

RD-156

ROOF DECK

SECTION PROPERTIES (Per Foot of Width)

IMPERIAL

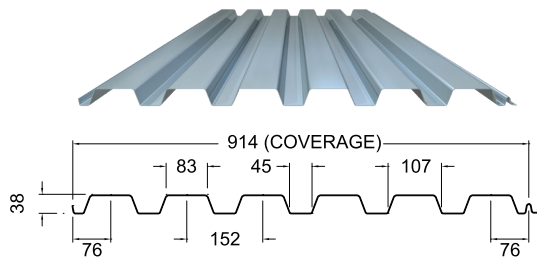
THICKNESS		Yield Strength (ksi)	Coated Steel Thickness (G90) (in)	Coated Mass (psf)	Section Modulus		Deflection Moment of Inertia (in ⁴)	Specified Web Crippling Data			
Gauge	Base (in)				Midspan (in ³)	Support (in ³)		Pe1 End (lb)	Pe2 End (lb)	Pi1 Interior (lb)	Pi2 Interior (lb)
22	0.030	33	0.0315	1.697	0.190	0.183	0.164	175.2	43.8	308	52.3
20	0.036	33	0.0375	2.025	0.230	0.232	0.202	295.7	64.9	460	78.2
18	0.048	33	0.0495	2.682	0.310	0.317	0.276	480.5	120.1	860	146.1
16	0.060	33	0.0615	3.338	0.386	0.387	0.342	771.4	192.8	1388	236.0

MAXIMUM UNIFORMLY DISTRIBUTED SPECIFIED LOAD (psf)

SPAN LENGTH (ft)		1 - SPAN				2 - SPAN				3 - SPAN			
		BASE STEEL THICKNESS (in)				BASE STEEL THICKNESS (in)				BASE STEEL THICKNESS (in)			
		0.030	0.036	0.048	0.060	0.030	0.036	0.048	0.060	0.030	0.036	0.048	0.060
3.0	S	279	338	454	565	269	341	464	568	336	426	580	710
	D	396	490	669	828	951	1177	1606	1987	749	927	1265	1565
3.5	S	205	248	334	415	197	250	341	417	247	313	426	521
	D	250	309	422	521	599	741	1012	1251	472	584	797	985
4.0	S	157	190	255	318	151	192	261	319	189	240	327	399
	D	167	207	282	349	401	497	678	838	316	391	534	660
4.5	S	124	150	202	251	119	151	206	252	149	189	258	315
	D	117	145	198	245	282	349	476	589	222	275	375	464
5.0	S	100	122	163	204	97	123	167	204	121	153	209	256
	D	86	106	145	179	205	254	347	429	162	200	273	338
5.5	S	83	101	135	168	80	101	138	169	100	127	173	211
	D	64	80	109	134	154	191	261	322	122	150	205	254
6.0	S	70	84	114	141	67	85	116	142	84	107	145	177
	D	50	61	84	103	119	147	201	248	94	116	158	196
6.5	S	59	72	97	120	57	73	99	121	72	91	124	151
	D	39	48	66	81	94	116	158	195	74	91	124	154
7.0	S	51	62	83	104	49	63	85	104	62	78	107	130
	D	31	39	53	65	75	93	126	156	59	73	100	123
7.5	S	45	54	73	90	43	55	74	91	54	68	93	114
	D	25	31	43	53	61	75	103	127	48	59	81	100
8.0	S	39	48	64	80	38	48	65	80	47	60	82	100
	D	21	26	35	44	50	62	85	105	39	49	67	83
8.5	S	35	42	57	70	33	42	58	71	42	53	72	88
	D	17	22	29	36	42	52	71	87	33	41	56	69
9.0	S	31	38	50	63	30	38	52	63	37	47	64	79
	D	15	18	25	31	35	44	59	74	28	34	47	58
9.5	S	28	34	45	56	27	34	46	57	34	42	58	71
	D	12	15	21	26	30	37	51	63	24	29	40	49
10.0	S	25	30	41	51	24	31	42	51	30	38	52	64
	D	11	13	18	22	26	32	43	54	20	25	34	42
10.5	S	23	28	37	46	22	28	38	46	27	35	47	58
	D	9	11	16	19	22	27	37	46	17	22	30	36

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 1/240th span.
 4. Web crippling not included in strength calculations. Limit States Design principles were used in accordance with CSA Standard S136-12 load table.
- Prepared by Dr. R.M.Schuster P.Eng University of Waterloo, Ontario, Canada.

