

HOUSTON



B-DECKING

SECTION PROPERTIES AND FLEXURAL RESISTANCE (BARE DECK)

1.5WR

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	0.179	0.186	4279	4453	0.154	0.174
20	0.0358	2.0	40	0.236	0.239	5661	5733	0.193	0.216
18	0.0474	2.6	40	0.318	0.327	7625	7832	0.269	0.287
16	0.0598	3.0	40	0.404	0.408	9677	9772	0.350	0.357

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 (BARE DECK) (40 KSI)

1.5WR

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	2358	634	697	802	944
20	2844	904	990	1135	1365	1475	1661
18	3724	1510	1646	1875	2323	2498	2793
16	4642	2308	2507	2840	3603	3859	4289

NOTE

ALL SECTION PROPERTIES AND ASD FLEXURAL STRENGTHS ARE CALCULATED IN ACCORDANCE WITH ANSI/SDI RD-2017, AISI S100-2012 AND AISI S100-2016

1.5WR (40 KSI) ASD UNIFORM DOWNWARD LOADS

1.5WR Deck (Bare Deck – Roof)

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	114	94	79	68	58	51	45	39	35	32	29
	20	151	125	105	89	77	67	59	52	47	42	38
	18	203	168	141	120	104	90	79	70	63	56	51
	16	258	213	179	153	132	115	101	89	80	71	65
Double	22	119	98	82	70	61	53	46	41	37	33	30
	20	153	126	106	90	78	68	60	53	47	42	38
	18	209	173	145	124	107	93	82	72	64	58	52
	16	261	215	181	154	133	116	102	90	80	72	65
Triple	22	148	123	103	88	76	66	58	51	46	41	37
	20	191	158	133	113	97	85	75	66	59	53	48
	18	261	216	181	154	133	116	102	90	81	72	65
	16	326	269	226	193	166	145	127	113	101	90	81

1.5WR (40 ksi) ASD UNIFORM UPWARD LOADS

1.5WR (40 ksi)

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	119	98	82	70	61	53	46	41	37	33	30
	20	153	126	106	90	78	68	60	53	47	42	38
	18	209	173	145	124	107	93	82	72	64	58	52
	16	261	215	181	154	133	116	102	90	80	72	65
Double	22	114	94	79	68	58	51	45	39	35	32	29
	20	151	125	105	89	77	67	59	52	47	42	38
	18	203	168	141	120	104	90	79	70	63	56	51
	16	258	213	179	153	132	115	101	89	80	71	65
Triple	22	143	118	99	84	73	63	56	49	44	40	36
	20	189	156	131	112	96	84	74	65	58	52	47
	18	254	210	176	150	130	113	99	88	78	70	64
	16	323	267	224	191	165	143	126	112	100	89	81

- 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 INCREASE BY ASSUMING CLEAR SPAN DIMENSIONS.
- BENDING MOMENT FORMULAE USED FOR FLEXURAL STRESS LIMITATIONS ARE:

$$\text{SIMPLE AND TWO SPAN} \quad M = \frac{w\ell^2}{8}$$

$$\text{THREE SPAN OR MORE} \quad M = \frac{w\ell^2}{10}$$

- WEB CRIPPLING AND SHEAR HAVE NOT BEEN ACCOUNTED FOR IN THESE TABLES. REQUIRE BEARING SHOULD BE DETERMINED BASED ON SPECIFIC SPAN CONDITIONS.

UNIFORM SERVICE LOAD THAT CAUSES L/240 DEFLECTION (PSF)

1.5WR (40 ksi)

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	81	61	47	37	30	24	20	17	14	12	10
	20	102	76	59	46	37	30	25	21	17	15	13
	18	141	106	82	64	51	42	34	29	24	21	18
	16	184	138	106	84	67	54	45	37	32	27	23
Double	22	195	147	113	89	71	58	48	40	33	28	24
	20	244	184	141	111	89	72	60	50	42	36	31
	18	340	255	197	155	124	101	83	69	58	50	43
	16	443	333	256	201	161	131	108	90	76	65	55
Triple	22	153	115	88	70	56	45	37	31	26	22	19
	20	191	144	111	87	70	57	47	39	33	28	24
	18	266	200	154	121	97	79	65	54	46	39	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.

1.5WR (40 KSI) ROOF DECK CONSTRUCTION SPANS (ANSI/SDI RD-2017 SECTION 2.4.A.3 AND 2.4.A.4)

1.5WR Deck (Bare Deck – Roof)

Span	Gage	ASD Span	ASD Cantilever Span
Single	22	7'-02"	1'-10"
	20	9'-05"	2'-04"
	18	12'-08"	3'-03"
	16	16'-02"	4'-00"
Double or Triple	22	8'-09"	
	20	11'-07"	
	18	15'-08"	
	16	19'-10"	

NOTE

1. 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.
2. 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.