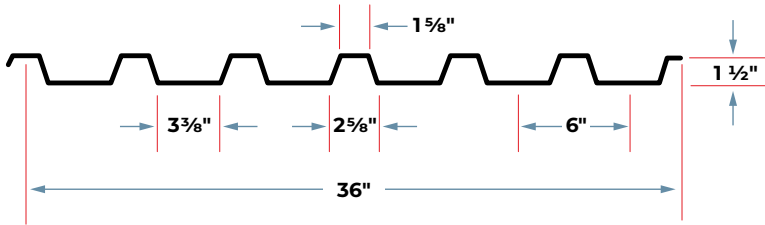


1.5" FORM DECK

GRADE 40 STEEL / FIELD INVERT DECK



Options

Vented

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	40	0.184	0.173	4415	4135	0.171	0.147
20	0.0358	2.0	40	0.231	0.219	5533	5246	0.216	0.187
18	0.0474	2.6	40	0.312	0.299	7473	7154	0.290	0.263
16	0.0598	3.0	40	0.390	0.383	9333	9166	0.363	0.350

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	1939	640	704	810	877	951	1076
20	3042	915	1002	1149	1284	1388	1563
18	4025	1531	1670	1902	2218	2386	2667
16	4975	2345	2547	2885	3476	3723	4138

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	118	97	82	70	60	52	46	41	36	33	29
	20	148	122	102	87	75	66	58	51	46	41	37
	18	199	165	138	118	102	89	78	69	62	55	50
	16	249	206	173	147	127	111	97	86	77	69	62
Double	22	110	91	77	65	56	49	43	38	34	31	28
	20	140	116	97	83	71	62	55	48	43	39	35
	18	191	158	132	113	97	85	75	66	59	53	48
	16	244	202	170	145	125	109	95	85	75	68	61
Triple	22	138	114	96	82	70	61	54	48	43	38	34
	20	175	145	121	103	89	78	68	61	54	48	44
	18	238	197	166	141	122	106	93	83	74	66	60
	16	306	252	212	181	156	136	119	106	94	85	76

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	77	58	45	35	28	23	19	16	13	11	10
	20	98	74	57	45	36	29	24	20	17	14	12
	18	138	104	80	63	50	41	34	28	24	20	17
	16	184	138	106	84	67	54	45	37	32	27	23
Double	22	185	139	107	84	68	55	45	38	32	27	23
	20	236	177	137	107	86	70	58	48	40	34	30
	18	333	250	193	152	121	99	81	68	57	49	42
	16	443	333	256	201	161	131	108	90	76	65	55
Triple	22	145	109	84	66	53	43	35	30	25	21	18
	20	185	139	107	84	67	55	45	38	32	27	23
	18	261	196	151	119	95	77	64	53	45	38	33
	16	346	260	200	158	126	103	85	71	59	51	43

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) 31 PSF	1.5x6x22 ga	5' 9"	6' 10"	6' 11"
	1.5x6x20 ga	6' 9"	7' 11"	8' 1"
	1.5x6x18 ga	8' 4"	9' 3"	9' 6"
	1.5x6x16 ga	9' 7"	10' 5"	10' 10"
4.00 (t=2.50) 37 PSF	1.5x6x22 ga	5' 6"	6' 6"	6' 7"
	1.5x6x20 ga	6' 5"	7' 6"	7' 8"
	1.5x6x18 ga	7' 11"	8' 9"	9' 1"
	1.5x6x16 ga	9' 1"	9' 11"	10' 3"
4.50 (t=3.00) 43 PSF	1.5x6x22 ga	5' 4"	6' 3"	6' 4"
	1.5x6x20 ga	6' 8"	7' 5"	7' 8"
	1.5x6x18 ga	7' 6"	8' 4"	8' 8"
	1.5x6x16 ga	8' 8"	9' 6"	9' 10"
5.00 (t=3.50) 49 PSF	1.5x6x22 ga	5' 1"	5' 12"	6' 1"
	1.5x6x20 ga	5' 11"	6' 10"	7' 0"
	1.5x6x18 ga	7' 3"	8' 0"	8' 4"
	1.5x6x16 ga	8' 4"	9' 1"	9' 5"
5.50 (t=4.00) 55 PSF	1.5x6x22 ga	4' 11"	5' 9"	5' 10"
	1.5x6x20 ga	5' 9"	6' 7"	6' 9"
	1.5x6x18 ga	6' 11"	7' 9"	7' 12"
	1.5x6x16 ga	7' 12"	8' 9"	9' 0"
6.00 (t=4.50) 61 PSF	1.5x6x22 ga	4' 9"	5' 7"	5' 8"
	1.5x6x20 ga	5' 6"	6' 5"	6' 6"
	1.5x6x18 ga	6' 8"	7' 5"	7' 8"
	1.5x6x16 ga	7' 8"	8' 5"	8' 9"

Lightweight Concrete (115 pcf)				
Total Slab Depth	Deck Type	Maximum Unshored Clear Span		
		1 span	2 span	3 span
3.50 (t=2.00) 23 PSF	1.5x6x22 ga	6' 3"	7' 5"	7' 6"
	1.5x6x20 ga	7' 5"	8' 8"	8' 10"
	1.5x6x18 ga	9' 1"	10' 1"	10' 5"
	1.5x6x16 ga	10' 7"	11' 5"	11' 9"
4.00 (t=2.50) 28 PSF	1.5x6x22 ga	5' 12"	7' 1"	7' 2"
	1.5x6x20 ga	7' 0"	8' 2"	8' 4"
	1.5x6x18 ga	8' 8"	9' 7"	9' 11"
	1.5x6x16 ga	10' 0"	10' 10"	11' 2"
4.50 (t=3.00) 33 PSF	1.5x6x22 ga	5' 9"	6' 9"	6' 10"
	1.5x6x20 ga	7' 5"	8' 3"	8' 6"
	1.5x6x18 ga	8' 3"	9' 2"	9' 5"
	1.5x6x16 ga	9' 6"	10' 4"	10' 8"
5.00 (t=3.50) 37 PSF	1.5x6x22 ga	5' 7"	6' 7"	6' 8"
	1.5x6x20 ga	6' 6"	7' 7"	7' 9"
	1.5x6x18 ga	7' 11"	8' 10"	9' 2"
	1.5x6x16 ga	9' 2"	10' 0"	10' 4"
5.50 (t=4.00) 42 PSF	1.5x6x22 ga	5' 5"	6' 4"	6' 5"
	1.5x6x20 ga	6' 3"	7' 3"	7' 5"
	1.5x6x18 ga	7' 8"	8' 6"	8' 9"
	1.5x6x16 ga	8' 10"	9' 7"	9' 11"
6.00 (t=4.50) 46 PSF	1.5x6x22 ga	5' 3"	6' 2"	6' 3"
	1.5x6x20 ga	6' 1"	7' 1"	7' 3"
	1.5x6x18 ga	7' 5"	8' 3"	8' 6"
	1.5x6x16 ga	8' 7"	9' 4"	9' 8"

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

