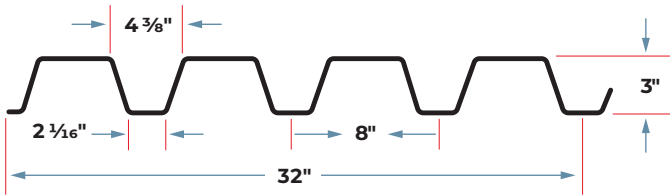


N-DECK

GRADE 40 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	40	0.354	0.378	8484	9062	0.648	0.713
20	0.0358	2.2	40	0.462	0.489	11071	11706	0.809	0.889
18	0.0474	2.9	40	0.684	0.703	16392	16841	1.121	1.221
16	0.0598	3.7	40	0.904	0.924	21647	22141	1.479	1.574

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	2263	437	480	553	709
20	3602	630	690	791	1026	1109	1249
18	6218	1066	1162	1324	1749	1881	2103
16	8045	1645	1786	2023	2715	2909	3233

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	57	47	39	33	29	25	22	20	17	16	14
	20	74	61	51	44	38	33	29	26	23	20	18
	18	109	90	76	65	56	49	43	38	34	30	27
	16	144	119	100	85	74	64	56	50	45	40	36
Double	22	60	50	42	36	31	27	24	21	19	17	15
	20	78	64	54	46	40	35	30	27	24	22	20
	18	112	93	78	66	57	50	44	39	35	31	28
	16	148	122	103	87	75	66	58	51	46	41	37
Triple	22	76	62	52	45	39	34	29	26	23	21	19
	20	98	81	68	58	50	43	38	34	30	27	24
	18	140	116	97	83	72	62	55	49	43	39	35
	16	185	152	128	109	94	82	72	64	57	51	46

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	60	50	42	36	31	27	24	21	19	17	15
	20	78	64	54	46	40	35	30	27	24	22	20
	18	112	93	78	66	57	50	44	39	35	31	28
	16	148	122	103	87	75	66	58	51	46	41	37
Double	22	57	47	39	33	29	25	22	20	17	16	14
	20	74	61	51	44	38	33	29	26	23	20	18
	18	109	90	76	65	56	49	43	38	34	30	27
	16	144	119	100	85	74	64	56	50	45	40	36
Triple	22	71	58	49	42	36	31	28	24	22	20	18
	20	92	76	64	55	47	41	36	32	28	26	23
	18	137	113	95	81	70	61	53	47	42	38	34
	16	180	149	125	107	92	80	70	62	56	50	45

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	43	32	25	19	15	13	10	9	7	6	5
	20	53	40	31	24	19	16	13	11	9	8	7
	18	74	55	43	34	27	22	18	15	13	11	9
	16	97	73	56	44	35	29	24	20	17	14	12
Double	22	102	77	59	47	37	30	25	21	18	15	13
	20	128	96	74	58	47	38	31	26	22	19	16
	18	177	133	103	81	65	53	43	36	30	26	22
	16	234	176	135	106	85	69	57	48	40	34	29
Triple	22	80	60	46	36	29	24	20	16	14	12	10
	20	100	75	58	46	36	30	24	20	17	15	13
	18	139	104	80	63	51	41	34	28	24	20	17
	16	183	137	106	83	67	54	45	37	31	27	23

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	14'-2"	3'-9"
	20	18'-5"	4'-9"
	18	27'-4"	6'-10"
	16	36'-1"	8'-11"
Double or Triple	22	17'-5"	
	20	22'-9"	
	18	33'-7"	
	16	44'-5"	

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.