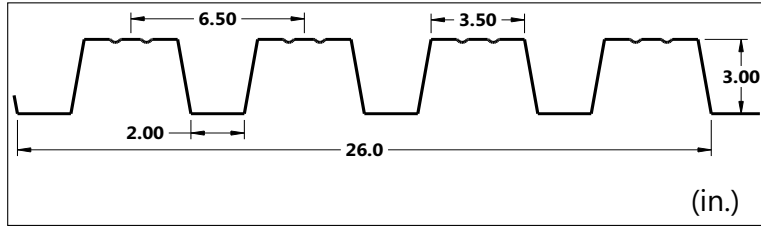


ACCUFORM METAL LTD.

AFRD 3-26AC ROOF DECK



$F_y = 40$ ksi

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	2.32	40	0.431	0.449	0.781	105	67.2	283	93.5
	0.036	2.77	40	0.554	0.567	0.981	171	109	437	144
	0.048	3.68	40	0.776	0.813	1.38	353	226	852	281
	0.060	4.58	40	0.988	1.02	1.76	603	386	1411	466

FACTORED STRENGTH AND SPECIFIED DEFLECTION UNIFORMLY DISTRIBUTED LOADS (psf)

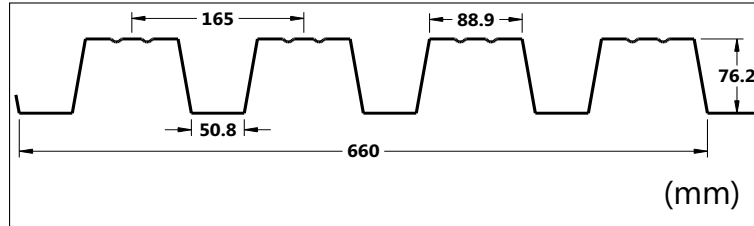
SPAN LENGTH (ft)		1-SPAN				2-SPAN				3-SPAN			
		BASE STEEL THICKNESS (in.)				BASE STEEL THICKNESS (in.)				BASE STEEL THICKNESS (in.)			
		0.030	0.036	0.048	0.060	0.030	0.036	0.048	0.060	0.030	0.036	0.048	0.060
6.0	S	259	332	466	593	269	340	488	609	336	425	610	762
	D	225	282	398	505	512	644	907	1152	403	507	714	907
6.5	S	220	283	397	505	229	290	416	519	287	362	520	649
	D	177	222	313	397	403	506	713	906	317	399	562	713
7.0	S	190	244	342	436	198	250	358	448	247	312	448	560
	D	141	178	250	318	323	405	571	725	254	319	450	571
7.5	S	166	213	298	379	172	218	312	390	215	272	390	488
	D	115	145	204	259	262	330	464	590	207	260	366	464
8.0	S	146	187	262	333	151	191	274	343	189	239	343	429
	D	95	119	168	213	216	272	383	486	170	214	301	383
8.5	S	129	166	232	295	134	169	243	304	168	212	304	380
	D	79	99	140	178	180	226	319	405	142	178	251	319
9.0	S	115	148	207	263	120	151	217	271	150	189	271	339
	D	67	84	118	150	152	191	269	341	120	150	212	269
9.5	S	103	133	186	236	107	136	195	243	134	170	243	304
	D	57	71	100	127	129	162	228	290	102	128	180	229
10.0	S	93	120	168	213	97	122	176	219	121	153	220	274
	D	49	61	86	109	111	139	196	249	87	110	154	196
10.5	S	84	108	152	194	88	111	159	199	110	139	199	249
	D	42	53	74	94	96	120	169	215	75	95	133	169
11.0	S	77	99	139	176	80	101	145	181	100	126	181	227
	D	36	46	65	82	83	104	147	187	65	82	116	147
11.5	S	70	90	127	161	73	93	133	166	92	116	166	207
	D	32	40	56	72	73	91	129	164	57	72	101	129
12.0	S	65	83	116	148	67	85	122	152	84	106	152	190
	D	28	35	50	63	64	80	113	144	50	63	89	113
12.5	S	60	77	107	137	62	78	112	140	78	98	141	176
	D	25	31	44	56	57	71	100	127	45	56	79	100
13.0	S	55	71	99	126	57	72	104	130	72	91	130	162
	D	22	28	39	50	50	63	89	113	40	50	70	89
13.5	S	51	66	92	117	53	67	96	120	66	84	120	150
	D	20	25	35	44	45	57	80	101	35	45	63	80
14.0	S	48	61	86	109	49	62	90	112	62	78	112	140
	D	18	22	31	40	40	51	71	91	32	40	56	71

