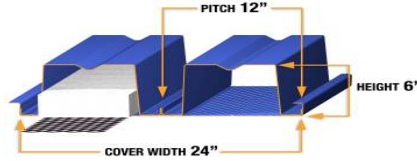


**SECTION PROPERTIES**

fy=40 ksi

GAGE	Wd	I <sub>b</sub> (DEFLECTION)	S <sub>p</sub>	S <sub>n</sub>	Rbe			Rbi			V <sub>a</sub>
					4"	5"	6"	4"	5"	6"	
20/20	4.66	8.298	1.629	2.191	845	917	983	1502	1616	1719	2118
20/18	5.19	8.950	1.630	2.268	845	917	983	1502	1616	1719	2118
18/20	5.65	10.734	2.531	2.845	1439	1557	1664	2503	2683	2845	4925
18/18	6.18	11.589	2.519	2.937	1439	1557	1664	2503	2683	2845	4925
18/16	6.73	12.274	2.514	3.023	1439	1557	1664	2503	2683	2845	4925



LRFD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM LRFD 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"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	107*	106*	185*	184*	184*	86*	85*	145*	144*	144*	99*	98*	166*	165*	164*
	D+L (Deflection)	107	106	185	184	184	86	85	145	144	144	99	98	166	165	164
	L (Deflection)	107	106	139	150	159	86	85	145	144	144	99	98	166	165	164
16' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	100*	99*	173*	172*	172*	80*	80*	135*	135*	134*	92*	91*	155*	154*	154*
	D+L (Deflection)	100	99	166	172	172	80	80	135	135	134	92	91	155	154	154
	L (Deflection)	89	95	115	124	131	80	80	135	135	134	92	91	155	154	154
17' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	94*	93*	162*	162*	161*	75*	75*	127*	126*	126*					
	D+L (Deflection)	94	93	138	149	157	75	75	127	126	126					
	L (Deflection)	74	79	96	103	109	75	75	127	126	126					
18' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	88*	88*	153*	152*	152*	71*	70*	120*	119*	118*					
	D+L (Deflection)	88	88	115	124	131	71	70	120	119	118					
	L (Deflection)	62	67	81	87	92	71	70	120	119	118					
19' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	83*	83*	145*	144*	143*	67*	66*	113*	112*	112*					
	D+L (Deflection)	75	80	97	105	111	67	66	113	112	112					
	L (Deflection)	53	57	69	74	78	67	66	113	112	112					
20' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	79*	78*	137*	136*	136*	63*	63*	107*	106*	106*					
	D+L (Deflection)	63	68	82	89	94	63	63	107	106	106					
	L (Deflection)	45	49	59	63	67	63	63	107	106	106					
21' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	75*	74*	130*	130*	129*	60*	59*	102*	101*	100*					
	D+L (Deflection)	51	55	67	72	76	60	59	102	101	100					
	L (Deflection)	39	42	51	55	58	60	59	102	101	100					
22' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	71*	71*	124*	123*	123*	57*	56*	97*	96*	95*					
	D+L (Deflection)	42	45	55	59	62	57	56	97	96	95					
	L (Deflection)	34	36	44	48	50	57	56	97	96	95					
23' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	68*	67*	114	113	112	54*	54*	92*	92*	91*					
	D+L (Deflection)	34	36	45	48	51	54	54	92	92	91					
	L (Deflection)	30	32	39	42	44	54	54	92	92	91					
24' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	65*	64*	105	103	103	52*	51*	88*	87*	87*					
	D+L (Deflection)	28	30	37	40	42	52	51	88	87	87					
	L (Deflection)	26	28	34	37	39	52	51	82	87	87					
25' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	60	60	96	95	94										
	D+L (Deflection)	23	25	30	33	35										
	L (Deflection)	23	25	30	32	34										
26' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	55	55	88	87	86										
	D+L (Deflection)	19	20	25	27	29										
	L (Deflection)	19	20	25	27	29										
27' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	51	50	81	80	79										
	D+L (Deflection)	16	17	21	22	24										
	L (Deflection)	16	17	21	22	24										
28' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	47	46	75	74	73										
	D+L (Deflection)	13	14	17	19	19										
	L (Deflection)	13	14	17	19	19										

15' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	107*	← Max. superimposed factored LRFD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	107	← Max. superimposed unfactored LRFD dead + live load (psf) (governed by deflection limitation of L/240 or 1")
	L (Deflection)	107	← Max. superimposed unfactored LRFD live load (psf) (governed by deflection limitation of L/360 or 1")

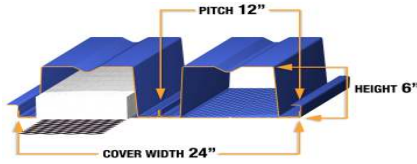
↑ Vertical load span (center to center spacing)

- |                                 |  |                      |  |
|---------------------------------|--|----------------------|--|
| <b>Wd</b>                       | Weight of deck (uncoated), psf   | <b>Rbe</b>           | Allowable exterior web crippling value per foot of deck width, plf |
| <b>I<sub>b</sub></b>            | Moment of inertia for deflection per foot of deck width (in <sup>4</sup> )/ft        | <b>Rbi</b>           | Allowable interior web crippling value per foot of deck width, plf |
| <b>S<sub>p</sub></b>            | Section modulus for positive bending per foot of deck width, (in <sup>3</sup> )/ft   | <b>V<sub>a</sub></b> | Allowable shear value per foot of deck width, plf                  |
| <b>S<sub>n</sub></b>            | Section modulus for negative bending per foot of deck width, (in <sup>3</sup> )/ft   | <b>D</b>             | Uniform dead load, psf   |
| λ <sub>D</sub> , λ <sub>L</sub> | Load factors for D & L loads to be applied by Engineer in accordance with Building C | <b>L</b>             | Uniform live load, psf   |

- Notes:**
- Bending strength based on allowable flexural stress of 38 ksi.
  - Loads marked with asterisk (\*) are governed by moment & shear, interior (6" bearing) and exterior (4" bearing) reactions (web crippling) or applied moment & reactions.
  - 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.

