

HD DECK

15/16" high x 3-3/4" pitch x 30" wide

SECTION PROPERTIES $f_y = 80 \text{ ksi}$

GAGE	t (in)	Wd (psf)	As (in ²)	Ip (in ⁴)	In (in ⁴)	Sp (in ³)	Sn (in ³)
26	0.0179	1.0	0.279	0.039	0.038	0.073	0.075
24	0.0238	1.3	0.371	0.054	0.052	0.105	0.108
22	0.0295	1.6	0.459	0.067	0.065	0.137	0.135
20	0.0358	1.9	0.557	0.081	0.080	0.166	0.164

MAXIMUM ALLOWABLE UNIFORM TOTAL LOADS / DEFLECTION LIVE LOADS, (psf)

GAGE	SINGLE SPAN				DOUBLE SPAN				TRIPLE SPAN															
	26	24	22	20	26	24	22	20	26	24	22	20												
span	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD	LRFD	ASD												
3'-0"	307	194	441	279	576	364	699	442	318	201	455	288	571	360	694	438	398	251	569	359	713	450	867	548
L/240	95		131		163		197		229		316		391		475		179		247		306		372	
L/180	127		175		217		263		305		421		522		633		239		330		409		496	
3'-6"	225	142	324	205	423	267	514	325	234	148	334	211	419	265	510	322	292	184	418	264	524	331	637	403
L/240	60		83		102		124		144		199		247		299		113		156		193		234	
L/180	80		110		137		166		192		265		329		399		150		208		257		312	
4'-0"	173	109	248	157	324	205	393	249	179	113	256	162	321	203	390	247	224	141	320	202	401	253	488	308
L/240	40		55		69		83		97		133		165		200		76		104		129		157	
L/180	53		74		91		111		129		178		220		267		101		139		172		209	
4'-6"	136	86	196	124	256	162	311	196	141	89	202	128	254	160	308	195	177	112	253	160	317	200	386	244
L/240	28		39		48		58		68		94		116		141		53		73		91		110	
L/180	38		52		64		78		90		125		155		188		71		98		121		147	
5'-0"	110	70	159	100	208	131	252	159	114	72	164	104	205	130	250	158	143	90	205	129	257	162	312	197
L/240	21		28		35		43		49		68		85		103		39		53		66		80	
L/180	27		38		47		57		66		91		113		137		52		71		88		107	
5'-6"	91	58	131	83	171	108	208	131	95	60	135	86	170	107	206	130	118	75	169	107	212	134	258	163
L/240	15		21		26		32		37		51		64		77		29		40		50		60	
L/180	21		28		35		43		49		68		85		103		39		53		66		80	
6'-0"	77	48	110	70	144	91	175	110	80	50	114	72	143	90	173	110	99	63	142	90	178	113	217	137
L/240	12		16		20		25		29		39		49		59		22		31		38		46	
L/180	16		22		27		33		38		53		65		79		30		41		51		62	
6'-6"	65	41	94	59	123	78	149	94	68	43	97	61	122	77	148	93	85	53	121	77	152	96	185	117
L/240	9		13		16		19		22		31		38		47		18		24		30		37	
L/180	12		17		21		26		30		41		51		62		23		32		40		49	
7'-0"	56	36	81	51	106	67	128	81	58	37	84	53	105	66	127	81	73	46	105	66	131	83	159	101
L/240	7		10		13		16		18		25		31		37		14		19		24		29	
L/180	10		14		17		21		24		33		41		50		19		26		32		39	
7'-6"	49	31	71	45	92	58	112	71	51	32	73	46	91	58	111	70	64	40	91	58	114	72	139	88
L/240	6		8		10		13		15		20		25		30		11		16		20		24	
L/180	8		11		14		17		20		27		33		41		15		21		26		32	
8'-0"	43	27	62	39	81	51	98	62	45	28	64	40	80	51	98	62	56	35	80	51	100	63	122	77
L/240	5		7		9		10		12		17		21		25		9		13		16		20	
L/180	7		9		11		14		16		22		28		33		13		17		22		26	

MAXIMUM CONSTRUCTION SPANS (center-to-center of supports)