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 3-26AC ROOF DECK



$F_y = 275 \text{ MPa}$

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	12.0	275	23.2	24.1	1.07	1.53	0.979	4.12	1.36
	0.914	14.3	275	29.8	30.5	1.34	2.49	1.59	6.37	2.10
	1.22	19.0	275	41.7	43.7	1.89	5.13	3.28	12.4	4.09
	1.52	23.7	275	53.1	54.6	2.40	8.78	5.62	20.5	6.77

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	
2.0	S	10.3	13.3	18.6	23.7		10.8	13.6	19.5	24.3		13.4	17.0	24.4	30.4	
	D	8.23	10.3	14.6	18.5		18.8	23.6	33.2	42.2		14.8	18.6	26.1	33.2	
2.2	S	8.54	11.0	15.4	19.6		8.88	11.2	16.1	20.1		11.1	14.0	20.1	25.1	
	D	6.18	7.77	10.9	13.9		14.1	17.7	24.9	31.7		11.1	14.0	19.6	25.0	
2.4	S	7.18	9.22	12.9	16.4		7.46	9.43	13.5	16.9		9.33	11.8	16.9	21.1	
	D	4.76	5.98	8.43	10.7		10.9	13.6	19.2	24.4		8.55	10.7	15.1	19.2	
2.5	S	6.61	8.49	11.9	15.2		6.88	8.69	12.5	15.6		8.60	10.9	15.6	19.5	
	D	4.21	5.29	7.45	9.47		9.60	12.1	17.0	21.6		7.56	9.51	13.4	17.0	
2.6	S	6.12	7.85	11.0	14.0		6.36	8.03	11.5	14.4		7.95	10.0	14.4	18.0	
	D	3.75	4.71	6.63	8.42		8.54	10.7	15.1	19.2		6.72	8.45	11.9	15.1	
2.8	S	5.27	6.77	9.48	12.1		5.48	6.93	9.94	12.4		6.86	8.66	12.4	15.5	
	D	3.00	3.77	5.31	6.74		6.84	8.59	12.1	15.4		5.38	6.77	9.53	12.1	
3.0	S	4.59	5.90	8.26	10.5		4.78	6.03	8.66	10.8		5.97	7.54	10.8	13.5	
	D	2.44	3.06	4.31	5.48		5.56	6.99	9.84	12.5		4.38	5.50	7.75	9.84	
3.2	S	4.04	5.18	7.26	9.24		4.20	5.30	7.61	9.50		5.25	6.63	9.51	11.9	
	D	2.01	2.52	3.55	4.52		4.58	5.76	8.10	10.3		3.61	4.53	6.38	8.11	
3.4	S	3.58	4.59	6.43	8.19		3.72	4.70	6.74	8.42		4.65	5.87	8.43	10.5	
	D	1.67	2.10	2.96	3.76		3.82	4.80	6.76	8.58		3.01	3.78	5.32	6.76	
3.5	S	3.37	4.33	6.07	7.73		3.51	4.43	6.36	7.94		4.39	5.54	7.95	9.93	
	D	1.54	1.93	2.72	3.45		3.50	4.40	6.19	7.87		2.76	3.46	4.88	6.20	
3.6	S	3.19	4.10	5.74	7.30		3.32	4.19	6.01	7.51		4.15	5.24	7.52	9.39	
	D	1.41	1.77	2.50	3.17		3.22	4.04	5.69	7.23		2.53	3.18	4.48	5.69	
3.8	S	2.86	3.68	5.15	6.56		2.98	3.76	5.40	6.74		3.72	4.70	6.75	8.42	
	D	1.20	1.51	2.12	2.70		2.73	3.44	4.84	6.15		2.15	2.71	3.81	4.84	
4.0	S	2.58	3.32	4.65	5.92		2.69	3.39	4.87	6.08		3.36	4.24	6.09	7.60	
	D	1.03	1.29	1.82	2.31		2.34	2.95	4.15	5.27		1.85	2.32	3.27	4.15	

Notes:

- 1 Based on ASTM A653M Grade 275 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 Bending strength and stiffness considerations were based on CSSBI Sheet Steel Facts 27, September 2010.
- 5 Web crippling strength consideration was based on CSSBI Sheet Steel Facts 30, September 2010.
- 6 Web crippling not included in strength calculations. See Example.
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