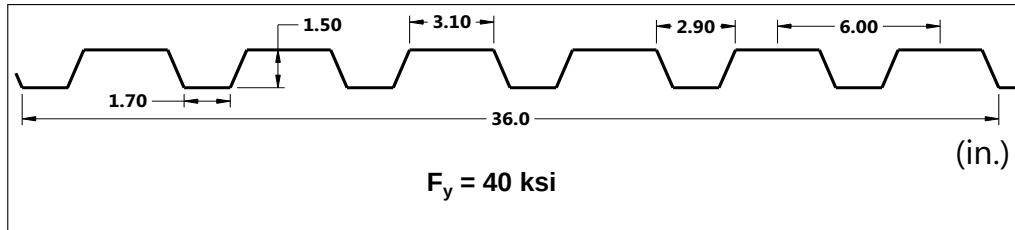


ACCUFORM METAL LTD.

AFRD 15-36AC ROOF DECK



SECTION PROPERTIES (PER FOOT OF WIDTH)

IMPERIAL	Base Steel Thickness (in.)	Weight G90 (psf)	Yield Stress, F_y (ksi)	Sec. Modulus		Deflection Moment of Inertia (in ⁴)	Factored Web Crippling Data			
				Midspan	Support		P_{e1} End (lb)	P_{e2} End (lb)	P_{i1} Interior (lb)	P_{i2} Interior (lb)
				(in ³)	(in ³)					
	0.030	1.69	40	0.182	0.183	0.168	326	81.4	624	106
	0.036	2.02	40	0.231	0.233	0.212	481	120	921	156
	0.048	2.67	40	0.314	0.325	0.294	887	222	1691	288
	0.060	3.32	40	0.397	0.402	0.367	1419	355	2702	459

FACTORED STRENGTH AND SPECIFIED DEFLECTION UNIFORMLY DISTRIBUTED LOADS (psf)

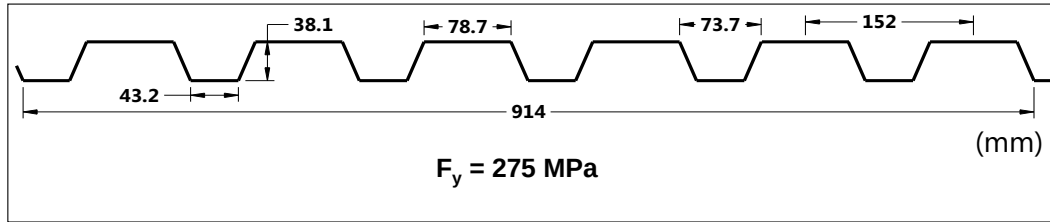
SPAN LENGTH (ft)		1-SPAN					2-SPAN					3-SPAN				
		BASE STEEL THICKNESS (in.)					BASE STEEL THICKNESS (in.)					BASE STEEL THICKNESS (in.)				
		0.030	0.036	0.048	0.060		0.030	0.036	0.048	0.060		0.030	0.036	0.048	0.060	
4.0	S	259	329	448	566		261	332	463	572		326	415	578	715	
	D	172	216	300	375		413	519	720	900		325	409	567	709	
4.5	S	205	260	354	447		206	262	366	452		257	328	457	565	
	D	121	152	211	263		290	364	506	632		229	287	398	498	
5.0	S	166	210	287	362		167	213	296	366		209	266	370	458	
	D	88	111	154	192		212	266	369	461		167	209	290	363	
5.5	S	137	174	237	299		138	176	245	303		172	220	306	378	
	D	66	83	115	144		159	200	277	346		125	157	218	273	
6.0	S	115	146	199	252		116	148	206	254		145	185	257	318	
	D	51	64	89	111		122	154	213	267		96	121	168	210	
6.5	S	98	124	170	214		99	126	175	217		123	157	219	271	
	D	40	50	70	87		96	121	168	210		76	95	132	165	
7.0	S	85	107	146	185		85	108	151	187		106	136	189	234	
	D	32	40	56	70		77	97	134	168		61	76	106	132	
7.5	S	74	93	127	161		74	94	132	163		93	118	165	203	
	D	26	33	46	57		63	79	109	137		49	62	86	108	
8.0	S	65	82	112	142		65	83	116	143		81	104	145	179	
	D	22	27	38	47		52	65	90	113		41	51	71	89	
8.5	S	57	73	99	125		58	74	102	127		72	92	128	158	
	D	18	23	31	39		43	54	75	94		34	43	59	74	
9.0	S	51	65	88	112		51	66	91	113		64	82	114	141	
	D	15	19	26	33		36	46	63	79		29	36	50	62	
9.5	S	46	58	79	100		46	59	82	101		58	74	103	127	
	D	13	16	22	28		31	39	54	67		24	30	42	53	
10.0	S	41	53	72	91		42	53	74	92		52	66	93	114	
	D	11	14	19	24		26	33	46	58		21	26	36	45	
10.5	S	38	48	65	82		38	48	67	83		47	60	84	104	
	D	10	12	17	21		23	29	40	50		18	23	31	39	
11.0	S	34	43	59	75		34	44	61	76		43	55	76	95	
	D	8	10	14	18		20	25	35	43		16	20	27	34	