STEELWAY
BUILDING SYSTEMS



RD-156

ROOF DECK

SECTION PROPERTIES (Per Metre of Width)

METRIC

THICKNESS		Yield Strength (MPa)	Coated Steel Thickness (Z275) (mm)	Coated Mass (kg/m ²)	Section Modulus		Deflection Moment of Inertia (x10 ⁶ mm ⁴)	Specified Web Crippling Data			
Gauge	Base (mm)				Midspan (x10 ³ mm ³)	Support (x10 ³ mm ³)		Pe1 End (kN)	Pe2 End (kN)	Pi1 Interior (kN)	Pi2 Interior (kN)
22	0.762	230	0.802	8.3	10.3	10.0	0.23	2.584	0.646	4.539	0.772
20	0.914	230	0.954	9.9	12.4	12.6	0.29	3.831	0.958	6.784	1.153
18	1.219	230	1.259	13.1	16.7	17.0	0.38	7.089	1.772	12.683	2.156
16	1.524	230	1.564	16.3	20.8	20.8	0.47	11.380	2.845	20.484	3.482

MAXIMUM UNIFORMLY DISTRIBUTED SPECIFIED LOAD (kPa)

SPAN LENGTH (m)		1 - SPAN				2 - SPAN				3 - SPAN			
		BASE STEEL THICKNESS (mm)				BASE STEEL THICKNESS (mm)				BASE STEEL THICKNESS (mm)			
		0.762	0.914	1.219	1.524	0.762	0.914	1.219	1.524	0.762	0.914	1.219	1.524
1.0	S	11.33	13.72	18.42	22.93	10.99	13.92	18.79	22.98	13.74	17.40	23.49	28.72
	D	15.04	18.54	24.81	30.32	36.11	44.51	59.55	72.77	28.43	35.05	46.89	57.31
1.2	S	7.86	9.53	12.79	15.92	7.63	9.67	13.05	15.96	9.54	12.09	16.31	19.95
	D	8.71	10.73	14.36	17.55	20.89	25.76	34.46	42.11	16.45	20.28	27.14	33.17
1.4	S	5.78	7.00	9.40	11.70	5.61	7.10	9.59	11.72	7.01	8.88	11.99	14.65
	D	5.48	6.76	9.04	11.05	13.16	16.22	21.70	26.52	10.36	12.77	17.09	20.89
1.6	S	4.42	5.36	7.20	8.96	4.29	5.44	7.34	8.98	5.37	6.80	9.18	11.22
	D	3.67	4.53	6.06	7.40	8.81	10.87	14.54	17.77	6.94	8.56	11.45	13.99
1.8	S	3.50	4.23	5.69	7.08	3.39	4.30	5.80	7.09	4.24	5.37	7.25	8.86
	D	2.58	3.18	4.25	5.20	6.19	7.63	10.21	12.48	4.88	6.01	8.04	9.83
2.0	S	2.83	3.43	4.61	5.73	2.75	3.48	4.70	5.74	3.43	4.35	5.87	7.18
	D	1.88	2.32	3.10	3.79	4.51	5.56	7.44	9.10	3.55	4.38	5.86	7.16
2.2	S	2.34	2.83	3.81	4.74	2.27	2.88	3.88	4.75	2.84	3.60	4.85	5.93
	D	1.41	1.74	2.33	2.85	3.39	4.18	5.59	6.83	2.67	3.29	4.40	5.38
2.4	S	1.97	2.38	3.20	3.98	1.91	2.42	3.26	3.99	2.39	3.02	4.08	4.99
	D	1.09	1.34	1.79	2.19	2.61	3.22	4.31	5.26	2.06	2.54	3.39	4.15
2.6	S	1.68	2.03	2.73	3.39	1.63	2.06	2.78	3.40	2.03	2.57	3.48	4.25
	D	0.86	1.06	1.41	1.73	2.05	2.53	3.39	4.14	1.62	1.99	2.67	3.26
2.8	S	1.44	1.75	2.35	2.92	1.40	1.78	2.40	2.93	1.75	2.22	3.00	3.66
	D	0.69	0.84	1.13	1.38	1.64	2.03	2.71	3.32	1.30	1.60	2.14	2.61
3.0	S	1.26	1.52	2.05	2.55	1.22	1.55	2.09	2.55	1.53	1.93	2.61	3.19
	D	0.56	0.69	0.92	1.12	1.34	1.65	2.21	2.70	1.05	1.30	1.60	2.14
3.2	S	1.11	1.34	1.80	2.24	1.07	1.36	1.84	2.24	1.34	1.70	2.29	2.80
	D	0.46	0.57	0.76	0.93	1.10	1.36	1.82	2.22	0.87	1.07	1.43	1.75
3.4	S	0.98	1.19	1.59	1.98	0.95	1.20	1.63	1.99	1.19	1.51	2.03	2.48
	D	0.38	0.47	0.63	0.77	0.92	1.13	1.52	1.85	0.72	0.89	1.19	1.46
3.6	S	0.87	1.06	1.42	1.77	0.85	1.07	1.45	1.77	1.06	1.34	1.81	2.22
	D	0.32	0.40	0.53	0.65	0.77	0.95	1.28	1.56	0.61	0.75	1.01	1.23
3.8	S	0.78	0.95	1.28	1.59	0.76	0.96	1.30	1.59	0.95	1.21	1.63	1.99
	D	0.27	0.34	0.45	0.55	0.66	0.81	1.09	1.33	0.52	0.64	0.85	1.04
4.0	S	0.71	0.86	1.15	1.43	0.69	0.87	1.17	1.44	0.86	1.09	1.47	1.80
	D	0.24	0.29	0.39	0.47	0.56	0.70	0.93	1.14	0.44	0.55	0.73	0.90

1. Based on ASTM A 653M Structural steel.
 2. Values in row "S" are based on strength.
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 4. Web crippling not included in strength calculations. Limit States Design principles were used in accordance with CSA Standard S136-12 load table.
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