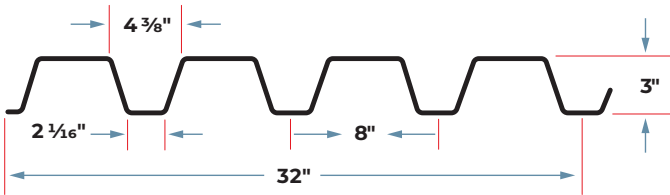


N-DECK

GRADE 50 STEEL



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	1.8	50	0.340	0.351	10190	10512	0.637	0.692
20	0.0358	2.2	50	0.443	0.471	13259	14109	0.794	0.876
18	0.0474	2.9	50	0.654	0.681	19570	20389	1.101	1.206
16	0.0598	3.7	50	0.891	0.914	26688	27350	1.446	1.564

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	2309	546	600	691	886
20	3999	787	862	989	1282	1386	1561
18	6990	1332	1453	1655	2186	2351	2628
16	10055	2056	2233	2529	3394	3636	4041

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	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"
Single	22	68	56	47	40	35	30	27	24	21	19	17
	20	88	73	61	52	45	39	35	31	27	24	22
	18	130	108	91	77	67	58	51	45	40	36	33
	16	178	147	124	105	91	79	69	62	55	49	44
Double	22	70	58	49	41	36	31	27	24	22	19	18
	20	94	78	65	56	48	42	37	33	29	26	24
	18	136	112	94	80	69	60	53	47	42	38	34
	16	182	151	127	108	93	81	71	63	56	51	46
Triple	22	88	72	61	52	45	39	34	30	27	24	22
	20	118	97	82	70	60	52	46	41	36	33	29
	18	170	140	118	101	87	76	66	59	52	47	42
	16	228	188	158	135	116	101	89	79	70	63	57

Allowable Uniform Upward Loads, ASD (PSF)

Span	Gage	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"
Single	22	70	58	49	41	36	31	27	24	22	19	18
	20	94	78	65	56	48	42	37	33	29	26	24
	18	136	112	94	80	69	60	53	47	42	38	34
	16	182	151	127	108	93	81	71	63	56	51	46
Double	22	68	56	47	40	35	30	27	24	21	19	17
	20	88	73	61	52	45	39	35	31	27	24	22
	18	130	108	91	77	67	58	51	45	40	36	33
	16	178	147	124	105	91	79	69	62	55	49	44
Triple	22	85	70	59	50	43	38	33	29	26	24	21
	20	110	91	77	65	56	49	43	38	34	31	28
	18	163	135	113	96	83	72	64	56	50	45	41
	16	222	184	154	132	113	99	87	77	69	62	56

Notes

- All section properties and ASD ($\Omega = 1.67$) 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	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"
Single	22	42	31	24	19	15	12	10	9	7	6	5
	20	52	39	30	24	19	15	13	11	9	8	7
	18	72	54	42	33	26	21	18	15	12	11	9
	16	95	71	55	43	35	28	23	19	16	14	12
Double	22	101	76	58	46	37	30	25	20	17	15	13
	20	125	94	73	57	46	37	31	26	22	18	16
	18	174	131	101	79	63	52	42	35	30	25	22
	16	229	172	132	104	83	68	56	47	39	33	29
Triple	22	79	59	46	36	29	23	19	16	14	11	10
	20	98	74	57	45	36	29	24	20	17	14	12
	18	136	102	79	62	50	40	33	28	23	20	17
	16	179	134	104	81	65	53	44	36	31	26	22

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.

Maximum Construction and Cantilever Spans

Span	Gage	ASD Span	ASD Cantilever Span
Single	22	17'-0"	4'-4"
	20	22'-1"	5'-9"
	18	32'-7"	8'-3"
	16	42'-6"	10'-11"
Double or Triple	22	20'-11"	
	20	27'-2"	
	18	40'-2"	
	16	54'-9"	

Notes

- All construction load spans are calculated using a 200 pound service load on a 1 foot width of deck, in accordance with ANSI/SDI RD-2017.
- All cantilever construction load spans are calculated using a 200 pound service load on a 1 foot width of deck and a 10 psf uniform distributed load, in accordance with ANSI/SDI RD-2017.

