

SECTION PROPERTIES

fy=40 ksi

GAGE	Wd	Ip	In	Sp	Sn	Rbe			Rbi			Va
						2"	3"	4"	4"	5"	6"	
22	2.25	0.417	0.408	0.304	0.301	976	1124	1248	1848	1993	2124	3869
20	2.72	0.505	0.505	0.386	0.371	1390	1593	1765	2623	2822	3002	4672
18	3.60	0.667	0.667	0.510	0.496	2315	2637	2909	4355	4668	4952	6131
16	4.53	0.838	0.838	0.640	0.624	3530	3999	4395	6624	7079	7490	7660



LSD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM LSD LOADS (psf)											
Span	Load Combinations	SINGLE SPAN				DOUBLE SPAN				TRIPLE SPAN			
		GAGE											
		22	20	18	16	22	20	18	16	22	20	18	16
8' - 6"	$\alpha_D D + \alpha_L L$ (Strength)	98	125	165	207	91**	119**	159**	199**	113**	149**	198**	250**
	D+L (Deflection)	42	51	68	85	91	119	159	199	82	99	131	164
	L (Deflection)	30	36	48	60	71	86	113	142	56	68	90	113
9' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	87	111	147	184	81**	106**	141**	178**	101**	132**	177**	222**
	D+L (Deflection)	35	43	56	71	81	105	139	175	69	83	110	138
	L (Deflection)	25	30	40	50	60	72	95	120	47	57	75	95
9' - 6"	$\alpha_D D + \alpha_L L$ (Strength)	78	99	131	165	73**	94**	126**	159**	91**	119**	158**	199**
	D+L (Deflection)	30	36	47	60	73	89	118	148	58	70	93	116
	L (Deflection)	21	26	34	43	51	61	81	102	40	49	64	81
10' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	70	89	118	148	66**	85**	114**	143**	82**	107**	143**	180**
	D+L (Deflection)	25	30	40	51	63	76	100	126	49	60	79	99
	L (Deflection)	18	22	29	37	43	53	69	87	34	42	55	69
10' - 6"	$\alpha_D D + \alpha_L L$ (Strength)	63	81	106	134	60**	77**	103**	129**	75**	97**	129**	162**
	D+L (Deflection)	21	26	34	43	54	65	86	108	42	51	68	85
	L (Deflection)	16	19	25	32	38	45	60	75	30	36	48	60
11' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	57	73	97	121	54**	70**	93**	117**	68**	88**	117**	148**
	D+L (Deflection)	18	22	29	37	47	57	75	94	37	44	58	73
	L (Deflection)	14	17	22	28	33	40	52	66	26	31	41	52
11' - 6"	$\alpha_D D + \alpha_L L$ (Strength)	52	67	88	111	50**	64**	85**	107**	63**	80**	107**	135**
	D+L (Deflection)	16	19	25	32	41	49	65	82	32	38	51	64
	L (Deflection)	12	15	19	24	29	35	46	57	23	27	36	45
12' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	48	61	80	101	46**	58**	78**	98**	57**	73**	98**	123**
	D+L (Deflection)	14	16	22	27	35	43	57	71	28	33	44	55
	L (Deflection)	11	13	17	21	25	30	40	50	20	24	32	40
12' - 6"	$\alpha_D D + \alpha_L L$ (Strength)	44	56	74	93	42**	53**	71**	90**	53**	67**	90**	113**
	D+L (Deflection)	12	14	19	24	31	38	50	62	24	29	39	49
	L (Deflection)	9	11	15	19	22	27	36	45	18	21	28	35
13' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	40	51	68	85	39**	49**	66**	83**	49**	62**	83**	104**
	D+L (Deflection)	10	12	16	21	27	33	44	55	21	26	34	43
	L (Deflection)	8	10	13	17	20	24	32	40	16	19	25	31
13' - 6"	$\alpha_D D + \alpha_L L$ (Strength)	37	47	63	79	36**	45**	61**	76**	45**	57**	77**	96**
	D+L (Deflection)	9	11	14	18	24	29	39	49	19	23	30	38
	L (Deflection)	7	9	12	15	18	21	28	35	14	17	22	28
14' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	34	44	58	73	33**	42**	56**	70**	42**	53**	71**	89**
	D+L (Deflection)	8	9	12	16	21	26	34	43	17	20	26	33
	L (Deflection)	7	8	11	13	16	19	25	32	13	15	20	25
14' - 6"	$\alpha_D D + \alpha_L L$ (Strength)	32	41	54	67	31**	39**	52**	65**	39**	49**	66**	83**
	D+L (Deflection)	7	8	11	14	19	23	31	38	15	18	23	29
	L (Deflection)	6	7	10	12	14	17	23	29	11	14	18	23
15' - 0"	$\alpha_D D + \alpha_L L$ (Strength)	30	38	50	63	28**	36**	48**	61**	36**	46**	61**	77**
	D+L (Deflection)	6	7	9	12	17	21	27	34	13	16	21	26
	L (Deflection)	5	7	9	11	13	16	21	26	10	12	16	20

8' - 6"	$\alpha_D D + \alpha_L L$ (Strength)	98	← Max. superimposed factored LSD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	42	← Max. superimposed unfactored LSD dead + live load (psf) (governed by deflection limitation of L/240)
	L (Deflection)	30	← Max. superimposed unfactored LSD live load (psf) (governed by deflection limitation of L/360)

Vertical load span (center to center spacing)

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|----------------------|---|------------|--|
| Wd | Weight of deck (uncoated), psf | Rbe | Allowable exterior web crippling value per foot of deck width, pif |
| Ip | Moment of inertia for positive bending per foot of deck width, (in ⁴)/ft | Rbi | Allowable interior web crippling value per foot of deck width, pif |
| In | Moment of inertia for negative bending per foot of deck width, (in ⁴)/ft | Va | Allowable shear value per foot of deck width, pif |
| Sp | Section modulus for positive bending per foot of deck width, (in ³)/ft | D | Uniform dead load, psf |
| Sn | Section modulus for negative bending per foot of deck width, (in ³)/ft | L | Uniform live load, psf |
| α_D, α_L | Load factors for D & L loads to be applied by Engineer in accordance with Building Codes. | | |

- Notes:**
- Bending strength based on allowable flexural stress of 36 ksi.
 - Loads marked with asterisk (*) are governed by interior reactions (web crippling) assuming 4" of interior bearing.
 - Loads marked with two asterisks (**) are governed by moment & shear or moment & reactions (web crippling) assuming 4" of interior bearing.
 - 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).
Loads are calculated in accordance with requirements of CSSBI 10M-06. *Standard for Steel Roof Deck*.
Acoustical profile is also available.