

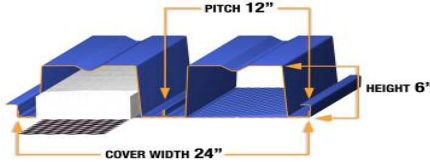
DEEP-DEK® 6 CELLULAR ACOUSTICAL ROOF (ASD)

6" high x 12" pitch x 24" wide

SECTION PROPERTIES

fy=40 ksi

GAGE	Wd	I _b (DEFLECTION)	Sp	Sn	Rbe			Rbi			Va
					4"	5"	6"	4"	5"	6"	
20/20	4.66	8.298	1.629	2.191	552	600	642	1010	1087	1156	1393
20/18	5.19	8.950	1.630	2.268	552	600	642	1010	1087	1156	1393
18/20	5.65	10.734	2.531	2.845	940	1018	1087	1682	1803	1913	3240
18/18	6.18	11.589	2.519	2.937	940	1018	1087	1682	1803	1913	3240
18/16	6.73	12.274	2.514	3.023	940	1018	1087	1682	1803	1913	3240



ASD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM ASD LOADS (psf)														
Span	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
15' - 0"	D+L (Strength)	69*	68*	120*	119*	119*	57*	56*	85*	86*	86*	65*	65*	99*	99*	100*
	D+L (Deflection)	69	68	120	119	119	57	56	85	86	86	65	65	99	99	100
	L (Deflection)	69	68	120	119	119	57	56	85	86	86	65	65	99	99	100
16' - 0"	D+L (Strength)	64*	64*	112*	111*	111*	53*	53*	78*	79*	79*	61*	60*	91*	92*	92*
	D+L (Deflection)	64	64	112	111	111	53	53	78	79	79	61	60	91	92	92
	L (Deflection)	64	64	112	111	111	53	53	78	79	79	61	60	91	92	92
17' - 0"	D+L (Strength)	60*	60*	105*	104*	104*	50*	49*	73*	73*	73*					
	D+L (Deflection)	60	60	105	104	104	50	49	73	73	73					
	L (Deflection)	60	60	96	103	104	50	49	73	73	73					
18' - 0"	D+L (Strength)	57*	56*	99*	98*	98*	47*	46*	67*	68*	68*					
	D+L (Deflection)	57	56	99	98	98	47	46	67	68	68					
	L (Deflection)	57	56	81	87	92	47	46	67	68	68					
19' - 0"	D+L (Strength)	53*	53*	93*	93*	92*	44*	43*	63*	63*	63*					
	D+L (Deflection)	53	53	93	93	92	44	43	63	63	63					
	L (Deflection)	53	53	69	74	78	44	43	63	63	63					
20' - 0"	D+L (Strength)	51*	50*	88*	88*	87*	41*	41*	58*	59*	59*					
	D+L (Deflection)	51	50	82	88	87	41	41	58	59	59					
	L (Deflection)	45	49	59	63	67	41	41	58	59	59					
21' - 0"	D+L (Strength)	48*	47*	84*	83*	83*	38*	38*	55*	55*	55*					
	D+L (Deflection)	48	47	67	72	76	38	38	55	55	55					
	L (Deflection)	39	42	51	55	58	38	38	55	55	55					
22' - 0"	D+L (Strength)	46*	45*	78*	77*	76*	36*	36*	51*	51*	52*					
	D+L (Deflection)	42	45	55	59	62	36	36	51	51	52					
	L (Deflection)	34	36	44	48	50	36	36	51	51	52					
23' - 0"	D+L (Strength)	43*	43*	71*	70*	69*	34*	34*	48*	48*	48*					
	D+L (Deflection)	34	36	45	48	51	34	34	48	48	48					
	L (Deflection)	30	32	39	42	44	34	34	48	48	48					
24' - 0"	D+L (Strength)	41	40	65	64	63	32*	32*	45*	45*	46*					
	D+L (Deflection)	28	30	37	40	42	32	32	45	45	46					
	L (Deflection)	26	28	34	37	39	32	32	45	45	46					
25' - 0"	D+L (Strength)	37	37	59	58	58										
	D+L (Deflection)	23	25	30	33	35										
	L (Deflection)	23	25	30	32	34										
26' - 0"	D+L (Strength)	34	33	54	53	53										
	D+L (Deflection)	19	20	25	27	29										
	L (Deflection)	19	20	25	27	29										
27' - 0"	D+L (Strength)	31	31	50	49	48										
	D+L (Deflection)	16	17	21	22	24										
	L (Deflection)	16	17	21	22	24										
28' - 0"	D+L (Strength)	29	28	46	45	45										
	D+L (Deflection)	13	14	17	19	19										
	L (Deflection)	13	14	17	19	19										

15' - 0"	D+L (Strength)	69*	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	69	← Max. superimposed ASD dead + live load (psf) (governed by deflection limitation of L/240 or 1")
	L (Deflection)	69	← Max. superimposed ASD live load (psf) (governed by deflection limitation of L/360 or 1")

Vertical load span (center to center spacing)

- Wd** Weight of deck (uncoated), psf
- I_b** Moment of inertia for deflection per foot of deck width (in⁴/ft)
- Sp** Section modulus for positive bending per foot of deck width, (in³/ft)
- Sn** Section modulus for negative bending per foot of deck width, (in³/ft)
- Va** Allowable shear value per foot of deck width, plf
- Rbe** Allowable exterior web crippling value per foot of deck width, plf
- Rbi** Allowable interior web crippling value per foot of deck width, plf
- D** Uniform dead load, psf
- L** Uniform live load, psf

- Notes:**
- Bending strength based on allowable flexural stress of 24 ksi.
 - Loads marked with asterisk (*) are governed by moment & shear, interior (6" bearing) and exterior (4" bearing) reactions (web crippling) or applied moment & reactions.
 - 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).

