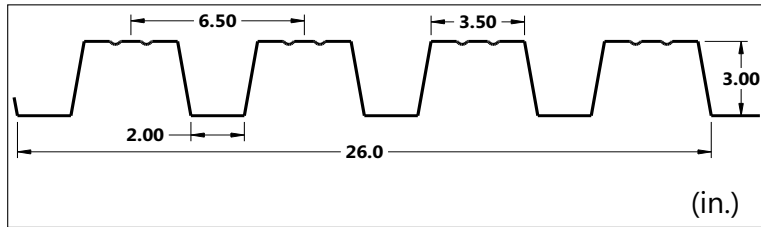


ACCUFORM METAL LTD.

AFRD 3-26AC ROOF DECK



$F_y = 33 \text{ ksi}$

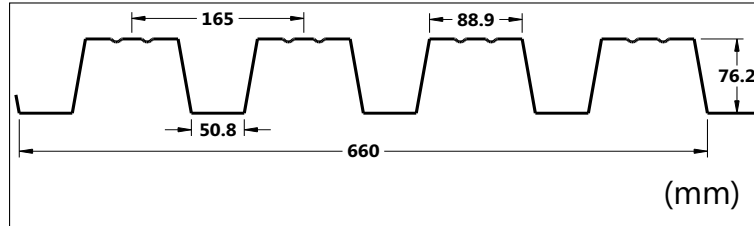
SECTION PROPERTIES (PER FOOT OF WIDTH)										
IMPERIAL	Base Steel Thickness G90 (in.)	Weight (psf)	Yield Stress, F _y (ksi)	Sec. Modulus		Deflection Moment of Inertia (in ⁴)	Factored Web Crippling Data			
				Midspan	Support		P _{e1} End (lb)	P _{e2} End (lb)	P _{i1} Interior (lb)	P _{i2} Interior (lb)
				(in ³)	(in ³)					
	0.030	2.32	33	0.447	0.461	0.801	86.7	55.5	234	77.1
	0.036	2.77	33	0.573	0.582	1.00	141	90.2	361	119
	0.048	3.68	33	0.785	0.819	1.40	291	186	703	232
	0.060	4.58	33	0.998	1.02	1.76	498	319	1164	384

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	221	283	389	494		228	288	405	503		285	360	507	628	
	D	231	289	402	505		526	658	918	1152		414	518	723	907	
6.5	S	189	242	331	421		195	246	345	428		243	307	432	535	
	D	181	227	317	397		413	518	722	906		326	408	568	714	
7.0	S	163	208	285	363		168	212	298	369		210	265	372	462	
	D	145	182	253	318		331	415	578	726		261	326	455	571	
7.5	S	142	181	249	316		146	184	259	322		183	231	324	402	
	D	118	148	206	259		269	337	470	590		212	265	370	465	
8.0	S	125	159	219	278		128	162	228	283		161	203	285	354	
	D	97	122	170	213		222	278	387	486		175	219	305	383	
8.5	S	110	141	194	246		114	144	202	251		142	180	252	313	
	D	81	102	142	178		185	232	323	405		146	182	254	319	
9.0	S	98	126	173	220		101	128	180	223		127	160	225	279	
	D	68	86	119	150		156	195	272	341		123	154	214	269	
9.5	S	88	113	155	197		91	115	162	201		114	144	202	251	
	D	58	73	101	127		132	166	231	290		104	131	182	229	
10.0	S	80	102	140	178		82	104	146	181		103	130	182	226	
	D	50	62	87	109		114	142	198	249		89	112	156	196	
10.5	S	72	93	127	161		75	94	132	164		93	118	165	205	
	D	43	54	75	94		98	123	171	215		77	97	135	169	
11.0	S	66	84	116	147		68	86	121	150		85	107	151	187	
	D	37	47	65	82		85	107	149	187		67	84	117	147	
11.5	S	60	77	106	134		62	78	110	137		78	98	138	171	
	D	33	41	57	72		75	93	130	164		59	74	103	129	
12.0	S	55	71	97	123		57	72	101	126		71	90	127	157	
	D	29	36	50	63		66	82	115	144		52	65	90	113	
12.5	S	51	65	90	114		53	66	93	116		66	83	117	145	
	D	25	32	45	56		58	73	101	127		46	57	80	100	
13.0	S	47	60	83	105		49	61	86	107		61	77	108	134	
	D	23	28	40	50		52	65	90	113		41	51	71	89	
13.5	S	44	56	77	98		45	57	80	99		56	71	100	124	
	D	20	25	35	44		46	58	81	101		36	46	63	80	
14.0	S	41	52	71	91		42	53	74	92		52	66	93	115	
	D	18	23	32	40		41	52	72	91		33	41	57	71	

