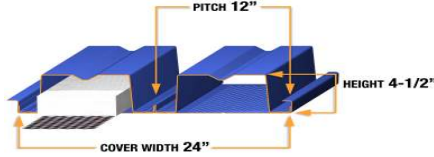


**SECTION PROPERTIES**

fy=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"	
20/20	4.31	4.558	1.204	1.541	900	977	1046	1514	1628	1732	2847
20/18	4.83	4.878	1.207	1.595	900	977	1046	1514	1628	1732	2847
18/20	5.19	5.775	1.841	2.003	1515	1639	1752	2519	2700	2864	6429
18/18	5.71	6.238	1.860	2.067	1515	1639	1752	2519	2700	2864	6429
18/16	6.27	6.666	1.859	2.128	1515	1639	1752	2519	2700	2864	6429



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)	115*	114*	196*	195*	194*	87*	87*	147*	146*	145*	100*	99*	167*	167*	166*
	D+L (Deflection)	84	90	107	116	123	87	87	147	146	145	100	99	167	167	166
	L (Deflection)	59	63	75	81	86	87	87	147	146	145	100	99	141	152	163
16' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	107*	107*	176	177	176	81*	81*	137*	136*	136*	93*	93*	156*	156*	155*
	D+L (Deflection)	69	73	87	94	101	81	81	137	136	136	93	93	156	156	155
	L (Deflection)	49	52	62	67	71	81	81	137	136	136	92	93	116	126	134
17' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	100	100	155	156	155	76*	76*	129*	128*	127*					
	D+L (Deflection)	57	60	72	78	83	76	76	129	128	127					
	L (Deflection)	41	43	51	56	59	76	76	124	128	127					
18' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	89	89	138	139	138	72*	71*	121*	120*	120*					
	D+L (Deflection)	47	50	60	65	69	72	71	121	120	120					
	L (Deflection)	34	37	43	47	50	72	71	104	113	120					
19' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	79	79	123	124	123	68*	67*	114*	114*	113*					
	D+L (Deflection)	39	42	50	54	58	68	67	114	114	113					
	L (Deflection)	29	31	37	40	43	68	67	89	96	102					
20' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	71	71	110	111	110	64*	63*	108*	108*	107*					
	D+L (Deflection)	33	35	42	45	48	64	63	108	108	107					
	L (Deflection)	25	27	32	34	36	60	63	76	82	88					
21' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	64	64	100	100	99	61*	60*	103*	102*	102*					
	D+L (Deflection)	26	28	34	36	39	61	60	89	96	102					
	L (Deflection)	22	23	27	29	32	52	56	66	71	76					
22' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	58	57	90	91	90	58*	57*	96*	96*	97*					
	D+L (Deflection)	21	23	27	29	31	57	57	73	78	84					
	L (Deflection)	19	20	24	26	27	45	48	57	62	66					
23' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	52	52	82	82	82	52*	53*	88*	89*	91*					
	D+L (Deflection)	17	18	22	24	25	47	50	60	65	69					
	L (Deflection)	16	18	21	22	24	39	42	50	54	58					
24' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	48	47	75	75	74	48*	48*	80*	81*	82*					
	D+L (Deflection)	14	14	18	19	20	39	42	50	54	57					
	L (Deflection)	14	14	18	19	20	35	37	44	48	51					
25' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	44	43	68	69	68										
	D+L (Deflection)	11	12	14	15	16										
	L (Deflection)	11	12	14	15	16										
26' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	40	39	63	63	62										
	D+L (Deflection)	9	9	11	12	13										
	L (Deflection)	9	9	11	12	13										
27' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	37	36	58	58	57										
	D+L (Deflection)	7	7	9	10	10										
	L (Deflection)	7	7	9	10	10										
28' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	34	33	53	53	53										
	D+L (Deflection)	5	6	7	8	8										
	L (Deflection)	5	6	7	8	8										

15' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	115*	← Max. superimposed factored LRFD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	84	← Max. superimposed unfactored LRFD dead + live load (psf) (governed by deflection limitation of L/240 or 1")
	L (Deflection)	59	← Max. superimposed unfactored LRFD live load (psf) (governed by deflection limitation of L/360 or 1")

Vertical load span (center to center spacing)

