Metal Dek Group® a unit of CSI®

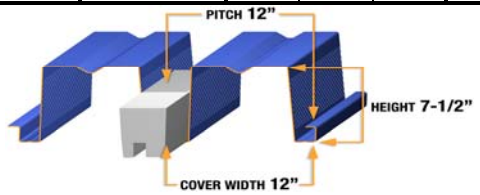
DEEP-DEK® 7.5 ACOUSTICAL ROOF (LRFD)

7-1/2" high x 12" pitch x 12" wide

SECTION PROPERTIES

fy=40 ksi

GAGE	Wd	I_D (DEFLECTION)	Sp	Sn	Rbe			Rbi			Va
					4"	5"	6"	4"	5"	6"	
20	3.52	8.437	1.702	1.900	646	662	675	1092	1175	1251	1686
18	4.66	11.421	2.754	2.722	1235	1261	1285	1808	1940	2060	3919
16	5.87	14.454	3.568	3.616	2080	2120	2155	2745	2937	3110	7881
14	7.33	18.042	4.512	4.512	3240	3452	3505	4096	4369	4615	15392



MAXIMUM SUPERIMPOSED UNIFORM LRFD LOADS (psf)

LRFD DESIGN

Span	Load Combinations	SINGLE SPAN				DOUBLE SPAN				TRIPLE SPAN			
		GAGE											
		20	18	16	14	20	18	16	14	20	18	16	14
17' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	72*	140*	238*	372*	55*	91*	139*	208*				
	D+L (Deflection)	72	140	187	234	55	91	139	208				
	L (Deflection)	72	102	129	161	55	91	139	208				
18' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	68*	132*	224*	344	51*	86*	131*	196*				
	D+L (Deflection)	68	124	157	196	51	86	131	196				
	L (Deflection)	63	86	108	135	51	86	131	196				
19' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	64*	124*	212*	308	48*	81*	124*	186*				
	D+L (Deflection)	64	105	132	165	48	81	124	186				
	L (Deflection)	54	73	92	115	48	81	124	186				
20' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	60*	118*	201*	277	46*	77*	117*	176*				
	D+L (Deflection)	60	89	113	141	46	77	117	176				
	L (Deflection)	46	62	79	99	46	77	117	176				
21' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	57*	112*	191*	250	43*	73*	111*	167*				
	D+L (Deflection)	53	72	92	114	43	73	111	167				
	L (Deflection)	40	54	68	85	43	73	111	167				
22' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	55*	107*	180	227	41*	69*	106*	159*				
	D+L (Deflection)	44	59	75	94	41	69	106	159				
	L (Deflection)	35	47	59	74	41	69	106	159				
23' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	52*	102*	164	207	39*	66*	101*	152*				
	D+L (Deflection)	36	49	62	77	39	66	101	152				
	L (Deflection)	30	41	52	65	39	66	101	152				
24' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	50*	97*	150	190	37*	63*	97*	145*				
	D+L (Deflection)	30	41	51	64	37	63	97	145				
	L (Deflection)	27	36	46	57	37	63	97	138				
25' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	47*	93*	138	174								
	D+L (Deflection)	25	34	43	53								
	L (Deflection)	24	32	40	51								
26' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	45*	89*	127	160								
	D+L (Deflection)	21	28	36	45								
	L (Deflection)	21	28	36	45								
27' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	44*	86*	117	148								
	D+L (Deflection)	17	24	30	37								
	L (Deflection)	17	24	30	37								
28' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	42*	83*	108	137								
	D+L (Deflection)	15	20	25	31								
	L (Deflection)	15	20	25	31								
29' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	40*	77	100	127								
	D+L (Deflection)	12	17	21	26								
	L (Deflection)	12	17	21	26								
30' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	39*	72	93	118								
	D+L (Deflection)	10	14	18	22								
	L (Deflection)	10	14	18	22								

17' - 0"	$\lambda_D D+\lambda_L L$ (Strength)	72*
	D+L (Deflection)	72
	L (Deflection)	72

- 72* — **Max. superimposed factored LRFD dead + live load (psf) (governed by strength limitation)**
- 72 — **Max. superimposed unfactored LRFD dead + live load (psf) (governed by deflection limitation of L/240 or 1")**
- 72 — **Max. superimposed unfactored LRFD live load (psf) (governed by deflection limitation of L/360 or 1")**
- 17' - 0" — **Vertical load span (center to center spacing)**

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

Notes:
1. Bending strength based on allowable flexural stress of 38 ksi.
2. Loads marked with asterisk (*) are governed by moment & shear, interior (6" bearing) and exterior (4" bearing) reactions (web crippling) or applied moment & reactions.
3. An upper limit of 400 psf has been applied to the loads.
4. 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).

REV: 12/09