

SECTION PROPERTIES

Fy = 276 MPa

GAGE	Wd	Ip	In	Sp	Sn	Rbe			Rbi			Va
						102 mm	127 mm	152 mm	102 mm	127 mm	152 mm	
16/18	25.21	17721558	16900703	110610	155905	10.34	11.22	12.02	19.22	20.68	22.00	20.72
16/16	28.00	18783252	19134438	110709	161637	10.34	11.22	12.02	19.22	20.68	22.00	20.72
16/14	30.59	24024830	20740543	171362	202141	17.79	19.26	20.58	32.04	34.35	36.43	48.16
14/16	33.38	25482936	23162009	170872	208926	17.79	19.26	20.58	32.04	34.35	36.43	48.16
14/14	36.36	26795487	25904309	170648	215347	17.79	19.26	20.58	32.04	34.35	36.43	48.16



LSD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM LSD LOADS (kPa)														
Span (mm)	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
4570	$\alpha_D D + \alpha_L L$ (Strength)	4.21*	4.18*	7.41*	7.37*	7.34*	3.54*	3.51*	6*	5.97*	5.93*	4.06*	4.03*	6.87*	6.84*	6.8*
	D+L (Deflection)	4.21	4.18	7.41	7.37	7.34	3.54	3.51	6.00	5.97	5.93	4.06	4.03	6.87	6.84	6.80
	L (Deflection)	4.21	4.18	7.41	7.37	7.34	3.54	3.51	6.00	5.97	5.93	4.06	4.03	6.87	6.84	6.80
4870	$\alpha_D D + \alpha_L L$ (Strength)	3.93*	3.9*	6.92*	6.89*	6.85*	3.3*	3.27*	5.6*	5.57*	5.53*	3.79*	3.76*	6.42*	6.38*	6.35*
	D+L (Deflection)	3.93	3.90	6.92	6.89	6.85	3.30	3.27	5.60	5.57	5.53	3.79	3.76	6.42	6.38	6.35
	L (Deflection)	3.93	3.90	6.92	6.89	6.85	3.30	3.27	5.60	5.57	5.53	3.79	3.76	6.42	6.38	6.35
5180	$\alpha_D D + \alpha_L L$ (Strength)	3.68*	3.65*	6.49*	6.46*	6.42*	3.09*	3.05*	5.25*	5.22*	5.18*					
	D+L (Deflection)	3.68	3.65	6.49	6.46	6.42	3.09	3.05	5.25	5.22	5.18					
	L (Deflection)	3.68	3.65	6.49	6.46	6.42	3.09	3.05	5.25	5.22	5.18					
5480	$\alpha_D D + \alpha_L L$ (Strength)	3.46*	3.43*	6.11*	6.08*	6.04*	2.9*	2.86*	4.94*	4.9*	4.87*					
	D+L (Deflection)	3.46	3.43	6.11	6.08	6.04	2.90	2.86	4.94	4.90	4.87					
	L (Deflection)	3.46	3.43	6.11	6.08	6.04	2.90	2.86	4.94	4.90	4.87					
5790	$\alpha_D D + \alpha_L L$ (Strength)	3.26*	3.23*	5.77*	5.74*	5.7*	2.73*	2.7*	4.66*	4.62*	4.59*					
	D+L (Deflection)	3.26	3.23	5.77	5.74	5.70	2.73	2.70	4.66	4.62	4.59					
	L (Deflection)	3.26	3.23	5.77	5.74	5.70	2.73	2.70	4.66	4.62	4.59					
6090	$\alpha_D D + \alpha_L L$ (Strength)	3.08*	3.05*	5.46*	5.43*	5.39*	2.58*	2.54*	4.41*	4.37*	4.34*					
	D+L (Deflection)	3.08	3.05	5.46	5.43	5.39	2.58	2.54	4.41	4.37	4.34					
	L (Deflection)	3.08	3.05	5.46	5.43	5.39	2.58	2.54	4.41	4.37	4.34					
6400	$\alpha_D D + \alpha_L L$ (Strength)	2.92*	2.89*	5.18*	5.15*	5.11*	2.44*	2.41*	4.18*	4.14*	4.11*					
	D+L (Deflection)	2.92	2.89	5.18	5.15	5.11	2.44	2.41	4.18	4.14	4.11					
	L (Deflection)	2.92	2.89	5.18	5.15	5.11	2.44	2.41	4.18	4.14	4.11					
6700	$\alpha_D D + \alpha_L L$ (Strength)	2.77*	2.74*	4.93*	4.9*	4.86*	2.32*	2.28*	3.97*	3.94*	3.9*					
	D+L (Deflection)	2.77	2.74	4.89	4.90	4.86	2.32	2.28	3.97	3.94	3.90					
	L (Deflection)	2.77	2.74	4.89	4.90	4.86	2.32	2.28	3.97	3.94	3.90					
7010	$\alpha_D D + \alpha_L L$ (Strength)	2.64*	2.61*	4.7*	4.67*	4.63*	2.2*	2.17*	3.78*	3.75*	3.71*					
	D+L (Deflection)	2.64	2.61	4.25	4.49	4.63	2.20	2.17	3.78	3.75	3.71					
	L (Deflection)	2.64	2.61	4.25	4.49	4.63	2.20	2.17	3.78	3.75	3.71					
7310	$\alpha_D D + \alpha_L L$ (Strength)	2.52*	2.48*	4.49*	4.46*	4.42*	2.1*	2.06*	3.61*	3.58*	3.54*					
	D+L (Deflection)	2.52	2.48	3.70	3.92	4.11	2.10	2.06	3.61	3.58	3.54					
	L (Deflection)	2.52	2.48	3.70	3.92	4.11	2.10	2.06	3.61	3.58	3.54					
7610	$\alpha_D D + \alpha_L L$ (Strength)	2.4*	2.37*	4.3*	4.26*	4.22*										
	D+L (Deflection)	2.36	2.37	3.24	3.43	3.59										
	L (Deflection)	2.36	2.37	3.24	3.43	3.59										
7920	$\alpha_D D + \alpha_L L$ (Strength)	2.3*	2.27*	4.12*	4.08*	4.04*										
	D+L (Deflection)	2.07	2.19	2.85	3.01	3.15										
	L (Deflection)	2.07	2.19	2.85	3.01	3.15										
8220	$\alpha_D D + \alpha_L L$ (Strength)	2.2*	2.17*	3.95*	3.91*	3.88*										
	D+L (Deflection)	1.83	1.92	2.51	2.65	2.78										
	L (Deflection)	1.83	1.92	2.51	2.65	2.78										
8530	$\alpha_D D + \alpha_L L$ (Strength)	2.11*	2.08*	3.79*	3.76*	3.72*										
	D+L (Deflection)	1.61	1.70	2.22	2.35	2.45										
	L (Deflection)	1.61	1.70	2.22	2.35	2.45										

