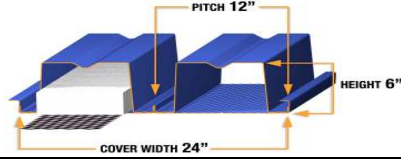


**SECTION PROPERTIES**

fy=40 ksi

GAGE	Wd	Ip	In	Sp	Sn	Rbe			Rbi			Va
						4"	5"	6"	4"	5"	6"	
20/20	4.66	8.052	7.620	1.629	2.191	751	815	873	1326	1426	1517	1783
20/18	5.19	8.549	8.672	1.630	2.268	751	815	873	1326	1426	1517	1783
18/20	5.65	10.700	9.324	2.531	2.845	1279	1384	1479	2208	2367	2511	4147
18/18	6.18	11.550	10.479	2.519	2.937	1279	1384	1479	2208	2367	2511	4147
18/16	6.73	12.181	11.747	2.514	3.023	1279	1384	1479	2208	2367	2511	4147



LSD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM LSD LOADS (psf)														
Span	Load Combinations	SINGLE SPAN					DOUBLE SPAN					TRIPLE SPAN				
		GAGE														
		20/20	20/18	18/20	18/18	18/16	20/20	20/18	18/20	18/18	18/16	20/20	20/18	18/20	18/18	18/16
15' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	94*	94*	163*	163*	162*	75*	74*	127*	126*	125*	86*	85*	145*	144*	144*
	D+L (Deflection)	94	94	163	163	162	75	74	127	126	125	86	85	145	144	144
	L (Deflection)	94	94	139	150	158	75	74	127	126	125	86	85	145	144	144
16' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	88*	87*	153*	152*	151*	70*	69*	118*	118*	117*	80*	80*	136*	135*	134*
	D+L (Deflection)	88	87	153	152	151	70	69	118	118	117	80	80	136	135	134
	L (Deflection)	86	87	114	123	130	70	69	118	118	117	80	80	136	135	134
17' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	83*	82*	143*	143*	142*	66*	65*	111*	110*	110*					
	D+L (Deflection)	83	82	137	143	142	66	65	111	110	110					
	L (Deflection)	72	76	95	103	109	66	65	111	110	110					
18' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	78*	77*	135*	134*	134*	62*	61*	105*	104*	103*					
	D+L (Deflection)	78	77	115	124	130	62	61	105	104	103					
	L (Deflection)	60	64	80	87	91	62	61	105	104	103					
19' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	73*	73*	128*	127*	126*	58*	57*	99*	98*	97*					
	D+L (Deflection)	72	73	97	104	110	58	57	99	98	97					
	L (Deflection)	51	55	68	74	78	58	57	99	98	97					
20' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	69*	69*	121*	120*	119*	55*	54*	93*	93*	92*					
	D+L (Deflection)	61	65	82	89	93	55	54	93	93	92					
	L (Deflection)	44	47	59	63	67	55	54	93	93	92					
21' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	66*	65*	115*	114*	113*	52*	51*	87**	88**	87*					
	D+L (Deflection)	52	55	70	76	80	52	51	87	88	87					
	L (Deflection)	38	40	51	55	58	52	51	87	88	87					
22' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	62*	62*	109*	109*	108*	49*	49*	80**	81**	82**					
	D+L (Deflection)	45	48	60	65	68	49	49	80	81	82					
	L (Deflection)	33	35	44	47	50	49	49	80	81	82					
23' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	59*	59*	104*	103*	103*	47**	46*	74**	75**	75**					
	D+L (Deflection)	39	41	52	56	59	47	46	74	75	75					
	L (Deflection)	29	31	38	42	44	47	46	74	75	75					
24' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	57*	56*	98	97	96	44**	44**	69**	69**	70**					
	D+L (Deflection)	34	35	45	49	51	44	44	69	69	70					
	L (Deflection)	25	27	34	37	39	44	44	69	69	70					
25' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	54*	54*	90	89	88										
	D+L (Deflection)	29	31	39	42	44										
	L (Deflection)	23	24	30	32	34										
26' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	52*	51*	83	82	81										
	D+L (Deflection)	25	27	34	37	39										
	L (Deflection)	20	21	27	29	30										
27' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	48	47	76	75	74										
	D+L (Deflection)	22	23	30	32	34										
	L (Deflection)	18	19	24	26	27										
28' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	44	43	70	69	69										
	D+L (Deflection)	19	20	26	28	30										
	L (Deflection)	16	17	21	23	24										

15' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	94*	← Max. superimposed factored LSD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	94	← Max. superimposed unfactored LSD dead + live load (psf) (governed by deflection limitation of L/240)
	L (Deflection)	94	← Max. superimposed unfactored LSD live load (psf) (governed by deflection limitation of L/360)

↑ Vertical load span (center to center spacing)

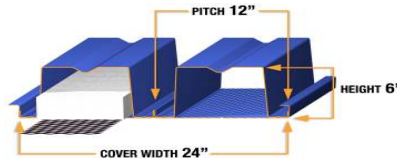
- Wd** Weight of deck (uncoated), psf
- Ip** Moment of inertia for positive bending per foot of deck width, (in<sup>4</sup>)/ft
- In** Moment of inertia for negative bending per foot of deck width, (in<sup>4</sup>)/ft
- Sp** Section modulus for positive bending per foot of deck width, (in<sup>3</sup>)/ft
- Sn** Section modulus for negative bending per foot of deck width, (in<sup>3</sup>)/ft
- $\alpha_D, \alpha_L$  Load factors for D & L loads to be applied by Engineer in accordance with Building Codes.
- Rbe** Allowable exterior web crippling value per foot of deck width, pif
- Rbi** Allowable interior web crippling value per foot of deck width, pif
- Va** Allowable shear value per foot of deck width, pif
- D** Uniform dead load, psf
- L** Uniform live load, psf

- Notes:**
- Bending strength based on allowable flexural stress of 36 ksi.
  - Loads marked with asterisk (\*) are governed by interior (6" bearing) or exterior (4" bearing) reactions (web crippling).
  - Loads marked with two asterisks (\*\*) are governed by moment & shear or moment & reactions (web crippling) assuming 6" of interior bearing.
  - An upper limit of 400 psf has been applied to the loads.
  - Deck length over 45'-0" require inquiry and special accommodations. Please contact the Metal-Dek Group® for further information.
- The section properties table is based on 2001 AISI's North American Specification for the Design of Cold-Formed Steel Structural Members (2004 Supplement). Loads are calculated in accordance with requirements of CSSBI 10M-06. *Standard for Steel Roof Deck*. Acoustical profile is also available.

**SECTION PROPERTIES**

fy=40 ksi

GAGE	Wd	Ip	In	Sp	Sn	Rbe			Rbi			Va
						4"	5"	6"	4"	5"	6"	
16/18	7.23	13.830	12.361	3.587	3.641	1975	2131	2273	3366	3598	3807	8344
16/16	7.79	14.756	13.659	3.624	3.743	1975	2131	2273	3366	3598	3807	8344
16/14	8.46	15.736	15.306	3.606	3.843	1975	2131	2273	3366	3598	3807	8344
14/16	9.06	17.359	15.907	4.750	4.594	2982	3210	3416	5041	5371	5669	13447
14/14	9.73	18.491	17.677	4.836	4.716	2982	3210	3416	5041	5371	5669	13447



