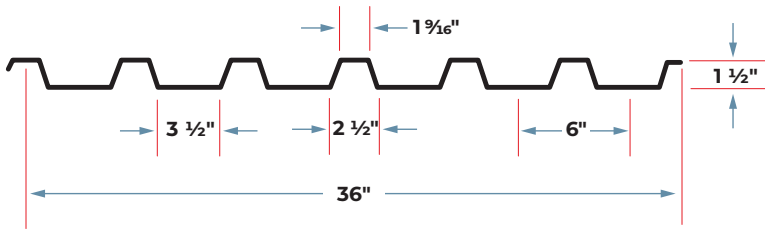


1.5" FORM DECK

GRADE 50 STEEL / FIELD INVERTED DECK



Section Properties

Gage	Design Thickness (inches)	Weight (psf)	F _y (ksi)	S _e + (inch ³) per foot	S _e - (inch ³) per foot	ASD (Ω = 1.67)		I _d + (inch ⁴) per ft.	I _d - (inch ⁴) per ft.
						M _p / Ω (inch-lbs per ft)	M _n / Ω (inch-lbs per foot)		
22	0.0295	1.6	50	0.179	0.170	5358	5101	0.167	0.144
20	0.0358	2.0	50	0.222	0.216	6661	6457	0.210	0.182
18	0.0474	2.6	50	0.310	0.294	9291	8812	0.290	0.257
16	0.0598	3.0	50	0.390	0.378	11667	11327	0.363	0.341

Note

All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI RD-2017, AISI S100-2012 and AISI S100-2016

Shear and Web Crippling

Gage	V _n / Ω (lbs/ft)	Web Crippling (R _n / Ω), lbs/ft One Flange Loading End Bearing			Web Crippling (R _n / Ω), lbs/ft One Flange Loading Interior Bearing		
		1-1/2"	2"	3"	1-1/2"	2"	3"
		22	2424	801	880	1013	1096
20	3803	1143	1253	1436	1605	1735	1953
18	5032	1914	2087	2377	2773	2983	3334
16	6219	2931	3183	3606	4345	4654	5172

Note

All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI RD-2017, AISI S100-2012 and AISI S100-2016

Allowable Uniform Downward Loads, ASD (PSF)

Span	Gage	5'-0"	5"-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
Single	22	143	118	99	85	73	64	56	49	44	40	36
	20	178	147	123	105	91	79	69	61	55	49	44
	18	248	205	172	147	126	110	97	86	76	69	62
	16	311	257	216	184	159	138	122	108	96	86	78
Double	22	136	112	94	80	69	60	53	47	42	38	34
	20	172	142	120	102	88	77	67	60	53	48	43
	18	235	194	163	139	120	104	92	81	73	65	59
	16	302	250	210	179	154	134	118	105	93	84	76
Triple	22	170	141	118	101	87	76	66	59	52	47	43
	20	215	178	149	127	110	96	84	74	66	60	54
	18	294	243	204	174	150	131	115	102	91	81	73
	16	378	312	262	223	193	168	147	131	117	105	94

Notes

- All section properties and ASD (Ω = 1.67) uniform loads are calculated in accordance with ANSI/SDI RD-2017, AISI S100-2012 and AISI S100-2016
- Loads shown in tables are uniformly distributed superimposed loads in psf. Span length assumes center-to-center spacing of supports. Tabulated loads shall not be increased by assuming clear span dimensions.
- Bending Moment formulae used for flexural stress limitations are: Simple and Two Span $M = \frac{wL^2}{8}$ Three Span or More $M = \frac{wL^2}{10}$
- Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

Uniform Superimposed Service Load that Causes L/240 Deflection (PSF)

Span	Gage	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
Single	22	68	51	40	31	25	20	17	14	12	10	9
	20	86	64	50	39	31	25	21	17	15	13	11
	18	126	95	73	57	46	37	31	26	22	18	16
	16	173	130	100	79	63	51	42	35	30	25	22
Double	22	164	124	95	75	60	49	40	33	28	24	21
	20	207	155	120	94	75	61	50	42	35	30	26
	18	303	228	176	138	111	90	74	62	52	44	38
	16	417	314	241	190	152	124	102	85	72	61	52
Triple	22	129	97	74	59	47	38	31	26	22	19	16
	20	162	121	94	74	59	48	39	33	28	24	20
	18	238	178	137	108	87	70	58	48	41	35	30
	16	327	245	189	149	119	97	80	66	56	48	41

Note
 For loads that cause L/120 Deflection, multiply by 2.0. For loads that cause L/180 Deflection, multiply by 1.5. For loads that cause L/360 Deflection, multiply by 0.667.