4570	$\alpha_D D + \alpha_L L$ (Strength)	4.21*	← Max. superimposed factored LSD dead + live load (kPa) (governed by strength limitation)
	D+L (Deflection)	4.21	← Max. superimposed unfactored LSD dead + live load (kPa) (governed by deflection limitation of L/240)
	L (Deflection)	4.21	← Max. superimposed unfactored LSD live load (kPa) (governed by deflection limitation of L/360)
Vertical load span (center to center spacing)			

- Wd Weight of deck (uncoated), kg/m²
- Ip Moment of inertia for positive bending per foot of deck width, mm⁴/m
- In Moment of inertia for negative bending per foot of deck width, mm⁴/m
- Sp Section modulus for positive bending per foot of deck width, mm³/m
- Sn Section modulus for negative bending per foot of deck width, mm³/m
- α_D, α_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, kN/m
- Rbi Allowable interior web crippling value per foot of deck width, kN/m
- Va Allowable shear value per foot of deck width, kN/m
- D Uniform dead load, kPa
- L Uniform live load, kPa

Notes: 1. Bending strength based on allowable flexural stress of 248 MPa.
 2. Loads marked with asterisk (*) are governed by interior reactions (web crippling) assuming 152 mm of interior bearing.
 3. Loads marked with two asterisks (**) are governed by moment & shear or moment & reactions (web crippling) assuming 152 mm of interior bearing.
 4. An upper limit of 19.15 kPa has been applied to the loads.
 5. Deck length over 13.72 m 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 = 276 MPa

GAGE	Wd	Ip	In	Sp	Sn	Rbe			Rbi			Va
						102 mm	127 mm	152 mm	102 mm	127 mm	152 mm	
16/18	39.12	31526024	27370318	246918	258706	27.67	29.86	31.85	48.88	52.24	55.27	96.85
16/16	42.11	33664000	30166250	245560	266231	27.67	29.86	31.85	48.88	52.24	55.27	96.85
16/14	45.70	35440736	33824008	244621	273407	27.67	29.86	31.85	48.88	52.24	55.27	96.85
14/16	49.00	39556593	35193898	341222	326418	42.02	45.23	48.13	73.24	78.03	82.36	189.15
14/14	52.59	42161499	39094619	346455	335755	42.02	45.23	48.13	73.24	78.03	82.36	189.15