LSD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM LSD LOADS (psf)														
Span	Load Combinations	SINGLE SPAN					DOUBLE SPAN					TRIPLE SPAN				
		16/18	16/16	16/14	14/16	14/14	16/18	16/16	16/14	14/16	14/14	16/18	16/16	16/14	14/16	14/14
17' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	223*	223*	222*	340*	339*	170*	169*	169*	255*	255*					
	D+L (Deflection)	178	189	202	223	237	170	169	169	255	255					
	L (Deflection)	123	131	140	155	165	170	169	169	255	255					
18' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	210*	210*	209*	320*	319*	160*	159*	159*	236**	238**					
	D+L (Deflection)	148	158	169	186	198	160	159	159	236	238					
	L (Deflection)	104	111	118	130	139	160	159	159	236	238					
19' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	199*	198*	197*	303*	302*	151**	151*	150*	215**	217**					
	D+L (Deflection)	125	133	142	157	167	151	151	150	215	217					
	L (Deflection)	88	94	100	111	118	151	151	150	215	217					
20' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	188*	188*	187*	274	278	138**	139**	141**	196**	198**					
	D+L (Deflection)	106	113	121	133	142	138	139	141	196	198					
	L (Deflection)	76	81	86	95	101	138	139	141	196	198					
21' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	179*	178*	177*	247	251	127**	128**	129**	180**	182**					
	D+L (Deflection)	91	97	103	114	121	127	128	129	180	182					
	L (Deflection)	65	70	74	82	87	127	128	129	180	182					
22' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	169	170*	168	224	228	117**	118**	119**	165**	167**					
	D+L (Deflection)	78	83	89	98	104	117	118	119	165	167					
	L (Deflection)	57	61	65	71	76	117	118	119	165	167					
23' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	154	155	153	204	207	108**	109**	110**	152**	154**					
	D+L (Deflection)	67	72	76	85	90	108	109	110	152	154					
	L (Deflection)	50	53	57	62	67	108	109	110	148	154					
24' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	140	141	140	187	189	100**	101**	102**	141**	142**					
	D+L (Deflection)	58	62	66	73	78	100	101	102	141	142					
	L (Deflection)	44	47	50	55	59	100	101	102	131	139					
25' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	129	129	128	171	174										
	D+L (Deflection)	51	54	58	64	68										
	L (Deflection)	39	41	44	49	52										
26' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	118	119	117	157	160										
	D+L (Deflection)	44	47	50	56	59										
	L (Deflection)	34	37	39	43	46										
27' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	109	110	108	145	147										
	D+L (Deflection)	39	41	44	49	52										
	L (Deflection)	31	33	35	39	41										
28' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	101	101	100	134	136										
	D+L (Deflection)	34	36	39	43	46										
	L (Deflection)	28	29	31	35	37										
29' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	93	94	92	124	126										
	D+L (Deflection)	30	32	34	38	40										
	L (Deflection)	25	26	28	31	33										
30' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	87	87	86	115	117										
	D+L (Deflection)	26	28	30	33	35										
	L (Deflection)	22	24	26	28	30										

17' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	223*	← Max. superimposed factored LSD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	178	← Max. superimposed unfactored LSD dead + live load (psf) (governed by deflection limitation of L/240)
	L (Deflection)	123	← Max. superimposed unfactored LSD live load (psf) (governed by deflection limitation of L/360)

Vertical load span (center to center spacing)

- Wd** Weight of deck (uncoated), psf
- Ip** Moment of inertia for positive bending per foot of deck width, (in<sup>4</sup>)/ft
- In** Moment of inertia for negative bending per foot of deck width, (in<sup>4</sup>)/ft
- Sp** Section modulus for positive bending per foot of deck width, (in<sup>3</sup>)/ft
- Sn** Section modulus for negative bending per foot of deck width, (in<sup>3</sup>)/ft
- $\alpha_D, \alpha_L$  Load factors for D & L loads to be applied by Engineer in accordance with Building Codes.
- Rbe** Allowable exterior web crippling value per foot of deck width, pif
- Rbi** Allowable interior web crippling value per foot of deck width, pif
- Va** Allowable shear value per foot of deck width, pif
- D** Uniform dead load, psf
- L** Uniform live load, psf

- Notes:**
- Bending strength based on allowable flexural stress of 36 ksi.
  - Loads marked with asterisk (\*) are governed by interior (6" bearing) or exterior (4" bearing) reactions (web crippling).
  - Loads marked with two asterisks (\*\*) are governed by moment & shear or moment & reactions (web crippling) assuming 6" of interior bearing.
  - An upper limit of 400 psf has been applied to the loads.
  - Deck length over 45'-0" require inquiry and special accommodations. Please contact the Metal-Dek Group® for further information.
- The section properties table is based on 2001 AISI's North American Specification for the Design of Cold-Formed Steel Structural Members (2004 Supplement). Loads are calculated in accordance with requirements of CSSBI 10M-06. *Standard for Steel Roof Deck*. Acoustical profile is also available.