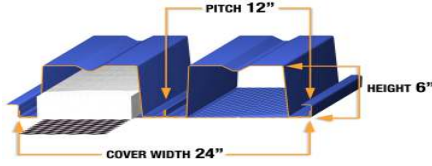
DEEP-DEK® 6 CELLULAR ACOUSTICAL ROOF (ASD)

6" high x 12" pitch x 24" wide

SECTION PROPERTIES

fy=40 ksi

GAGE	Wd	I _b (DEFLECTION)	S _p	S _n	R _{be}			R _{bi}			V _a
					4"	5"	6"	4"	5"	6"	
16/18	7.23	13.830	3.587	3.641	1452	1567	1671	2565	2741	2900	6519
16/16	7.79	14.756	3.624	3.743	1452	1567	1671	2565	2741	2900	6519
16/14	8.46	15.736	3.606	3.843	1452	1567	1671	2565	2741	2900	6519
14/16	9.06	17.359	4.750	4.594	2193	2360	2512	3841	4092	4319	10505
14/14	9.73	18.491	4.836	4.716	2193	2360	2512	3841	4092	4319	10505



ASD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM ASD LOADS (psf)														
Span	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
17' - 0"	D+L (Strength)	164*	163*	162*	249*	248*	98*	98*	99*	129*	130*					
	D+L (Deflection)	164	163	162	223	237	98	98	99	129	130					
	L (Deflection)	123	131	140	155	165	98	98	99	129	130					
18' - 0"	D+L (Strength)	154*	154*	153*	226	229	91*	91*	91*	120*	120*					
	D+L (Deflection)	148	154	153	186	198	91	91	91	120	120					
	L (Deflection)	104	111	118	130	139	91	91	91	120	120					
19' - 0"	D+L (Strength)	146*	145*	144*	201	205	84*	85*	85*	111*	112*					
	D+L (Deflection)	125	133	142	157	167	84	85	85	111	112					
	L (Deflection)	88	94	100	111	118	84	85	85	111	112					
20' - 0"	D+L (Strength)	136	137	136	181	184	78*	79*	79*	103*	104*					
	D+L (Deflection)	106	113	121	133	142	78	79	79	103	104					
	L (Deflection)	76	81	86	95	101	78	79	79	103	104					
21' - 0"	D+L (Strength)	123	124	122	163	166	73*	74*	74*	96*	97*					
	D+L (Deflection)	86	92	98	108	115	73	74	74	96	97					
	L (Deflection)	65	70	74	82	87	73	74	74	96	97					
22' - 0"	D+L (Strength)	111	112	111	148	150	69*	69*	69*	90*	90*					
	D+L (Deflection)	70	75	80	88	94	69	69	69	90	90					
	L (Deflection)	57	61	65	71	76	69	69	69	90	90					
23' - 0"	D+L (Strength)	101	102	101	135	137	64*	65*	65*	84*	85*					
	D+L (Deflection)	58	61	65	72	77	64	65	65	84	85					
	L (Deflection)	50	53	57	62	67	64	65	65	84	85					
24' - 0"	D+L (Strength)	92	93	92	123	125	60*	61*	61*	79*	79*					
	D+L (Deflection)	48	51	54	60	63	60	61	61	79	79					
	L (Deflection)	44	47	50	55	59	60	61	61	79	79					
25' - 0"	D+L (Strength)	85	85	84	113	114										
	D+L (Deflection)	39	42	44	49	52										
	L (Deflection)	39	41	44	49	52										
26' - 0"	D+L (Strength)	78	78	77	103	105										
	D+L (Deflection)	33	35	37	41	43										
	L (Deflection)	33	35	37	41	43										
27' - 0"	D+L (Strength)	71	72	71	95	96										
	D+L (Deflection)	27	29	30	34	36										
	L (Deflection)	27	29	30	34	36										
28' - 0"	D+L (Strength)	66	66	65	88	89										
	D+L (Deflection)	22	24	25	28	30										
	L (Deflection)	22	24	25	28	30										
29' - 0"	D+L (Strength)	61	61	60	81	82										
	D+L (Deflection)	18	20	21	23	25										
	L (Deflection)	18	20	21	23	25										
30' - 0"	D+L (Strength)	57	57	56	75	76										
	D+L (Deflection)	15	16	17	19	20										
	L (Deflection)	15	16	17	19	20										

17' - 0"	D+L (Strength)	164*	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	164	← Max. superimposed ASD dead + live load (psf) (governed by deflection limitation of L/240 or 1")
	L (Deflection)	123	← Max. superimposed ASD live load (psf) (governed by deflection limitation of L/360 or 1")

Vertical load span (center to center spacing)

Wd Weight of deck (uncoated), psf

I_b Moment of inertia for deflection per foot of deck width (in⁴/ft)

S_p Section modulus for positive bending per foot of deck width, (in³/ft)

S_n Section modulus for negative bending per foot of deck width, (in³/ft)

V_a Allowable shear value per foot of deck width, plf

R_{be} Allowable exterior web crippling value per foot of deck width, plf

R_{bi} Allowable interior web crippling value per foot of deck width, plf

D Uniform dead load, psf

L Uniform live load, psf

- Notes:**
- Bending strength based on allowable flexural stress of 24 ksi.
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