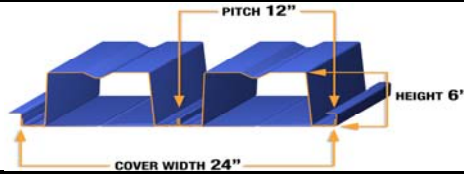


SECTION PROPERTIES $f_y = 40 \text{ ksi}$

GAGE	Wd	I _b (DEFLECTION)	S _p	S _n	R _{be}			R _{bi}		V _a
					4"	5"	6"	5"	6"	
20/20	4.82	8.491	1.629	2.192	845	917	983	1616	1719	2118
20/18	5.39	9.047	1.629	2.266	845	917	983	1616	1719	2118
18/20	5.81	11.049	2.530	2.849	1439	1557	1664	2683	2845	4925
18/18	6.38	11.877	2.517	2.939	1439	1557	1664	2683	2845	4925
18/16	6.99	12.524	2.510	3.021	1439	1557	1664	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"	$\lambda_D D + \lambda_L L$ (Strength)	107*	106*	185*	184*	183*	86*	85*	145*	144*	143*	98*	98*	165*	165*	164*
	D+L (Deflection)	107	106	185	184	183	86	85	145	144	143	98	98	165	165	164
	L (Deflection)	107	106	143	154	162	86	85	145	144	143	98	98	165	165	164
16'-0"	$\lambda_D D + \lambda_L L$ (Strength)	100*	99*	173*	172*	172*	80*	80*	135*	135*	135*	92*	91*	155*	154*	154*
	D+L (Deflection)	100	99	171	172	172	80	80	135	135	135	92	91	155	154	154
	L (Deflection)	91	97	118	127	134	80	80	135	135	135	92	91	155	154	154
17'-0"	$\lambda_D D + \lambda_L L$ (Strength)	94*	93*	162*	162*	162*	75*	74*	127*	126*	126*					
	D+L (Deflection)	94	93	142	152	161	75	74	127	126	126					
	L (Deflection)	76	81	98	106	112	75	74	127	126	126					
18'-0"	$\lambda_D D + \lambda_L L$ (Strength)	88*	87*	153*	152*	152*	71*	70*	119*	119*	119*					
	D+L (Deflection)	88	87	119	127	135	71	70	119	119	119					
	L (Deflection)	64	68	83	89	94	71	70	119	119	119					
19'-0"	$\lambda_D D + \lambda_L L$ (Strength)	83*	82*	144*	144*	144*	67*	66*	113*	112*	112*					
	D+L (Deflection)	76	81	100	107	114	67	66	113	112	112					
	L (Deflection)	54	58	71	76	80	67	66	113	112	112					
20'-0"	$\lambda_D D + \lambda_L L$ (Strength)	79*	78*	137*	136*	136*	63*	62*	107*	106*	106*					
	D+L (Deflection)	65	69	85	91	96	63	62	107	106	106					
	L (Deflection)	46	49	60	65	69	63	62	107	106	106					
21'-0"	$\lambda_D D + \lambda_L L$ (Strength)	75*	74*	130*	129*	129*	60*	59*	101*	101*	101*					
	D+L (Deflection)	53	56	69	74	78	60	59	101	101	101					
	L (Deflection)	40	43	52	56	59	60	59	101	101	101					
22'-0"	$\lambda_D D + \lambda_L L$ (Strength)	71*	70*	124*	123*	123*	57*	56*	96*	96*	96*					
	D+L (Deflection)	43	45	56	60	64	57	56	96	96	96					
	L (Deflection)	35	37	45	49	51	57	56	96	96	96					
23'-0"	$\lambda_D D + \lambda_L L$ (Strength)	68*	67*	114	113	113	54*	53*	92*	91*	91*					
	D+L (Deflection)	35	37	46	49	52	54	53	92	91	91					
	L (Deflection)	31	33	40	43	45	54	53	92	91	91					
24'-0"	$\lambda_D D + \lambda_L L$ (Strength)	65*	64*	104	103	103	52*	51*	88*	87*	87*					
	D+L (Deflection)	29	30	38	41	43	52	51	88	87	87					
	L (Deflection)	27	29	35	38	40	52	51	84	87	87					
25'-0"	$\lambda_D D + \lambda_L L$ (Strength)	60	60	96	94	94										
	D+L (Deflection)	24	25	31	34	36										
	L (Deflection)	24	25	31	33	35										
26'-0"	$\lambda_D D + \lambda_L L$ (Strength)	55	55	88	87	86										
	D+L (Deflection)	20	21	26	28	30										
	L (Deflection)	20	21	26	28	30										
27'-0"	$\lambda_D D + \lambda_L L$ (Strength)	51	50	81	80	80										
	D+L (Deflection)	16	17	21	23	25										
	L (Deflection)	16	17	21	23	25										
28'-0"	$\lambda_D D + \lambda_L L$ (Strength)	47	46	75	74	73										
	D+L (Deflection)	13	14	18	19	20										
	L (Deflection)	13	14	18	19	20										

