

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	
20/20	21.81	6240098	5624191	64764	82901	11.67	12.67	13.57	19.49	20.97	22.30	34.99
20/18	24.59	6640142	6461470	64959	85845	11.67	12.67	13.57	19.49	20.97	22.30	34.99
18/20	26.09	8070223	6853382	99700	107721	19.65	21.27	22.73	32.43	34.76	36.87	79.01
18/18	28.87	8724295	7779745	99988	111221	19.65	21.27	22.73	32.43	34.76	36.87	79.01
18/16	31.85	9320921	8794085	99922	114524	19.65	21.27	22.73	32.43	34.76	36.87	79.01



LSD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM LSD LOADS (kPa)														
Span (mm)	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
3350	$\alpha_D D + \alpha_L L$ (Strength)	6.69*	6.66*	11.4*	11.37*	11.33*	5.05*	5.02*	8.48*	8.44*	8.41*	5.78*	5.75*	9.68*	9.64*	9.61*
	D+L (Deflection)	6.69	6.66	11.40	11.37	11.33	5.05	5.02	8.48	8.44	8.41	5.78	5.75	9.68	9.64	9.61
	L (Deflection)	6.69	6.66	9.31	10.06	10.75	5.05	5.02	8.48	8.44	8.41	5.78	5.75	9.68	9.64	9.61
3650	$\alpha_D D + \alpha_L L$ (Strength)	6.11*	6.08*	10.43*	10.39*	10.35*	4.61*	4.58*	7.75*	7.71*	7.67*	5.28*	5.24*	8.85*	8.81*	8.77*
	D+L (Deflection)	6.11	6.08	10.43	10.39	10.35	4.61	4.58	7.75	7.71	7.67	5.28	5.24	8.85	8.81	8.77
	L (Deflection)	5.54	5.90	7.17	7.75	8.28	4.61	4.58	7.75	7.71	7.67	5.28	5.24	8.85	8.81	8.77
3960	$\alpha_D D + \alpha_L L$ (Strength)	5.62*	5.59*	9.6*	9.56*	9.53*	4.24*	4.2*	7.13*	7.09*	7.05*	4.85*	4.82*	8.14*	8.11*	8.07*
	D+L (Deflection)	5.62	5.59	8.20	8.86	9.45	4.24	4.20	7.13	7.09	7.05	4.85	4.82	8.14	8.11	8.07
	L (Deflection)	4.36	4.64	5.64	6.09	6.51	4.24	4.20	7.13	7.09	7.05	4.85	4.82	8.14	8.11	8.07
4260	$\alpha_D D + \alpha_L L$ (Strength)	5.2*	5.17*	8.89*	8.86*	8.82*	3.91*	3.88*	6.59*	6.56*	6.52*	4.48*	4.45*	7.54*	7.5*	7.47*
	D+L (Deflection)	5.02	5.17	6.52	7.04	7.51	3.91	3.88	6.59	6.56	6.52	4.48	4.45	7.54	7.50	7.47
	L (Deflection)	3.49	3.71	4.51	4.88	5.21	3.91	3.88	6.59	6.56	6.52	4.48	4.45	7.54	7.50	7.47
4570	$\alpha_D D + \alpha_L L$ (Strength)	4.84*	4.8*	8.28*	8.24*	8.21*	3.64*	3.6*	6.13*	6.1*	6.06*	4.17*	4.13*	7.01*	6.98*	6.94*
	D+L (Deflection)	4.04	4.29	5.25	5.67	6.05	3.64	3.60	6.13	6.10	6.06	4.17	4.13	7.01	6.98	6.94
	L (Deflection)	2.84	3.02	3.67	3.97	4.24	3.64	3.60	6.13	6.10	6.06	4.17	4.13	6.91	6.98	6.94
4870	$\alpha_D D + \alpha_L L$ (Strength)	4.52*	4.48*	7.74*	7.71*	7.67*	3.39*	3.36*	5.53**	5.59**	5.64**	3.89*	3.86*	6.55*	6.52*	6.48*
	D+L (Deflection)	3.29	3.49	4.28	4.62	4.93	3.39	3.36	5.53	5.59	5.64	3.89	3.86	6.55	6.52	6.48
	L (Deflection)	2.34	2.49	3.02	3.27	3.49	3.39	3.36	5.53	5.59	5.64	3.89	3.86	5.70	6.16	6.48
5180	$\alpha_D D + \alpha_L L$ (Strength)	4.24*	4.2*	7.05	7.04	7.00	3.18*	3.14*	4.98**	5.04**	5.08**					
	D+L (Deflection)	2.71	2.87	3.53	3.80	4.06	3.18	3.14	4.98	5.04	5.08					