Construction Span Table – 20 psf Construction Load

Normal Weight Concrete (145 pcf)				
Total Slab Depth	Deck Type	Maximum Unshored Clear Span		
		1 span	2 span	3 span
3.50 (t=2.00) 36 PSF	1.5x6x22 ga	6' 8"	7' 9"	7' 11"
	1.5x6x20 ga	7' 8"	8' 9"	9' 1"
	1.5x6x18 ga	9' 7"	10' 3"	10' 7"
	1.5x6x16 ga	11' 1"	11' 7"	12' 0"
4.00 (t=2.50) 42 PSF	1.5x6x22 ga	6' 4"	7' 5"	7' 6"
	1.5x6x20 ga	7' 4"	8' 4"	8' 7"
	1.5x6x18 ga	9' 1"	9' 9"	10' 1"
	1.5x6x16 ga	10' 6"	11' 0"	11' 5"
4.50 (t=3.00) 48 PSF	1.5x6x22 ga	6' 1"	7' 1"	7' 2"
	1.5x6x20 ga	7' 8"	8' 3"	8' 7"
	1.5x6x18 ga	8' 8"	9' 4"	9' 7"
	1.5x6x16 ga	9' 12"	10' 6"	10' 11"
5.00 (t=3.50) 54 PSF	1.5x6x22 ga	5' 10"	6' 9"	6' 11"
	1.5x6x20 ga	6' 8"	7' 8"	7' 11"
	1.5x6x18 ga	8' 3"	8' 11"	9' 3"
	1.5x6x16 ga	9' 6"	10' 1"	10' 5"
5.50 (t=4.00) 60 PSF	1.5x6x22 ga	5' 7"	6' 6"	6' 8"
	1.5x6x20 ga	6' 6"	7' 4"	7' 7"
	1.5x6x18 ga	7' 12"	8' 7"	8' 10"
	1.5x6x16 ga	9' 2"	9' 9"	10' 1"
6.00 (t=4.50) 66 PSF	1.5x6x22 ga	5' 5"	6' 3"	6' 5"
	1.5x6x20 ga	6' 3"	7' 1"	7' 4"
	1.5x6x18 ga	7' 8"	8' 3"	8' 7"
	1.5x6x16 ga	8' 10"	9' 4"	9' 8"

Lightweight Concrete (115 pcf)				
Total Slab Depth	Deck Type	Maximum Unshored Clear Span		
		1 span	2 span	3 span
3.50 (t=2.00) 27 PSF	1.5x6x22 ga	7' 3"	8' 6"	8' 7"
	1.5x6x20 ga	8' 5"	9' 7"	9' 11"
	1.5x6x18 ga	10' 7"	11' 2"	11' 7"
	1.5x6x16 ga	12' 4"	12' 8"	13' 1"
4.00 (t=2.50) 32 PSF	1.5x6x22 ga	6' 10"	8' 1"	8' 2"
	1.5x6x20 ga	7' 12"	9' 1"	9' 5"
	1.5x6x18 ga	9' 12"	10' 8"	10' 12"
	1.5x6x16 ga	11' 7"	12' 1"	12' 5"
4.50 (t=3.00) 37 PSF	1.5x6x22 ga	6' 7"	7' 9"	7' 10"
	1.5x6x20 ga	8' 6"	9' 2"	9' 6"
	1.5x6x18 ga	9' 6"	10' 2"	10' 6"
	1.5x6x16 ga	11' 0"	11' 6"	11' 11"
5.00 (t=3.50) 41 PSF	1.5x6x22 ga	6' 4"	7' 6"	7' 7"
	1.5x6x20 ga	7' 4"	8' 5"	8' 8"
	1.5x6x18 ga	9' 2"	9' 10"	10' 2"
	1.5x6x16 ga	10' 7"	11' 2"	11' 6"
5.50 (t=4.00) 46 PSF	1.5x6x22 ga	6' 2"	7' 2"	7' 3"
	1.5x6x20 ga	7' 1"	8' 1"	8' 4"
	1.5x6x18 ga	8' 10"	9' 5"	9' 9"
	1.5x6x16 ga	10' 2"	10' 8"	11' 1"
6.00 (t=4.50) 50 PSF	1.5x6x22 ga	5' 12"	6' 12"	7' 1"
	1.5x6x20 ga	6' 11"	7' 10"	8' 1"
	1.5x6x18 ga	8' 6"	9' 2"	9' 6"
	1.5x6x16 ga	9' 10"	10' 5"	10' 9"

Note
 Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.