

# Roof Deck

## RD 306

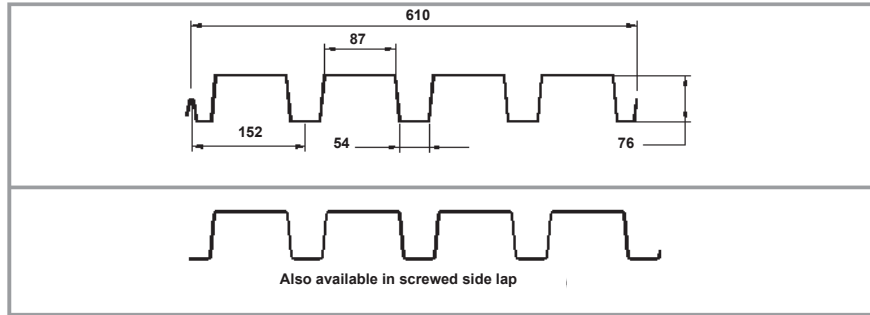
Metric

### Physical Properties

(per metre width)  
In accordance with  
CSA Specification  
S136-07

### Load Table

Maximum Specified Uniformly Distributed Load in  $\text{kN/m}^2$  (kPa)



### Limit States Design

#### Note

- Properties and loads are based on Grade 230 Steel with a minimum yield stress of 230 MPa, and a maximum stress under Factored loads of 207 MPa.
- Figures in Row B indicate the load capacity based on strength. Strength capacity B should be checked against [Specified Live Load]+[0.833 x Specified Dead Load]
- Figures in row D indicate the load capacity based on deflection of 1/240th span. Divide values by 1.5 for deflection of 1/360th span. Deflection capacity should be checked against specified Load(s).
- Web crippling reaction values are based on bearing equal to the depth of the deck.
- An \* against a figure indicates capacity has been reduced to account for web crippling.
- For Acoustic Deck, reduce the capacity given by three (3) percent.
- Deck is not designed to carry concentrated hanging loads.

Base Steel Nominal Thickness (mm)	Nominal Thickness Z275 Coating (mm)	Mass with Coating ( $\text{kg/m}^2$ )	Section Modulus		Moment of Inertia ( $\text{mm}^4 \times 10^3$ )	Factored Resistance			
			Midspan ( $\text{mm}^3 \times 10^3$ )	Support ( $\text{mm}^3 \times 10^3$ )		Moment (N-m)		Reaction (kN)	
0.76	0.80	12.39	25.94	26.67	1186.8	5369.6	5520.7	13.6	21.5
0.91	0.95	14.68	33.41	33.81	1488.4	6915.9	6998.7	19.0	30.1
1.22	1.26	19.15	46.42	48.39	2071.6	9608.9	10016.7	32.1	50.7
1.52	1.56	23.75	59.06	60.10	2608.4	12225.4	12440.7	48.2	76.4
1.91	1.95	-----	-----	-----	-----	-----	-----	-----	-----

Support Spacing (mm)		1-Span Base Steel Nominal Thickness (mm)					2-Span Base Steel Nominal Thickness (mm)					3-Span Base Steel Nominal Thickness (mm)				
		0.76	0.91	1.22	1.52	1.91	0.76	0.91	1.22	1.52	1.91	0.76	0.91	1.22	1.52	1.91
2000	B	7.2	9.2	12.8	16.3		5.7*	8.0*	13.4	16.6		6.5*	9.1*	15.4*	20.7	
	D	9.6	12.1	16.8	21.2		23.1	29.0	40.4	50.0		18.2	22.8	31.8	40.0	
2200	B	5.9	7.6	10.6	13.5		5.2*	7.3*	11.0	13.7		5.9*	8.3*	13.8	17.1	
	D	7.2	9.1	12.6	15.9		17.4	21.8	30.3	38.2		13.7	17.2	23.9	30.1	
2400	B	5.0	6.4	8.9	11.3		4.8*	6.5	9.3	11.5		5.4*	7.6*	11.6	14.4	
	D	5.6	7.0	9.7	12.3		13.4	16.8	23.4	29.4		10.5	13.2	18.4	23.2	
2600	B	4.2	5.5	7.6	9.6		4.4	5.5	7.9	9.8		5.0*	6.9	9.9	12.3	
	D	4.4	5.5	7.7	9.6		10.5	13.2	18.4	23.1		8.3	10.4	14.5	18.2	
2800	B	3.7	4.7	6.5	8.3		3.8	4.8	6.8	8.5		4.7*	6.0	8.5	10.6	
	D	3.5	4.4	6.1	7.7		8.4	10.6	14.7	18.5		6.6	8.3	11.6	14.6	
3000	B	3.2	4.1	5.7	7.2		3.3	4.1	5.9	7.4		4.1	5.2	7.4	9.2	
	D	2.9	3.6	5.0	6.3		6.9	8.6	12.0	15.1		5.4	6.8	9.4	11.9	
3200	B	2.8	3.6	5.0	6.4		2.9	3.6	5.2	6.5		3.6	4.6	6.5	8.1	
	D	2.4	3.0	4.1	5.2		5.6	7.1	9.9	12.4		4.4	5.6	7.8	9.8	
3400	B	2.5	3.2	4.4	5.6		2.5	3.2	4.6	5.7		3.2	4.0	5.8	7.2	
	D	2.0	2.5	3.4	4.3		4.7	5.9	8.2	10.3		3.7	4.6	6.5	8.1	
3600	B	2.2	2.8	4.0	5.0		2.3	2.9	4.1	5.1		2.8	3.6	5.2	6.4	
	D	1.7	2.1	2.9	3.6		4.0	5.0	6.9	8.7		3.1	3.9	5.5	6.9	
3800	B	2.0	2.6	3.5	4.5		2.0	2.6	3.7	4.6		2.5	3.2	4.6	5.7	
	D	1.4	1.8	2.5	3.1		3.4	4.2	5.9	7.4		2.7	3.3	4.6	5.8	
4000	B	1.8	2.3	3.2	4.1		1.8	2.3	3.3	4.1		2.3	2.9	4.2	5.2	
	D	1.2	1.5	2.1	2.6		2.9	3.6	5.0	6.4		2.3	2.9	4.0	5.0	