- Notes:**
- Based on ASTM A653 Grade 33 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



$F_y = 230 \text{ MPa}$

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	230	24.0	24.8	1.09	1.28	0.818	3.45	1.14
	0.914	14.3	230	30.8	31.3	1.37	2.08	1.33	5.32	1.76
	1.22	19.0	230	42.2	44.0	1.91	4.29	2.75	10.4	3.42
	1.52	23.7	230	53.6	54.6	2.40	7.34	4.70	17.2	5.67

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	8.94	11.5	15.7	20.0		9.23	11.7	16.4	20.4		11.5	14.6	20.5	25.4	
	D	8.43	10.6	14.7	18.5		19.2	24.1	33.6	42.2		15.1	19.0	26.4	33.2	
2.2	S	7.39	9.47	13.0	16.5		7.63	9.63	13.6	16.8		9.53	12.0	17.0	21.0	
	D	6.33	7.93	11.1	13.9		14.4	18.1	25.2	31.7		11.4	14.2	19.9	25.0	
2.4	S	6.21	7.96	10.9	13.9		6.41	8.09	11.4	14.1		8.01	10.1	14.2	17.7	
	D	4.88	6.11	8.52	10.7		11.1	13.9	19.4	24.4		8.76	11.0	15.3	19.2	
2.5	S	5.72	7.34	10.1	12.8		5.91	7.45	10.5	13.0		7.38	9.32	13.1	16.3	
	D	4.31	5.40	7.54	9.47		9.84	12.3	17.2	21.6		7.75	9.70	13.5	17.0	
2.6	S	5.29	6.78	9.30	11.8		5.46	6.89	9.71	12.0		6.83	8.62	12.1	15.1	
	D	3.84	4.80	6.70	8.42		8.74	11.0	15.3	19.2		6.89	8.63	12.0	15.1	
2.8	S	4.56	5.85	8.02	10.2		4.71	5.94	8.37	10.4		5.88	7.43	10.5	13.0	
	D	3.07	3.85	5.37	6.74		7.00	8.77	12.2	15.4		5.51	6.91	9.63	12.1	
3.0	S	3.97	5.09	6.98	8.88		4.10	5.18	7.29	9.04		5.13	6.47	9.11	11.3	
	D	2.50	3.13	4.36	5.48		5.69	7.13	10.0	12.5		4.48	5.62	7.83	9.84	
3.2	S	3.49	4.48	6.14	7.80		3.60	4.55	6.41	7.95		4.51	5.69	8.01	9.93	
	D	2.06	2.58	3.59	4.52		4.69	5.88	8.20	10.3		3.69	4.63	6.45	8.11	
3.4	S	3.09	3.97	5.44	6.91		3.19	4.03	5.68	7.04		3.99	5.04	7.10	8.80	
	D	1.72	2.15	3.00	3.77		3.91	4.90	6.83	8.58		3.08	3.86	5.38	6.76	
3.5	S	2.92	3.74	5.13	6.52		3.01	3.80	5.36	6.64		3.77	4.75	6.70	8.30	
	D	1.57	1.97	2.75	3.45		3.58	4.49	6.26	7.87		2.82	3.54	4.93	6.20	
3.6	S	2.76	3.54	4.85	6.17		2.85	3.60	5.06	6.28		3.56	4.49	6.33	7.85	
	D	1.44	1.81	2.52	3.17		3.29	4.13	5.76	7.23		2.59	3.25	4.53	5.70	
3.8	S	2.48	3.18	4.35	5.53		2.56	3.23	4.54	5.64		3.20	4.03	5.68	7.05	
	D	1.23	1.54	2.15	2.70		2.80	3.51	4.89	6.15		2.21	2.76	3.85	4.84	
4.0	S	2.23	2.87	3.93	4.99		2.31	2.91	4.10	5.09		2.88	3.64	5.13	6.36	
	D	1.05	1.32	1.84	2.31		2.40	3.01	4.20	5.27		1.89	2.37	3.30	4.15	

Notes:

- 1 Based on ASTM A653M Grade 230 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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- 8 Prepared by Dr. R.M. Schuster, P. Eng., Distinguished Professor Emeritus, University of Waterloo.