	L (Deflection)	1.95	2.07	2.52	2.73	2.91	3.18	3.14	4.98	5.04	5.08					
5480	$\alpha_D D + \alpha_L L$ (Strength)	3.99*	3.95*	6.26	6.24	6.20	2.89**	2.91**	4.5**	4.55**	4.6**					
	D+L (Deflection)	2.25	2.38	2.93	3.16	3.37	2.89	2.91	4.50	4.55	4.60					
	L (Deflection)	1.64	1.75	2.12	2.30	2.45	2.89	2.91	4.50	4.55	4.60					
5790	$\alpha_D D + \alpha_L L$ (Strength)	3.57	3.54	5.58	5.57	5.53	2.63**	2.64**	4.09**	4.14**	4.17**					
	D+L (Deflection)	1.88	1.99	2.45	2.65	2.82	2.63	2.64	4.09	4.14	4.17					
	L (Deflection)	1.40	1.49	1.81	1.95	2.09	2.63	2.64	4.09	4.14	4.17					
6090	$\alpha_D D + \alpha_L L$ (Strength)	3.19	3.17	5.01	4.99	4.95	2.4**	2.41**	3.73**	3.77**	3.8**					
	D+L (Deflection)	1.58	1.67	2.07	2.23	2.37	2.40	2.41	3.73	3.77	3.80					
	L (Deflection)	1.20	1.27	1.55	1.67	1.79	2.40	2.41	3.68	3.77	3.80					
6400	$\alpha_D D + \alpha_L L$ (Strength)	2.87	2.85	4.51	4.49	4.45	2.2**	2.21**	3.41**	3.44**	3.47**					
	D+L (Deflection)	1.34	1.41	1.75	1.89	2.00	2.20	2.21	3.41	3.44	3.47					
	L (Deflection)	1.03	1.10	1.34	1.45	1.54	2.20	2.21	3.18	3.44	3.47					
6700	$\alpha_D D + \alpha_L L$ (Strength)	2.59	2.57	4.08	4.06	4.02	2.01**	2.02**	3.12**	3.16**	3.18**					
	D+L (Deflection)	1.14	1.19	1.49	1.60	1.70	2.01	2.02	3.12	3.16	3.18					
	L (Deflection)	0.90	0.96	1.16	1.26	1.34	2.01	2.02	2.77	2.99	3.18					
7010	$\alpha_D D + \alpha_L L$ (Strength)	2.35	2.32	3.71	3.69	3.65	1.85**	1.86**	2.87**	2.9**	2.92**					
	D+L (Deflection)	0.97	1.02	1.27	1.37	1.45	1.85	1.86	2.87	2.90	2.92					
	L (Deflection)	0.79	0.84	1.02	1.10	1.18	1.85	1.86	2.42	2.62	2.79					
7310	$\alpha_D D + \alpha_L L$ (Strength)	2.14	2.11	3.38	3.36	3.32	1.71**	1.71**	2.65**	2.67**	2.69**					
	D+L (Deflection)	0.83	0.86	1.09	1.17	1.24	1.71	1.71	2.65	2.67	2.69					
	L (Deflection)	0.69	0.74	0.90	0.97	1.03	1.65	1.71	2.13	2.30	2.46					

3350	$\alpha_D D + \alpha_L L$ (Strength)	6.69*	← Max. superimposed factored LSD dead + live load (kPa) (governed by strength limitation)
	D+L (Deflection)	6.69	← Max. superimposed unfactored LSD dead + live load (kPa) (governed by deflection limitation of L/240)
	L (Deflection)	6.69	← 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/m<sup>2</sup>  
 Ip Moment of inertia for positive bending per foot of deck width, mm<sup>4</sup>/m  
 In Moment of inertia for negative bending per foot of deck width, mm<sup>4</sup>/m  
 Sp Section modulus for positive bending per foot of deck width, mm<sup>3</sup>/m  
 Sn Section modulus for negative bending per foot of deck width, mm<sup>3</sup>/m  
 $\alpha_D, \alpha_L$  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, 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. An upper limit of 19.15 kPa has been applied to the loads.  