**SECTION PROPERTIES**  $f_y=40$  ksi

GAGE	Wd	I <sub>D</sub> (DEFLECTION)	S <sub>p</sub>	S <sub>n</sub>	Rbe			Rbi			V <sub>a</sub>
					4"	5"	6"	4"	5"	6"	
16/18	7.23	13.830	3.587	3.641	2221	2398	2557	3815	4077	4314	9909
16/16	7.79	14.756	3.624	3.743	2221	2398	2557	3815	4077	4314	9909
16/14	8.46	15.736	3.606	3.843	2221	2398	2557	3815	4077	4314	9909
14/16	9.06	17.359	4.750	4.594	3355	3611	3843	5713	6087	6425	15968
14/14	9.73	18.491	4.836	4.716	3355	3611	3843	5713	6087	6425	15968



LRFD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM LRFD LOADS (psf)													
Span	Load Combinations	SINGLE SPAN					DOUBLE SPAN					TRIPLE SPAN			
		GAGE													
		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
17' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	253*	252*	251*	384*	383*	194*	194*	193*	291*	291*				
	D+L (Deflection)	178	189	202	223	237	194	193	191	291	291				
	L (Deflection)	123	131	140	155	165	194	194	193	291	291				
18' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	238*	237*	237*	361	361*	183*	182*	182*	275*	274*				
	D+L (Deflection)	148	158	169	186	198	183	182	182	275	274				
	L (Deflection)	104	111	118	130	139	183	182	182	275	274				
19' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	225*	224*	224*	322	328	173*	172*	171*	260*	259*				
	D+L (Deflection)	125	133	142	157	167	173	172	171	260	259				
	L (Deflection)	88	94	100	111	118	173	172	171	260	259				
20' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	213*	213*	212*	290	295	164*	163*	162*	246*	245*				
	D+L (Deflection)	106	113	121	133	142	164	163	162	246	245				
	L (Deflection)	76	81	86	95	101	164	163	162	229	244				
21' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	197	199	197	262	266	156*	155*	154*	234*	233*				
	D+L (Deflection)	86	92	98	108	115	156	155	154	234	233				
	L (Deflection)	65	70	74	82	87	156	155	154	198	210				
22' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	179	180	179	238	241	148*	148*	147*	223*	222*				
	D+L (Deflection)	70	75	80	88	94	148	148	147	223	222				
	L (Deflection)	57	61	65	71	76	137	146	147	172	183				
23' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	163	164	163	217	220	141*	141*	140*	205*	210*				
	D+L (Deflection)	58	61	65	72	77	141	141	140	187	199				
	L (Deflection)	50	53	57	62	67	120	128	136	150	160				
24' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	149	150	148	198	201	135*	134*	134*	188*	192*				
	D+L (Deflection)	48	51	54	60	63	125	133	134	156	166				
	L (Deflection)	44	47	50	55	59	105	112	120	132	141				
25' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	137	138	136	182	184									
	D+L (Deflection)	39	42	44	49	52									
	L (Deflection)	39	41	44	49	52									
26' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	126	126	125	167	170									
	D+L (Deflection)	33	35	37	41	43									
	L (Deflection)	33	35	37	41	43									
27' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	116	117	115	154	156									
	D+L (Deflection)	27	29	30	34	36									
	L (Deflection)	27	29	30	34	36									
28' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	107	108	106	143	145									
	D+L (Deflection)	22	24	25	28	30									
	L (Deflection)	22	24	25	28	30									
29' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	99	100	98	132	134									
	D+L (Deflection)	18	20	21	23	25									
	L (Deflection)	18	20	21	23	25									
30' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	92	93	91	123	124									
	D+L (Deflection)	15	16	17	19	20									
	L (Deflection)	15	16	17	19	20									

17' - 0"	$\lambda_D D + \lambda_L L$ (Strength)	253*	← Max. superimposed factored LRFD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	178	← Max. superimposed unfactored LRFD dead + live load (psf) (governed by deflection limitation of L/240 or 1")
	L (Deflection)	123	← Max. superimposed unfactored LRFD live load (psf) (governed by deflection limitation of L/360 or 1")

Vertical load span (center to center spacing)

- |                        |  |                      |  |
|------------------------|--|----------------------|--|
| <b>Wd</b>              | Weight of deck (uncoated), psf   | <b>Rbe</b>           | Allowable exterior web crippling value per foot of deck width, plf |
| <b>I<sub>D</sub></b>   | Moment of inertia for deflection per foot of deck width (in <sup>4</sup> /ft)        | <b>Rbi</b>           | Allowable interior web crippling value per foot of deck width, plf |
| <b>S<sub>p</sub></b>   | Section modulus for positive bending per foot of deck width, (in <sup>3</sup> /ft)   | <b>V<sub>a</sub></b> | Allowable shear value per foot of deck width, plf                  |
| <b>S<sub>n</sub></b>   | Section modulus for negative bending per foot of deck width, (in <sup>3</sup> /ft)   | <b>D</b>             | Uniform dead load, psf   |
| $\lambda_D, \lambda_L$ | Load factors for D & L loads to be applied by Engineer in accordance with Building C | <b>L</b>             | Uniform live load, psf   |

- Notes:**
- Bending strength based on allowable flexural stress of 38 ksi.
  - Loads marked with asterisk (\*) are governed by moment & shear, interior (6" bearing) and exterior (4" bearing) reactions (web crippling) or applied moment & reactions.
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