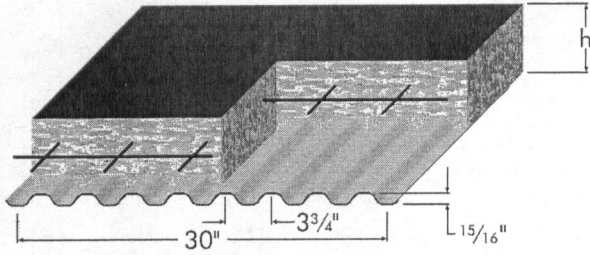
span	2'-9"	3'-3"	3'-8"	4'-0"	3'-4"	3'-11"	4'-4"	4'-9"	3'-4"	3'-11"	4'-4"	4'-9"
cantilever	11"	1'-1"	1'-3"	1'-4"	11"	1'-1"	1'-3"	1'-4"	11"	1'-1"	1'-3"	1'-4"

span	LRFD	ASD	design method
3'-0"	307	194	maximum allowable uniform TOTAL (dead+live) load based on stress
L/240	95		maximum allowable uniform LIVE load based L/240 roof deck deflection
L/180	127		maximum allowable uniform LIVE load based L/180 form deck deflection
			span (center-to-center of supports) and deflection restriction

- t Design thickness of deck
- Wd Weight of deck (uncoated)
- As Average area of steel of deck per foot width
- Ip Moment of inertia of deck for positive bending
- In Moment of inertia of deck for negative bending
- Sp Section modulus of deck for positive bending
- Sn Section modulus of deck for negative bending

- span Maximum single or multiple span during construction
- cantilever Maximum cantilever during construction
- fy 60 ksi (for determining maximum loads)
- f span 48 ksi (for determining maximum spans)

The section property table is based on AISI's Cold Formed Steel Design Manual, 1996 Edition. Venting is available up to 1½% if specified. Loads and maximum construction spans are based on the Design Manual for Composite Decks, Form Decks, Roof Decks and Cellular Deck Floor Systems with Electrical Distribution, Pub No. 29. The above maximum spans are based on SDI roof deck loading criteria. Deck with light weight insulating fill will have significantly larger spans during construction. Contact CSI for additional information.



HD DECK

15/16" high x 3-3/4" pitch x 30" wide

SECTION PROPERTIES

$f_y = 80 \text{ ksi}$

GAGE	I_p (in ⁴)	I_n (in ⁴)	S_p (in ³)	S_n (in ³)
26	0.039	0.038	0.073	0.075
24	0.054	0.052	0.105	0.108
22	0.067	0.065	0.137	0.135
20	0.081	0.080	0.166	0.164

