

SECTION PROPERTIES

Fy = 276 MPa

GAGE	Wd	Ip	Sp	Sn	Rbe			Rbi			Va
					51 mm	76 mm	102 mm	102 mm	127 mm	152 mm	
20	16.25	2618107	41231	44081	13.52	15.50	17.17	27.53	29.61	31.50	67.61
18	21.49	3615396	59624	63962	22.84	26.02	28.70	45.77	49.06	52.04	118.52
16	27.07	4634808	80876	82790	35.16	39.83	43.77	69.69	74.47	78.80	165.62



LSD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM LSD LOADS (kPa)								
Span (mm)	Load Combinations	SINGLE SPAN			DOUBLE SPAN			TRIPLE SPAN		
		GAGE								
		20	18	16	20	18	16	20	18	16
3040	α ₀ D+ α ₁ L (Strength)	8.61	12.48	16.95	6.42**	10.41**	14.96**	7.82**	12.71**	18.34**
	D+L (Deflection)	5.87	8.11	10.40	6.42	10.41	14.96	7.82	12.71	18.34
	L (Deflection)	4.02	5.55	7.11	6.42	10.41	14.96	7.57	10.45	13.40
3350	α ₀ D+ α ₁ L (Strength)	7.08	10.27	13.95	5.44**	8.81**	12.61**	6.66**	10.79**	15.51**
	D+L (Deflection)	4.37	6.04	7.75	5.44	8.81	12.61	6.66	10.79	14.84
	L (Deflection)	3.02	4.17	5.34	5.44	8.81	12.61	5.69	7.85	10.07
3650	α ₀ D+ α ₁ L (Strength)	5.92	8.59	11.67	4.67**	7.54**	10.76**	5.73**	9.27**	13.28**
	D+L (Deflection)	3.33	4.61	5.91	4.67	7.54	10.76	5.73	8.86	11.37
	L (Deflection)	2.33	3.21	4.12	4.67	7.54	9.79	4.38	6.05	7.75
3960	α ₀ D+ α ₁ L (Strength)	5.02	7.28	9.90	4.05**	6.52**	9.28**	4.98**	8.04**	11.48**
	D+L (Deflection)	2.58	3.58	4.59	4.05	6.52	9.28	4.98	6.93	8.88
	L (Deflection)	1.83	2.53	3.24	4.05	6.00	7.70	3.45	4.76	6.10
4260	α ₀ D+ α ₁ L (Strength)	4.30	6.24	8.49	3.53**	5.68**	8.07**	4.36**	7.03**	10.01**
	D+L (Deflection)	2.04	2.82	3.62	3.53	5.68	8.07	3.98	5.50	7.06
	L (Deflection)	1.46	2.02	2.59	3.48	4.81	6.16	2.76	3.81	4.88
4570	α ₀ D+ α ₁ L (Strength)	3.72	5.40	7.35	3.11**	4.99**	7.07**	3.85**	6.19**	8.8**
	D+L (Deflection)	1.63	2.26	2.90	3.11	4.99	7.07	3.20	4.43	5.69
	L (Deflection)	1.19	1.64	2.11	2.83	3.91	5.01	2.24	3.10	3.97
4870	α ₀ D+ α ₁ L (Strength)	3.24	4.71	6.42	2.75**	4.41**	6.24**	3.42**	5.49**	7.79**
	D+L (Deflection)	1.31	1.82	2.34	2.75	4.41	5.93	2.61	3.62	4.64
	L (Deflection)	0.98	1.35	1.74	2.33	3.22	4.13	1.85	2.55	3.27
5180	α ₀ D+ α ₁ L (Strength)	2.85	4.15	5.65	2.45**	3.93**	5.54**			
	D+L (Deflection)	1.07	1.48	1.91	2.45	3.82	4.90			
	L (Deflection)	0.82	1.13	1.45	1.94	2.68	3.44			
5480	α ₀ D+ α ₁ L (Strength)	2.52	3.67	5.00	2.19**	3.51**	4.94**			
	D+L (Deflection)	0.87	1.22	1.56	2.19	3.18	4.08			
	L (Deflection)	0.69	0.95	1.22	1.64	2.26	2.90			
5790	α ₀ D+ α ₁ L (Strength)	2.24	3.27	4.46	1.96**	3.15**	4.43**			
	D+L (Deflection)	0.72	1.00	1.29	1.93	2.67	3.43			
	L (Deflection)	0.59	0.81	1.04	1.39	1.92	2.47			
6090	α ₀ D+ α ₁ L (Strength)	2.00	2.92	3.99	1.77**	2.84**	3.99**			
	D+L (Deflection)	0.59	0.83	1.07	1.63	2.26	2.91			
	L (Deflection)	0.50	0.69	0.89	1.19	1.65	2.11			
6400	α ₀ D+ α ₁ L (Strength)	1.80	2.63	3.59	1.6**	2.57**	3.61**			
	D+L (Deflection)	0.49	0.69	0.89	1.39	1.93	2.47			
	L (Deflection)	0.43	0.60	0.77	1.03	1.42	1.83			
6700	α ₀ D+ α ₁ L (Strength)	1.62	2.37	3.24	1.45**	2.33**	3.27**			
	D+L (Deflection)	0.41	0.57	0.74	1.19	1.65	2.12			
	L (Deflection)	0.38	0.52	0.67	0.90	1.24	1.59			
7010	α ₀ D+ α ₁ L (Strength)	1.47	2.15	2.94	1.32**	2.12**	2.97**			
	D+L (Deflection)	0.34	0.47	0.61	1.02	1.42	1.82			
	L (Deflection)	0.33	0.46	0.58	0.79	1.08	1.39			

3040	α ₀ D+ α ₁ L (Strength)	8.61	← Max. superimposed factored LSD dead + live load (kPa) (governed by strength limitation)
	D+L (Deflection)	5.87	← Max. superimposed unfactored LSD dead + live load (kPa) (governed by deflection limitation of L/240)
	L (Deflection)	4.02	← 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
- 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
- α₀, α₁ 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 262 MPa.
 2. Loads marked with asterisk (*) are governed by interior reactions (web crippling) assuming 102 mm of interior bearing.
 3. Loads marked with two asterisks (**) are governed by moment & shear or moment & reactions (web crippling) assuming 102 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.