15'-0"	$\lambda_D D + \lambda_L L$ (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)
	L (Deflection)	107	← Max. superimposed unfactored LRFD live load (psf) (governed by deflection limitation)

↑ Vertical load span (center to center spacing)

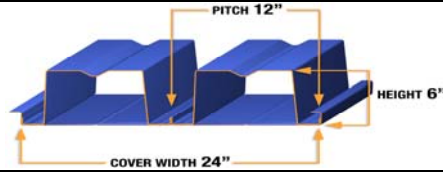
- Wd Weight of deck (uncoated), psf
- I_b Moment of inertia for deflection per foot of deck width (in⁴/ft)
- S_p Section modulus for positive bending per foot of deck width, (in³/ft)
- S_n Section modulus for negative bending per foot of deck width, (in³/ft)
- λ_D, λ_L Load factors for D & L loads to be applied by Engineer in accordance with Building Codes.
- R_{be} Allowable exterior web crippling value per foot of deck, plf
- R_{bi} Allowable interior web crippling value per foot of deck, plf
- V_a Allowable shear value per foot of deck width, plf
- D Uniform dead load, psf
- L Uniform live load, psf

- Notes:
- Bending strength based on flexural stress limit of 38 ksi.
 - Loads marked with asterisk (*) are governed by moment & shear, interior (6" bearing) and exterior (4" bearing) reactions (web crippling) or moment & reactions.
 - Deflection based on maximum dead + live load deflection of L/240 or 1 in. and on maximum live load deflection of L/360 or 1 in.
 - 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).
Acoustical profile is also available.