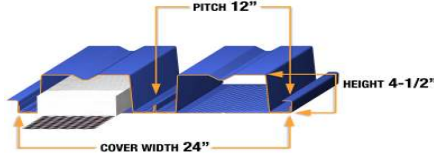
- Wd** Weight of deck (uncoated), psf
- I<sub>D</sub>** Moment of inertia for deflection per foot of deck width (in<sup>4</sup>)/ft
- S<sub>p</sub>** Section modulus for positive bending per foot of deck width, (in<sup>3</sup>)/ft
- S<sub>n</sub>** Section modulus for negative bending per foot of deck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

fy=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	6.65	7.451	2.506	2.565	2322	2506	2673	3837	4100	4339	10233
16/16	7.20	7.956	2.551	2.636	2322	2506	2673	3837	4100	4339	10233
16/14	7.87	8.491	2.598	2.705	2322	2506	2673	3837	4100	4339	10233
14/16	8.33	9.360	3.338	3.237	3487	3753	3994	5742	6118	6458	14726
14/14	9.00	9.981	3.397	3.321	3487	3753	3994	5742	6118	6458	14726



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	14/14
15' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	274	279	283	366	372	223*	223*	222*	334*	334*	255*	254*	253*	381*	381*
	D+L (Deflection)	138	148	157	174	185	223	223	222	334	334	255	254	253	335	357
	L (Deflection)	97	103	110	121	129	223	223	222	292	312	182	194	207	229	244
16' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	240	244	248	320	325	209*	208*	207*	303*	310*	239*	238*	237*	357*	356*
	D+L (Deflection)	113	120	128	142	151	209	208	207	303	310	218	233	237	274	292
	L (Deflection)	80	85	91	100	107	192	205	207	241	257	150	160	171	188	201
17' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	212	215	218	283	287	196*	196*	195*	268*	274*					
	D+L (Deflection)	93	99	106	117	124	196	196	195	268	274					
	L (Deflection)	66	71	76	83	89	160	171	182	201	214					
18' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	188	191	194	251	255	185*	184*	183*	239*	244*					
	D+L (Deflection)	77	82	88	97	103	185	184	183	239	244					
	L (Deflection)	56	60	64	70	75	135	144	153	169	180					
19' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	168	170	173	224	228	168*	172*	173*	213*	218*					
	D+L (Deflection)	65	69	73	81	87	165	172	173	207	218					
	L (Deflection)	48	51	54	60	64	114	122	130	144	153					
20' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	151	153	155	201	204	151*	155*	158*	192*	196*					
	D+L (Deflection)	55	58	62	68	73	141	150	158	177	188					
	L (Deflection)	41	44	46	51	55	98	105	112	123	131					
21' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	136	138	140	182	184	137*	140*	143*	173*	177*					
	D+L (Deflection)	44	47	49	55	58	114	122	130	144	153					
	L (Deflection)	35	38	40	44	47	85	91	97	107	114					
22' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	123	125	127	165	167	124*	127*	130*	157*	161*					
	D+L (Deflection)	35	37	40	44	47	94	100	107	118	126					
	L (Deflection)	31	33	35	38	41	74	79	84	93	99					
23' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	112	114	115	150	152	113*	116*	118*	143*	146*					
	D+L (Deflection)	28	30	32	36	38	78	83	88	97	104					
	L (Deflection)	27	29	31	34	36	65	69	74	81	86					
24' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	102	104	105	137	139	103*	106*	108*	131*	134*					
	D+L (Deflection)	23	24	26	29	31	64	69	73	81	86					
	L (Deflection)	23	24	26	29	31	57	61	65	71	76					
25' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	94	95	96	125	127										
	D+L (Deflection)	18	20	21	23	25										
	L (Deflection)	18	20	21	23	25										
26' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	86	87	88	115	117										
	D+L (Deflection)	15	16	17	19	20										
	L (Deflection)	15	16	17	19	20										
27' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	79	80	81	106	107										
	D+L (Deflection)	12	12	13	15	16										
	L (Deflection)	12	12	13	15	16										
28' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	73	74	74	98	99										
	D+L (Deflection)	9	10	10	12	12										
	L (Deflection)	9	10	10	12	12										

15' - 0"	λ <sub>D</sub> D+λ <sub>L</sub> L (Strength)	274	← Max. superimposed factored LRFD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	138	← Max. superimposed unfactored LRFD dead + live load (psf) (governed by deflection limitation of L/240 or 1")
	L (Deflection)	97	← 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   |
| 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.
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