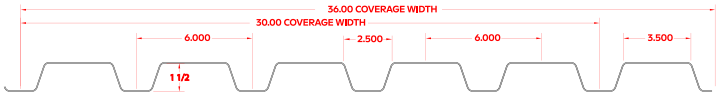
METAL DECKING SOLUTIONS

1.5 B-DECK G37



SECTION PROPERTIES (Per Foot of Width)

				Sec. Modulus		Deflection Moment of Inertia	Web Crippling Loads		Web Crippling Data			
				Midspan	Support							
Base Steel Thickness (in.)	GAGE	Yield Stress (ksi)	Weight G90 (psf)	S_{pos} (in^3)	S_{neg} (in^3)	I_{xd} (in^4)	N = 1.5" P_e (lb)	N = 3" P_i (lb)	P_{e1} End (lb)	P_{e2} End (lb)	P_{i1} Interior (lb)	P_{i2} Interior (lb)
0.0239	24	37	1.36	0.137	0.140	0.124	403	700	135	33.8	241	40.9
0.0295	22	37	1.66	0.172	0.183	0.163	594	1047	214	53.4	386	65.6
0.0358	20	37	2.01	0.213	0.225	0.206	849	1510	324	81.0	591	100

ALLOWABLE UNIFORMLY DISTRIBUTED LOADS (psf)

Span Lenght (ft.)		MAX CO. CANTILEVER SPAN (ft-in.)	5.0		5.5		6.0		6.5		7.0		7.5		8.0		8.5		9.0		9.5		10.0	
			S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D
1- SPAN Bas Steel Thickness (in.)	24	5' 0"	81	65	67	49	56	38	48	30	41	24	36	19	32	16	28	13	25	11	22	10	20	8
	22	6' 4"	102	85	84	64	71	49	60	39	52	31	45	25	40	21	35	17	31	15	28	12	25	11
	20	7' 10"	126	108	104	81	87	63	74	49	64	39	56	32	49	26	43	22	39	19	35	16	31	14
2- SPAN Bas Steel Thickness (in.)	24	6' 2"	83	155	68	117	57	90	49	71	42	57	37	46	32	38	29	32	25	27	23	23	21	19
	22	7' 9"	108	203	89	153	75	118	64	93	55	74	48	60	42	50	37	41	33	35	30	30	27	25
	20	9' 7"	133	258	110	193	92	149	79	117	68	94	59	76	52	63	46	52	41	44	37	38	33	32
3- SPAN Bas Steel Thickness (in.)	24	6' 3"	103	123	85	92	72	71	61	56	53	45	46	36	40	30	36	25	32	21	29	18	26	15
	22	7' 11"	135	161	111	121	94	93	80	73	69	59	60	48	53	39	47	33	42	28	37	23	34	20
	20	9' 9"	166	204	137	153	116	118	98	93	85	74	74	60	65	50	58	42	51	35	46	30	42	26

Notes:

1 Based on ASTM A 653 structural steel.
2 Values in row "S" are based on strength.
3 Values in row "D" are based on deflection of SPAN LENGTH/240.
4 Pe = Allowable end web crippling load based on N = 1.5 in.
5 Pi = Allowable interior web crippling load based on N = 3.0 in.
6 Web crippling not included in strength calculations. See Example.
7 If bearing lengths are less than specified, see Example for use of web crippling data.
8 MAX CO. SPAN = Maximum construction span based on 200 lb concentrated load per foot of deck (ANSI/SDI RD-2017).
9 CANTIL. SPAN = Maximum construction cantilever span based on Eq. 2.4.3 of (ANSI/SDI RD-2017).
10 Allowable Strength Design (ASD) principles were used in accordance with AISI S100-16.
Prepared by Dr. R.M. Schuster, P.E., Distinguished Professor Emeritus, University of Waterloo.

GAGE	CANTILEVER SPAN
24	1' 3"
22	1' 7"
20	2' 0"