SECTION PROPERTIES $f_y = 40 \text{ ksi}$

GAGE	Wd	I_D (DEFLECTION)	Sp	S _n	R _{be}			R _{bi}		V _a
					4"	5"	6"	5"	6"	
16/18	7.44	14.244	3.621	3.648	2221	2398	2557	4077	4314	9909
16/16	8.05	15.165	3.616	3.746	2221	2398	2557	4077	4314	9909
16/14	8.78	16.108	3.594	3.839	2221	2398	2557	4077	4314	9909
14/16	9.32	17.894	4.797	4.607	3355	3611	3843	6087	6425	15968
14/14	10.05	19.007	4.874	4.723	3355	3611	3843	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	14/14
17'-0"	$\lambda_D D + \lambda_L L$ (Strength)	252*	252*	251*	384*	383*	194*	193*	192*	291*	290*					
	D+L (Deflection)	183	195	206	230	244	194	193	192	291	290					
	L (Deflection)	127	135	144	159	169	194	193	192	291	290					
18'-0"	$\lambda_D D + \lambda_L L$ (Strength)	238*	237*	236*	362*	362*	183*	182*	181*	274*	274*					
	D+L (Deflection)	153	163	173	192	205	183	182	181	274	274					
	L (Deflection)	107	114	121	134	143	183	182	181	274	274					
19'-0"	$\lambda_D D + \lambda_L L$ (Strength)	225*	224*	223*	325	331	173*	172*	171*	259*	259*					
	D+L (Deflection)	129	137	145	162	173	173	172	171	259	259					
	L (Deflection)	91	97	103	114	121	173	172	171	259	259					
20'-0"	$\lambda_D D + \lambda_L L$ (Strength)	213*	212*	212*	293	298	164*	163*	162*	246*	246*					
	D+L (Deflection)	109	116	123	138	147	164	163	162	246	246					
	L (Deflection)	78	83	88	98	104	164	163	162	236	246					
21'-0"	$\lambda_D D + \lambda_L L$ (Strength)	199	198	196	264	269	155*	155*	154*	234*	234*					
	D+L (Deflection)	89	94	100	112	119	155	155	154	234	234					
	L (Deflection)	67	72	76	85	90	155	155	154	204	216					
22'-0"	$\lambda_D D + \lambda_L L$ (Strength)	181	180	178	240	244	148*	147*	146*	222*	222*					
	D+L (Deflection)	72	77	82	91	97	148	147	146	222	222					
	L (Deflection)	59	62	66	74	78	141	147	146	177	188					
23'-0"	$\lambda_D D + \lambda_L L$ (Strength)	164	164	162	219	222	141*	140*	140*	205*	210*					
	D+L (Deflection)	59	63	67	75	80	141	140	140	193	205					
	L (Deflection)	51	55	58	64	68	123	131	140	155	165					
24'-0"	$\lambda_D D + \lambda_L L$ (Strength)	150	149	148	200	203	135*	134*	133*	188*	193*					
	D+L (Deflection)	49	52	55	62	66	128	134	133	161	172					
	L (Deflection)	45	48	51	57	60	109	116	123	136	145					
25'-0"	$\lambda_D D + \lambda_L L$ (Strength)	138	137	135	183	186										
	D+L (Deflection)	40	43	45	51	55										
	L (Deflection)	40	42	45	50	53										
26'-0"	$\lambda_D D + \lambda_L L$ (Strength)	127	126	124	169	171										
	D+L (Deflection)	33	36	38	42	45										
	L (Deflection)	33	36	38	42	45										
27'-0"	$\lambda_D D + \lambda_L L$ (Strength)	117	116	114	156	158										
	D+L (Deflection)	28	29	31	35	38										
	L (Deflection)	28	29	31	35	38										
28'-0"	$\lambda_D D + \lambda_L L$ (Strength)	108	107	106	144	146										
	D+L (Deflection)	23	24	26	29	31										
	L (Deflection)	23	24	26	29	31										
29'-0"	$\lambda_D D + \lambda_L L$ (Strength)	100	99	98	133	136										
	D+L (Deflection)	19	20	21	24	26										
	L (Deflection)	19	20	21	24	26										
30'-0"	$\lambda_D D + \lambda_L L$ (Strength)	93	92	91	124	126										
	D+L (Deflection)	16	17	17	20	21										
	L (Deflection)	16	17	17	20	21										

17'-0"	$\lambda_D D + \lambda_L L$ (Strength)	252*	← Max. superimposed factored LRFD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	183	← Max. superimposed unfactored LRFD dead + live load (psf) (governed by deflection limitation)
	L (Deflection)	127	← Max. superimposed unfactored LRFD live load (psf) (governed by deflection limitation)

Vertical load span (center to center spacing)

Wd Weight of deck (uncoated), psf

I_D Moment of inertia for deflection per foot of deck width (in^4/ft)

Sp Section modulus for positive bending per foot of deck width, (in^3/ft)

S_n Section modulus for negative bending per foot of deck width, (in^3/ft)

λ_D, λ_L Load factors for D & L loads to be applied by Engineer in accordance with Building Codes.

R_{be} Allowable exterior web crippling value per foot of deck, plf

R_{bi} Allowable interior web crippling value per foot of deck, plf

V_a Allowable shear value per foot of deck width, plf

D Uniform dead load, psf

L Uniform live load, psf

Notes: 1. Bending strength based on flexural stress limit of 38 ksi.

2. Loads marked with asterisk (*) are governed by moment & shear, interior (6" bearing) and exterior (4" bearing) reactions (web crippling) or moment & reactions.

3. Deflection based on maximum dead + live load deflection of L/240 or 1 in. and on maximum live load deflection of L/360 or 1 in.

4. An upper limit of 400 psf has been applied to the loads.

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