 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	33.44	10453665	9148635	135729	137975	30.12	32.51	34.67	49.41	52.80	55.87	125.76
16/16	36.42	11170133	10188029	138185	141868	30.12	32.51	34.67	49.41	52.80	55.87	125.76
16/14	40.01	11921756	11484176	140694	145648	30.12	32.51	34.67	49.41	52.80	55.87	125.76
14/16	41.90	13135534	11819940	180778	174192	45.23	48.68	51.80	73.94	78.78	83.15	180.97
14/14	45.49	14016457	13192310	184004	178827	45.23	48.68	51.80	73.94	78.78	83.15	180.97



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)	12.48	12.68	12.69*	16.66	16.92	8.94**	9.05**	9.14**	12.64**	12.8**	10.7*	10.66*	10.62*	15.48**	15.68**
	D+L (Deflection)	6.80	7.26	7.74	8.55	9.11	8.94	9.05	9.14	12.64	12.80	10.70	10.66	10.62	15.48	15.68
	L (Deflection)	4.75	5.08	5.42	5.97	6.37	8.94	9.05	9.14	12.64	12.80	8.96	9.57	10.21	11.25	12.01
4870	$\alpha_D D + \alpha_L L$ (Strength)	10.92	11.09	11.26	14.58	14.81	8**	8.09**	8.18**	11.27**	11.42**	9.79**	9.9**	9.92*	13.84**	14.02**
	D+L (Deflection)	5.55	5.92	6.31	6.97	7.43	8.00	8.09	8.18	11.27	11.42	9.79	9.90	9.92	13.50	14.02
	L (Deflection)	3.92	4.19	4.47	4.92	5.25	8.00	8.09	8.18	11.27	11.42	7.38	7.88	8.42	9.27	9.89
5180	$\alpha_D D + \alpha_L L$ (Strength)	9.63	9.77	9.91	12.86	13.05	7.19**	7.27**	7.35**	10.11**	10.24**					
	D+L (Deflection)	4.57	4.88	5.19	5.74	6.12	7.19	7.27	7.35	10.11	10.24					
	L (Deflection)	3.27	3.49	3.72	4.10	4.38	7.19	7.27	7.35	9.75	10.24					
5480	$\alpha_D D + \alpha_L L$ (Strength)	8.54	8.67	8.79	11.41	11.58	6.49**	6.57**	6.63**	9.11**	9.23**					
	D+L (Deflection)	3.80	4.05	4.31	4.77	5.09	6.49	6.57	6.63	9.11	9.23					
	L (Deflection)	2.75	2.94	3.14	3.46	3.69	6.49	6.57	6.63	8.22	8.77					
5790	$\alpha_D D + \alpha_L L$ (Strength)	7.63	7.74	7.84	10.19	10.34	5.88**	5.95**	6.01**	8.24**	8.35**					
	D+L (Deflection)	3.18	3.39	3.61	4.00	4.26	5.88	5.95	6.01	8.24	8.35					
	L (Deflection)	2.34	2.50	2.67	2.94	3.14	5.56	5.94	6.01	6.99	7.46					
6090	$\alpha_D D + \alpha_L L$ (Strength)	6.84	6.94	7.03	9.15	9.27	5.35**	5.41**	5.47**	7.48**	7.58**					
	D+L (Deflection)	2.68	2.86	3.04	3.37	3.59	5.35	5.41	5.47	7.48	7.58					
	L (Deflection)	2.01	2.14	2.29	2.52	2.69	4.77	5.09	5.44	5.99	6.39					
6400	$\alpha_D D + \alpha_L L$ (Strength)	6.17	6.25	6.33	8.25	8.36	4.88**	4.94**	4.99**	6.82**	6.91**					
	D+L (Deflection)	2.27	2.42	2.57	2.85	3.04	4.88	4.94	4.99	6.82	6.91					