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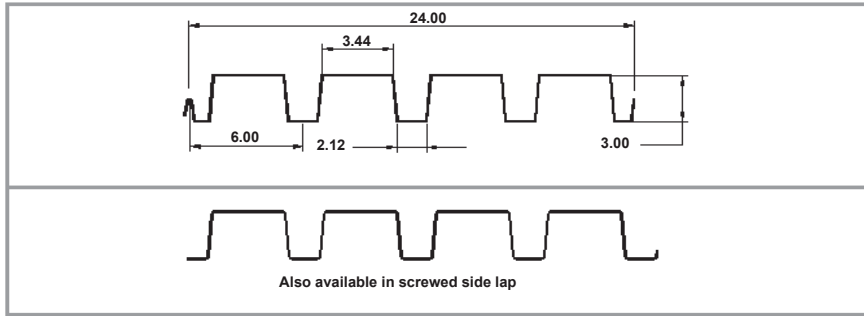


# Roof Deck

## RD 306

Imperial

### Limit States Design



### Note

- Properties and loads are based on Grade 33 Steel with a minimum yield stress of 33,000 psi, and a maximum stress under Factored loads of 29,700 psi.
- Figures in Row B indicate the load capacity based on strength. Strength capacity B should be checked against [Specified Live Load]+[0.833 x Specified Dead Load]
- Figures in row D indicate the load capacity based on deflection of 1/240th span. Divide values by 1.5 for deflection of 1/360th span. Deflection capacity should be checked against specified Load(s).
- Web crippling reaction values are based on bearing equal to the depth of the deck.
- An \* against a figure indicates capacity has been reduced to account for web crippling.
- For Acoustic Deck, reduce the capacity given by three (3) percent.
- Deck is not designed to carry concentrated hanging loads.

Base Steel Nominal Thickness (inches)	Nominal Thickness Z275 Coating (inches)	Mass with Coating (lb/ft <sup>2</sup> )	Section Modulus		Moment of Inertia (inches <sup>4</sup> )	Factored Resistance			
			Midspan (inches <sup>3</sup> )	Support (inches <sup>3</sup> )		Moment (lb-in)		Reaction (pounds)	
0.030	0.032	2.537	0.4825	0.4961	0.8691	14329.8	14733.1	932	1473
0.036	0.038	3.006	0.6214	0.6289	1.0899	18456.4	18677.4	1302	2063
0.048	0.050	3.922	0.8634	0.9001	1.5170	25643.4	26731.7	2200	3474
0.060	0.062	4.864	1.0985	1.1179	1.9101	32626.0	33200.5	3303	5235
0.075	0.077	-----	-----	-----	-----	-----	-----	-----	-----

### Physical Properties

(per foot width)  
In accordance with  
CSA Specification  
S136-07

Support Spacing		1-Span Base Steel Nominal Thickness (inches)					2-Span Base Steel Nominal Thickness (inches)					3-Span Base Steel Nominal Thickness (inches)				
		.030	.036	.048	.060	.075	.030	.036	.048	.060	.075	.030	.036	.048	.060	.075
7' - 0"	B	130	167	233	296		112*	157*	242	301		128*	179*	301*	376	
	D	166	208	290	365		399	500	696	876		314	394	548	690	
7' - 6"	B	113	146	203	258		105*	147*	211	262		119*	167*	264	328	
	D	135	169	236	297		324	406	566	712		255	320	446	561	
8' - 0"	B	100	128	178	227		98*	130	186	231		112*	156*	232	288	
	D	111	140	194	245		267	335	466	587		210	264	367	462	
8' - 6"	B	88	114	158	201		91	115	164	204		105*	144	206	255	
	D	93	116	162	204		223	279	389	489		175	220	306	385	
9' - 0"	B	79	101	141	179		81	102	147	182		99*	128	183	228	
	D	78	98	136	172		188	235	327	412		148	185	258	325	
9' - 6"	B	71	91	126	161		73	92	132	163		91	115	165	204	
	D	66	83	116	146		159	200	278	351		126	158	219	276	
10' - 0"	B	64	82	114	145		65	83	119	148		82	104	149	184	
	D	57	71	99	125		137	171	239	301		108	135	188	237	
10' - 6"	B	58	74	103	132		59	75	108	134		74	94	135	167	
	D	49	62	86	108		118	148	206	260		93	117	162	204	
11' - 0"	B	53	68	94	120		54	69	98	122		68	86	123	152	
	D	43	54	75	94		103	129	179	226		81	101	141	178	
11' - 6"	B	48	62	86	110		50	63	90	112		62	78	112	139	
	D	37	47	65	82		90	113	157	198		71	89	124	156	
12' - 0"	B	44	57	79	101		45	58	83	102		57	72	103	128	
	D	33	41	58	72		79	99	138	174		62	78	109	137	

### Load Table

Maximum Specified Uniformly Distributed Load in lb/ft<sup>2</sup> (psf)

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