Notes:

- Based on ASTM A653 Grade 40 structural steel.
- Values in row "S" are based on strength.
- Values in row "D" are based on deflection of 1/240th span.
- Bending strength and stiffness considerations were based on CSSBI Sheet Steel Facts 27, September 2010.
- Web crippling strength consideration was based on CSSBI Sheet Steel Facts 30, September 2010.
- Web crippling not included in strength calculations. See Example.
- Limit States Design principles were used in accordance with CSA Standard S136-16.
- Prepared by Dr. R.M. Schuster, P. Eng., Distinguished Professor Emeritus, University of Waterloo.

ACCUFORM METAL LTD.

AFRD 15-36AC ROOF DECK



SECTION PROPERTIES (PER METRE OF WIDTH)

METRIC	Base Steel Thickness (mm)	Mass Z275 (kg/m ²)	Yield Stress, F_y (MPa)	Sec. Modulus		Deflection Moment of Inertia ($\times 10^6 \text{ mm}^4$)	Factored Web Crippling Data			
				Midspan	Support		P_{e1} End (kN)	P_{e2} End (kN)	P_{i1} Interior (kN)	P_{i2} Interior (kN)
				($\times 10^3 \text{ mm}^3$)	($\times 10^3 \text{ mm}^3$)					
	0.762	8.25	275	9.78	9.84	0.230	4.74	1.19	9.08	1.54
	0.914	9.85	275	12.4	12.5	0.289	7.00	1.75	13.4	2.28
	1.22	13.0	275	16.9	17.5	0.401	12.9	3.23	24.6	4.18
	1.52	16.2	275	21.4	21.6	0.501	20.6	5.16	39.3	6.68