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h	2.5"			3"			3.5"			4"			4.5"			5"				
Wc	24.5			30.6			36.6			42.7			48.7			54.8				
Ac	24.4			30.4			36.4			42.4			48.4			54.4				
WWF	6 x 6 *	6 x 6 *	6 x 6	6 x 6 *	6 x 6 *	6 x 6	6 x 6 *	6 x 6 *	4 x 4	6 x 6 *	6 x 6 *	4 x 4	6 x 6 *	4 x 4 *	4 x 4	6 x 6 *	4 x 4 *	4 x 4		
Awwf	w1.4w1.4	w2.1w2.1	w2.9w2.9	w1.4w1.4	w2.1w2.1	w2.9w2.9	w2.1w2.1	w2.9w2.9	w2.9w2.9	w2.1w2.1	w2.9w2.9	w2.9w2.9	w2.1w2.1	w2.9w2.9	w4.0w4.0	w2.9w2.9	w2.9w2.9	w4.0w4.0		
Dwwf	0.028	0.042	0.058	0.028	0.042	0.058	0.042	0.058	0.087	0.042	0.058	0.087	0.042	0.058	0.12	0.058	0.087	0.12		
Dwwf	0.135	0.162	0.192	0.135	0.162	0.192	0.162	0.192	0.192	0.162	0.192	0.192	0.192	0.192	0.225	0.192	0.192	0.225		
L	MAXIMUM ALLOWABLE UNIFORM LIVE LOADS, (psf)																			
2'-0"	223	329	400	298	400	400	400	400	400	400	400	400	400	400	400	400	400	400		
2'-6"	143	211	285	190	282	383	400	400	400	400	400	400	400	400	400	400	400	400		
3'-0"	99	146	198	132	196	266	299	400	400	373	400	400	400	400	400	400	400	400		
3'-6"	73	107	145	97	144	195	220	294	400	274	370	400	400	400	400	400	400	400		
4'-0"	56	82	111	74	110	150	168	225	333	210	283	400	341	400	400	398	400	400		
4'-6"	44	65	88	59	87	118	133	178	263	166	224	331	269	400	400	315	400	400		
5'-0"	36	53	71	48	70	96	108	144	213	134	181	269	218	324	400	255	379	400		
5'-6"	16	32	51	22	45	71	78	114	183	99	146	233	178	284	394	210	334	400		
6'-0"				39	58	79	89	119	176	111	150	222	180	268	359	211	313	400		
6'-6"				14	33	54	59	89	146	76	115	187	140	227	319	165	268	377		
7'-0"							75	100	148	93	126	186	151	225	301	177	263	354		
7'-6"							45	70	118	58	91	151	111	185	261	132	218	309		
										80	107	159	129	192	257	151	224	302		
										44	72	124	89	151	217	106	179	257		
													111	165	221	130	193	260		
													71	125	181	85	148	215		
																113	168	227		
																68	123	182		
	MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																			
GAGE	26	24	22	20	26	24	22	20	26	24	22	20	26	24	22	20	26	24	22	20
1span	3'-10"	5'-1"	6'-0"	6'-5"	3'-8"	4'-9"	5'-8"	6'-0"	3'-6"	4'-6"	5'-4"	5'-8"	3'-4"	4'-3"	5'-1"	5'-5"	3'-2"	4'-1"	4'-10"	5'-2"
2span	5'-0"	6'-8"	8'-0"	8'-7"	4'-10"	6'-3"	7'-7"	8'-0"	4'-7"	6'-0"	7'-2"	7'-7"	4'-5"	5'-8"	6'-9"	7'-3"	4'-3"	5'-6"	6'-6"	6'-11"
3span	5'-1"	6'-9"	7'-6"	7'-11"	4'-10"	6'-4"	7'-0"	7'-5"	4'-8"	6'-0"	6'-7"	7'-0"	4'-5"	5'-9"	6'-3"	6'-8"	4'-4"	5'-6"	6'-0"	6'-5"
cantilever	1'-4"	1'-10"	2'-3"	2'-7"	1'-3"	1'-9"	2'-2"	2'-6"	1'-3"	1'-9"	2'-1"	2'-5"	1'-3"	1'-8"	2'-0"	2'-5"	1'-2"	1'-8"	2'-0"	2'-4"
cy/100sf	0.63			0.78			0.94			1.09			1.24			1.40				

2'-0"	223	← maximum allowable live load (psf) with galvanized deck
	203	← maximum allowable live load (psf) with uncoated deck
		clear span

- I_p** Moment of inertia of deck for positive bending
- I_n** Moment of inertia of deck for negative bending
- S_p** Section modulus of deck for positive bending
- S_n** Section modulus of deck for negative bending

- h** Total height of concrete slab
- W_c** Weight of concrete (neglecting deflection)
- Ac** Gross area of concrete available to resist shear
- WWF** Spacing and size of Weld Wire Fabric
- *** Does not meet ACI requirements (.0018Ac min.)
- Awwf** Nominal area of Weld Wire Fabric
- Dwwf** Nominal diameter of Weld Wire Fabric
- L** Span length; clear distance of deck between supports
- f_c** 3000 psi

The section property table is based on AISI's Cold Formed Steel Design Manual, 1996 Edition. Venting is available up to 1-1/2% if specified. The live loads and unshored clear spans are based on SDI's Composite Deck Design Handbook, March 1997, the Design Manual for Composite Decks, Form Decks, Roof Decks and Cellular Deck Floor Systems with Electrical Distribution, Pub No. 29, and ACI 318-95

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FORM