

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	33	0.187	0.192	3695	3797	0.157	0.177
20	0.0358	2.0	33	0.239	0.247	4729	4874	0.198	0.218
18	0.0474	2.6	33	0.322	0.329	6356	6501	0.273	0.287
16	0.0598	3.0	33	0.407	0.408	8043	8062	0.354	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) (33 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	1945	523	575	662	779
20	2347	746	817	932	1126	1217	1370
18	3072	1246	1358	1547	1916	2061	2304
16	3830	1904	2068	2343	2972	3184	3539

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 (33 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	99	81	108	58	50	44	38	34	30	27	25
	20	126	104	143	75	64	56	49	44	39	35	32
	18	170	140	207	100	86	75	66	59	52	47	42
	16	214	177	263	127	109	95	84	74	66	59	54
Double	22	101	84	115	60	52	45	40	35	31	28	24
	20	130	107	149	77	66	58	51	45	40	36	32
	18	173	143	213	103	88	77	68	60	54	48	43
	16	215	178	270	127	110	96	84	74	66	60	54
Triple	22	127	105	144	75	65	56	49	44	39	35	32
	20	162	134	186	96	83	72	63	56	50	45	41
	18	217	179	267	128	111	96	85	75	67	60	54
	16	269	222	338	159	137	119	105	93	83	74	67

1.5WR (33 ksi) ASD UNIFORM UPWARD LOADS

1.5WR (33 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	101	84	70	60	52	45	40	35	31	28	25
	20	130	107	90	77	66	58	51	45	40	36	32
	18	173	143	120	103	88	77	68	60	54	48	43
	16	215	178	149	127	110	96	84	74	66	60	54
Double	22	99	81	68	58	50	44	38	34	30	27	25
	20	126	104	88	75	64	56	49	44	39	35	32
	18	170	140	118	100	86	75	66	59	52	47	42
	16	214	177	149	127	109	95	84	74	66	59	54
Triple	22	123	102	86	73	63	55	48	43	38	34	31
	20	158	130	109	93	80	70	62	55	49	44	39
	18	212	175	147	125	108	94	83	73	65	59	53
	16	268	222	186	159	137	119	105	93	83	74	67

- 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:

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

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

- 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 (33 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	82	62	48	37	30	24	20	17	14	12	10
	20	104	78	60	47	38	31	25	21	18	15	13
	18	144	108	83	65	52	43	35	29	25	21	18
	16	186	140	108	85	68	55	45	38	32	27	23
Double	22	198	149	115	90	72	59	48	40	34	29	25
	20	250	188	145	114	91	74	61	51	43	36	31
	18	346	260	200	157	126	102	84	70	59	50	43
	16	448	337	259	204	163	133	109	91	77	65	56
Triple	22	155	116	90	71	57	46	38	32	27	23	19
	20	196	147	113	89	71	58	48	40	34	29	24
	18	271	203	157	123	99	80	66	55	46	39	34
	16	351	264	203	160	128	104	86	71	60	51	44

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 (33 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	6'-02"	1'-07"
	20	7-11"	2'-00"
	18	10'-07"	2'-08"
	16	13'-05"	3'-04"
Double or Triple	22	7'-07"	
	20	9'-08"	
	18	13'-00"	
	16	16'-06"	

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.