LSD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM LSD LOADS (kPa)														
Span (mm)	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
6700	$\alpha_D + \alpha_L$ (Strength)	7.77*	7.74*	7.69*	11.93*	11.89*	6.11*	6.08*	6.03*	9.23*	9.18*					
	D+L (Deflection)	6.43	6.87	7.21	8.07	8.60	6.11	6.08	6.03	9.23	9.18					
	L (Deflection)	4.54	4.85	5.11	5.70	6.08	6.11	6.08	6.03	9.23	9.18					
7010	$\alpha_D + \alpha_L$ (Strength)	7.41*	7.38*	7.33*	11.39*	11.35*	5.83*	5.79*	5.75*	8.59**	8.68**					
	D+L (Deflection)	5.58	5.96	6.26	7.00	7.46	5.83	5.79	5.75	8.59	8.68					
	L (Deflection)	3.98	4.25	4.47	4.99	5.32	5.83	5.79	5.75	8.59	8.68					
7310	$\alpha_D + \alpha_L$ (Strength)	7.09*	7.05*	7.01*	10.89*	10.85*	5.56**	5.53*	5.48*	7.97**	8.06**					
	D+L (Deflection)	4.87	5.19	5.45	6.11	6.51	5.56	5.53	5.48	7.97	8.06					
	L (Deflection)	3.50	3.74	3.93	4.39	4.68	5.56	5.53	5.48	7.97	8.06					
7610	$\alpha_D + \alpha_L$ (Strength)	6.78*	6.75*	6.71*	10.43*	10.39*										
	D+L (Deflection)	4.26	4.55	4.77	5.35	5.70										
	L (Deflection)	3.10	3.31	3.48	3.89	4.14										
7920	$\alpha_D + \alpha_L$ (Strength)	6.5*	6.47*	6.42*	10.01*	9.96*										
	D+L (Deflection)	3.75	4.00	4.19	4.70	5.01										
	L (Deflection)	2.75	2.94	3.09	3.45	3.68										
8220	$\alpha_D + \alpha_L$ (Strength)	6.25*	6.21*	6.16*	9.40	9.51										
	D+L (Deflection)	3.30	3.52	3.70	4.15	4.42										
	L (Deflection)	2.46	2.62	2.76	3.08	3.29										
8530	$\alpha_D + \alpha_L$ (Strength)	6*	5.97*	5.92*	8.70	8.80										
	D+L (Deflection)	2.92	3.12	3.27	3.67	3.91										
	L (Deflection)	2.20	2.35	2.48	2.77	2.95										
8830	$\alpha_D + \alpha_L$ (Strength)	5.78*	5.72	5.66	8.07	8.16										
	D+L (Deflection)	2.59	2.76	2.90	3.25	3.46										
	L (Deflection)	1.98	2.12	2.23	2.49	2.65										
9140	$\alpha_D + \alpha_L$ (Strength)	5.38	5.32	5.25	7.50	7.58										
	D+L (Deflection)	2.30	2.46	2.57	2.89	3.08										
	L (Deflection)	1.79	1.91	2.01	2.25	2.40										
9440	$\alpha_D + \alpha_L$ (Strength)	5.01	4.95	4.88	6.99	7.06										
	D+L (Deflection)	2.05	2.19	2.29	2.58	2.74										
	L (Deflection)	1.62	1.73	1.83	2.04	2.17										
9750	$\alpha_D + \alpha_L$ (Strength)	4.67	4.61	4.55	6.52	6.59										
	D+L (Deflection)	1.83	1.95	2.04	2.30	2.45										
	L (Deflection)	1.48	1.58	1.66	1.85	1.97										
10050	$\alpha_D + \alpha_L$ (Strength)	4.37	4.30	4.24	6.10	6.16										
	D+L (Deflection)	1.64	1.74	1.82	2.05	2.19										
	L (Deflection)	1.35	1.44	1.51	1.69	1.80										
10360	$\alpha_D + \alpha_L$ (Strength)	4.09	4.02	3.96	5.71	5.76										
	D+L (Deflection)	1.46	1.56	1.63	1.84	1.95										
	L (Deflection)	1.23	1.31	1.38	1.54	1.65										
10660	$\alpha_D + \alpha_L$ (Strength)	3.83	3.77	3.71	5.35	5.40										
	D+L (Deflection)	1.31	1.39	1.45	1.64	1.75										
	L (Deflection)	1.13	1.21	1.27	1.42	1.51										

6700	$\alpha_D + \alpha_L$ (Strength)	7.77*	← Max. superimposed factored LSD dead + live load (kPa) (governed by strength limitation)
	D+L (Deflection)	6.43	← Max. superimposed unfactored LSD dead + live load (kPa) (governed by deflection limitation of L/240)
	L (Deflection)	4.54	← Max. superimposed unfactored LSD live load (kPa) (governed by deflection limitation of L/360)
			← Vertical load span (center to center spacing)

- Wd Weight of deck (uncoated), kg/m²
- Ip Moment of inertia for positive bending per foot of deck width, mm⁴/m
- In Moment of inertia for negative bending per foot of deck width, mm⁴/m
- Sp Section modulus for positive bending per foot of deck width, mm³/m
- Sn Section modulus for negative bending per foot of deck width, mm³/m
- α_D, α_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, kN/m
- Rbi Allowable interior web crippling value per foot of deck width, kN/m
- Va Allowable shear value per foot of deck width, kN/m
- D Uniform dead load, kPa
- L Uniform live load, kPa

Notes:

- Bending strength based on allowable flexural stress of 248 MPa.
- Loads marked with asterisk (*) are governed by interior reactions (web crippling) assuming 152 mm of interior bearing.
- Loads marked with two asterisks (**) are governed by moment & shear or moment & reactions (web crippling) assuming 152 mm of interior bearing.
- An upper limit of 19.15 kPa has been applied to the loads.
- Deck length over 13.72 m 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.