FACTORED STRENGTH AND SPECIFIED DEFLECTION UNIFORMLY DISTRIBUTED LOADS (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	1.22	1.52		0.762	0.914	1.22	1.52		0.762	0.914	1.22	1.52	
1.2	S	12.8	16.2	22.1	27.9		12.9	16.4	22.8	28.2		16.1	20.5	28.5	35.3	
	D	8.65	10.9	15.1	18.8		20.8	26.1	36.2	45.2		16.3	20.5	28.5	35.6	
1.4	S	9.39	11.9	16.2	20.5		9.44	12.0	16.8	20.7		11.8	15.0	21.0	25.9	
	D	5.45	6.84	9.49	11.9		13.1	16.4	22.8	28.5		10.3	12.9	17.9	22.4	
1.6	S	7.19	9.11	12.4	15.7		7.23	9.21	12.8	15.9		9.04	11.5	16.0	19.8	
	D	3.65	4.58	6.36	7.95		8.76	11.0	15.3	19.1		6.90	8.66	12.0	15.0	
1.8	S	5.68	7.20	9.81	12.4		5.71	7.28	10.1	12.5		7.14	9.10	12.7	15.7	
	D	2.56	3.22	4.47	5.58		6.15	7.72	10.7	13.4		4.84	6.08	8.44	10.6	
2.0	S	4.60	5.83	7.95	10.0		4.63	5.90	8.21	10.2		5.78	7.37	10.3	12.7	
	D	1.87	2.35	3.26	4.07		4.48	5.63	7.81	9.76		3.53	4.43	6.15	7.69	
2.2	S	3.80	4.82	6.57	8.30		3.82	4.87	6.79	8.39		4.78	6.09	8.48	10.5	
	D	1.40	1.76	2.45	3.06		3.37	4.23	5.87	7.34		2.65	3.33	4.62	5.78	
2.4	S	3.19	4.05	5.52	6.97		3.21	4.10	5.70	7.05		4.02	5.12	7.13	8.81	
	D	1.08	1.36	1.88	2.35		2.59	3.26	4.52	5.65		2.04	2.57	3.56	4.45	
2.6	S	2.72	3.45	4.70	5.94		2.74	3.49	4.86	6.01		3.42	4.36	6.07	7.51	
	D	0.85	1.07	1.48	1.85		2.04	2.56	3.56	4.44		1.61	2.02	2.80	3.50	
2.8	S	2.35	2.97	4.06	5.12		2.36	3.01	4.19	5.18		2.95	3.76	5.24	6.47	
	D	0.68	0.85	1.19	1.48		1.63	2.05	2.85	3.56		1.29	1.62	2.24	2.80	
3.0	S	2.04	2.59	3.53	4.46		2.06	2.62	3.65	4.51		2.57	3.28	4.56	5.64	
	D	0.55	0.69	0.96	1.21		1.33	1.67	2.32	2.89		1.05	1.31	1.82	2.28	
3.2	S	1.80	2.28	3.10	3.92		1.81	2.30	3.21	3.97		2.26	2.88	4.01	4.96	
	D	0.46	0.57	0.79	0.99		1.09	1.37	1.91	2.38		0.86	1.08	1.50	1.88	
3.4	S	1.59	2.02	2.75	3.48		1.60	2.04	2.84	3.51		2.00	2.55	3.55	4.39	
	D	0.38	0.48	0.66	0.83		0.91	1.15	1.59	1.99		0.72	0.90	1.25	1.57	
3.6	S	1.42	1.80	2.45	3.10		1.43	1.82	2.53	3.13		1.78	2.28	3.17	3.92	
	D	0.32	0.40	0.56	0.70		0.77	0.97	1.34	1.67		0.61	0.76	1.06	1.32	
3.8	S	1.27	1.61	2.20	2.78		1.28	1.63	2.27	2.81		1.60	2.04	2.84	3.52	
	D	0.27	0.34	0.47	0.59		0.65	0.82	1.14	1.42		0.51	0.65	0.90	1.12	
4.0	S	1.15	1.46	1.99	2.51		1.16	1.47	2.05	2.54		1.45	1.84	2.57	3.17	
	D	0.23	0.29	0.41	0.51		0.56	0.70	0.98	1.22		0.44	0.55	0.77	0.96	

Notes:

- Based on ASTM A653M Grade 275 structural steel.
- Values in row "S" are based on strength.
- Values in row "D" are based on deflection of 1/240th span.
- Bending strength and stiffness considerations were based on CSSBI Sheet Steel Facts 27, September 2010.
- Web crippling strength consideration was based on CSSBI Sheet Steel Facts 30, September 2010.
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- Prepared by Dr. R.M. Schuster, P. Eng., Distinguished Professor Emeritus, University of Waterloo.