

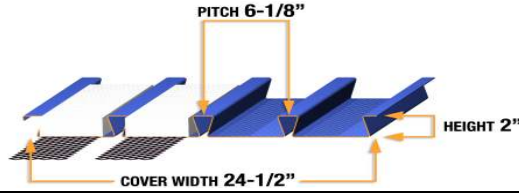
## VERSA-DEK® S ACOUSTICAL ROOF (ASD)

2" high x 6-1/8" pitch x 24-1/2" wide

### SECTION PROPERTIES

fy=40 ksi

GAGE	Wd	I <sub>b</sub> (DEFLECTION)	S <sub>p</sub>	S <sub>n</sub>	R <sub>be</sub>			R <sub>bi</sub>			V <sub>a</sub>
					2"	3"	4"	3"	4"	5"	
22	2.05	0.385	0.284	0.267	712	820	910	1271	1395	1505	2949
20	2.48	0.469	0.357	0.336	1013	1162	1287	1811	1981	2131	3562
18	3.28	0.644	0.477	0.463	1688	1923	2121	3020	3289	3526	4676
16	4.14	0.788	0.606	0.599	2574	2915	3204	4613	5003	5346	5844



ASD DESIGN		MAXIMUM SUPERIMPOSED UNIFORM ASD 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"	D+L (Strength)	61	76	102	130	54*	67*	92*	118*	64*	80*	110*	141*
	D+L (Deflection)	39	48	66	80	54	67	92	118	64	80	110	141
	L (Deflection)	27	33	46	56	54	67	92	118	52	63	87	106
9' - 0"	D+L (Strength)	54	68	91	116	49*	61*	84*	108*	58*	73*	100*	129*
	D+L (Deflection)	33	40	55	67	49	61	84	108	58	73	100	129
	L (Deflection)	23	28	39	47	49	61	84	108	44	53	73	89
9' - 6"	D+L (Strength)	48	61	81	103	45*	56*	77*	99*	54*	67*	92*	118*
	D+L (Deflection)	27	33	46	56	45	56	77	99	54	65	90	110
	L (Deflection)	20	24	33	40	45	56	77	97	37	45	62	76
10' - 0"	D+L (Strength)	43	55	73	93	40*	51*	70*	91*	50*	62*	85*	109*
	D+L (Deflection)	23	28	39	48	40	51	70	91	46	55	76	93
	L (Deflection)	17	21	28	35	40	49	68	83	32	39	53	65
10' - 6"	D+L (Strength)	39	49	66	84	37*	46*	64*	82*	46*	58*	79*	101*
	D+L (Deflection)	20	24	33	41	37	46	64	82	39	48	66	80
	L (Deflection)	15	18	24	30	35	43	59	72	27	33	46	56
11' - 0"	D+L (Strength)	36	45	60	76	33*	42*	58*	75*	42*	53*	73*	93*
	D+L (Deflection)	17	21	29	35	33	42	58	75	34	41	57	69
	L (Deflection)	13	15	21	26	30	37	51	62	24	29	40	49
11' - 6"	D+L (Strength)	32	41	54	69	30*	38*	53*	68*	38*	48*	66*	86*
	D+L (Deflection)	15	18	25	30	30	38	53	68	29	36	49	60
	L (Deflection)	11	13	19	23	27	32	45	55	21	25	35	43
12' - 0"	D+L (Strength)	30	37	50	63	28*	35*	48*	62*	35*	44*	61*	79*
	D+L (Deflection)	13	15	21	26	28	35	48	62	26	31	43	52
	L (Deflection)	10	12	16	20	23	29	39	48	18	22	31	38
12' - 6"	D+L (Strength)	27	34	46	58	25*	32*	44*	57*	32*	40*	56*	72*
	D+L (Deflection)	11	13	18	22	25	32	44	57	22	27	38	46
	L (Deflection)	9	11	14	18	21	25	35	43	16	20	27	33
13' - 0"	D+L (Strength)	25	31	42	53	23*	29*	40*	52*	29*	37*	51*	66*
	D+L (Deflection)	9	12	16	19	23	29	40	52	20	24	33	40
	L (Deflection)	8	9	13	16	18	22	31	38	14	18	24	30
13' - 6"	D+L (Strength)	23	29	39	49	21*	27*	37*	48*	27*	34*	47*	61*
	D+L (Deflection)	8	10	14	17	21	27	37	47	17	21	29	35
	L (Deflection)	7	8	11	14	16	20	28	34	13	16	22	26
14' - 0"	D+L (Strength)	21	27	36	45	20*	25*	34*	45*	25*	32*	44*	57*
	D+L (Deflection)	7	9	12	15	20	25	34	41	15	19	26	31
	L (Deflection)	6	7	10	13	15	18	25	30	12	14	19	24
14' - 6"	D+L (Strength)	20	25	33	42	18*	23*	32*	41*	23*	29*	41*	53*
	D+L (Deflection)	6	8	11	13	18	22	30	37	14	17	23	28
	L (Deflection)	6	7	9	11	13	16	22	27	10	13	17	21
15' - 0"	D+L (Strength)	18	23	31	39	17*	21*	30*	38*	22*	27*	38*	49*
	D+L (Deflection)	5	7	9	11	16	19	27	33	12	15	20	25
	L (Deflection)	5	6	8	10	12	15	20	25	9	11	16	19

8' - 6"	D+L (Strength)	61	← Max. superimposed ASD dead + live load (psf) (governed by strength limitation)
	D+L (Deflection)	39	← Max. superimposed ASD dead + live load (psf) (governed by deflection limitation of L/240 or 1")
	L (Deflection)	27	← 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<sub>b</sub>** Moment of inertia for deflection per foot of deck width (in<sup>4</sup>/ft)

**S<sub>p</sub>** Section modulus for positive bending per foot of deck width, (in<sup>3</sup>/ft)

**S<sub>n</sub>** Section modulus for negative bending per foot of deck width, (in<sup>3</sup>/ft)

**V<sub>a</sub>** Allowable shear value per foot of deck width, plf

**R<sub>be</sub>** Allowable exterior web crippling value per foot of deck width, plf

**R<sub>bi</sub>** 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 reactions (web crippling) or applied moment & reactions 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.