	L (Deflection)	1.73	1.85	1.98	2.18	2.32	4.12	4.40	4.70	5.17	5.52					
6700	$\alpha_D D + \alpha_L L$ (Strength)	5.58	5.66	5.72	7.47	7.57	4.47**	4.52**	4.56**	6.23**	6.31**					
	D+L (Deflection)	1.93	2.06	2.19	2.43	2.58	4.47	4.52	4.56	6.23	6.31					
	L (Deflection)	1.51	1.61	1.72	1.89	2.02	3.58	3.83	4.08	4.50	4.80					
7010	$\alpha_D D + \alpha_L L$ (Strength)	5.07	5.14	5.19	6.79	6.88	4.1**	4.15**	4.19**	5.71**	5.79**					
	D+L (Deflection)	1.65	1.76	1.86	2.07	2.21	4.10	4.15	4.19	5.50	5.79					
	L (Deflection)	1.32	1.41	1.50	1.66	1.77	3.13	3.35	3.57	3.94	4.20					
7310	$\alpha_D D + \alpha_L L$ (Strength)	4.63	4.68	4.73	6.19	6.27	3.78**	3.82**	3.85**	5.25**	5.32**					
	D+L (Deflection)	1.41	1.50	1.59	1.78	1.89	3.78	3.82	3.85	4.79	5.10					
	L (Deflection)	1.16	1.24	1.32	1.46	1.56	2.76	2.95	3.15	3.47	3.70					
7610	$\alpha_D D + \alpha_L L$ (Strength)	4.23	4.28	4.32	5.67	5.73										
	D+L (Deflection)	1.21	1.29	1.36	1.52	1.62										
	L (Deflection)	1.03	1.10	1.17	1.29	1.38										
7920	$\alpha_D D + \alpha_L L$ (Strength)	3.88	3.92	3.96	5.20	5.26										
	D+L (Deflection)	1.04	1.11	1.17	1.31	1.39										
	L (Deflection)	0.91	0.98	1.04	1.15	1.22										
8220	$\alpha_D D + \alpha_L L$ (Strength)	3.57	3.61	3.63	4.79	4.84										
	D+L (Deflection)	0.89	0.95	1.00	1.13	1.19										
	L (Deflection)	0.82	0.87	0.93	1.02	1.09										
8530	$\alpha_D D + \alpha_L L$ (Strength)	3.29	3.32	3.35	4.41	4.46										
	D+L (Deflection)	0.77	0.81	0.86	0.97	1.02										
	L (Deflection)	0.73	0.78	0.83	0.92	0.98										

4570	$\alpha_D D + \alpha_L L$ (Strength)	12.48	← Max. superimposed factored LSD dead + live load (kPa) (governed by strength limitation)
	D+L (Deflection)	6.80	← Max. superimposed unfactored LSD dead + live load (kPa) (governed by deflection limitation of L/240)
	L (Deflection)	4.75	← 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/m<sup>2</sup>
- Ip Moment of inertia for positive bending per foot of deck width, mm<sup>4</sup>/m
- In Moment of inertia for negative bending per foot of deck width, mm<sup>4</sup>/m
- Sp Section modulus for positive bending per foot of deck width, mm<sup>3</sup>/m
- Sn Section modulus for negative bending per foot of deck width, mm<sup>3</sup>/m
- $\alpha_D, \alpha_L$  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, 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.  
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