vicwest

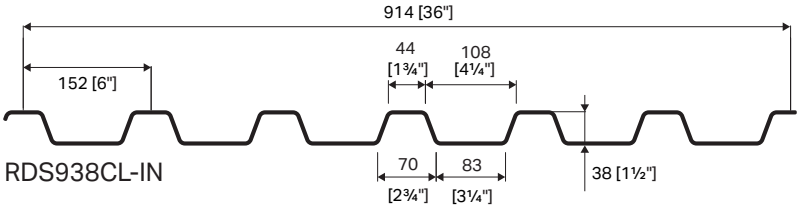
Load Table

ROOF DECK

RDS938CL - IN (inverted)

LSD - METRIC

230 MPa



PHYSICAL PROPERTIES

STEEL DECK (Per Metre Width)										
NOMINAL THICKNESS	THICKNESS WITH FINISH Z275	MASS WITH FINISH Z275	EFFECTIVE PROPERTIES				MAX. FACTORED RESISTANCE			
			SECTION MODULUS		MOMENT OF INERTIA		BENDING MOMENT		BEARING REACTION	
			MIDSPAN	SUPPORT	POSITIVE	NEGATIVE	MIDSPAN	SUPPORT	EXT.	INT
t	t	W_s	S_e^+	S_e^-	I_e^+	I_e^-	M_r^+	M_r^-	P_e	P_i
(mm)	(mm)	(kg/m²)	(mm³)	(mm³)	(mm⁴)	(mm⁴)	(kN·m)	(kN·m)	(kN)	(kN)
0.76	0.80	8.27	10,406	9,956	237,083	209,754	2.15	2.06	10.8	18.3
0.91	0.95	9.79	12,582	12,083	283,155	264,787	2.60	2.50	14.9	25.6
1.21	1.25	12.88	16,731	16,518	378,969	378,969	3.46	3.42	25.4	44.2
1.52	1.56	16.04	20,888	20,888	476,266	476,266	4.32	4.32	38.5	67.6

LOAD TABLES

Limit States Design - Canada

Span		Factored and Service Uniformly Distributed Loads (kPa)											
		Single Span				Double Span				Triple Span			
(mm)		0.76	0.91	1.21	1.52	0.76	0.91	1.21	1.52	0.76	0.91	1.21	1.52
1,200	F	11.7	14.1	18.7	23.4	11.0	13.4	18.3	23.1	13.6	16.5	22.5	28.4
	D	8.9	10.6	14.2	17.9	21.4	25.6	34.3	43.1	16.8	20.0	26.8	33.8
1,350	F	9.2	11.2	14.9	18.6	8.8	10.6	14.5	18.4	10.8	13.1	17.9	22.7
	D	6.2	7.4	10.0	12.5	15.0	18.0	24.1	30.2	11.8	14.1	18.8	23.7
1,500	F	7.5	9.1	12.1	15.1	7.1	8.7	11.8	15.0	8.8	10.7	14.6	18.5
	D	4.5	5.4	7.2	9.1	10.9	13.1	17.5	22.0	8.6	10.2	13.7	17.3
1,650	F	6.2	7.5	10.0	12.5	5.9	7.2	9.8	12.4	7.3	8.9	12.2	15.4
	D	3.4	4.0	5.4	6.8	8.2	9.8	13.2	16.5	6.4	7.7	10.3	13.0
1,800	F	5.2	6.3	8.4	10.5	5.0	6.0	8.3	10.5	6.2	7.5	10.3	13.0
	D	2.6	3.1	4.2	5.3	6.3	7.5	10.1	12.7	4.9	5.9	7.9	10.0
1,950	F	4.4	5.4	7.2	9.0	4.2	5.1	7.0	8.9	5.3	6.4	8.8	11.1
	D	2.0	2.4	3.3	4.1	5.0	5.9	7.9	10.0	3.9	4.6	6.2	7.8
2,100	F		4.6	6.2	7.7	3.6	4.4	6.1	7.7	4.6	5.5	7.6	9.6
	D		1.9	2.6	3.3	4.0	4.7	6.4	8.0	3.1	3.7	5.0	6.3
2,250	F			5.4	6.7	3.2	3.9	5.3	6.7	4.0	4.8	6.6	8.4
	D			2.1	2.7	3.2	3.8	5.2	6.5	2.5	3.0	4.0	5.1
2,400	F				5.9	2.8	3.4	4.7	5.9	3.5	4.2	5.8	7.4
	D				2.2	2.6	3.2	4.2	5.3	2.1	2.5	3.3	4.2
2,550	F					2.5	3.0	4.1	5.2		3.8	5.1	6.5
	D					2.2	2.6	3.5	4.4		2.0	2.8	3.5
2,700	F						2.7	3.7	4.7			4.6	5.8
	D						2.2	3.0	3.7			2.3	2.9
2,850	F						2.4	3.3	4.2			4.1	5.2
	D						1.9	2.5	3.2			2.0	2.5

Material : ASTM A653M, Galvanized Z275, Grade 230 MPa.

Reference standards:
CAN/CSA-S136-16 North American Specification for the Design of Cold-Formed Steel Structural Members
ANSI/AISI S100-16 North American Specification for the Design of Cold-Formed Steel Structural Members
CSSBI 10M-2018 Standard for Steel Roof Deck

1. Effective properties are based on a unit width of 1 000 mm.
2. Loads in row "F" are the maximum factored loads controlled by the strength capacity, and loads in row "D" are the uniform service loads that produce a deflection of L/240.
3. For loads based on alternate deflection limits, multiply loads shown as follows: L/180 = L/240 ×1.333, L/240 = L/240 ×1.000, L/300 = L/240 ×0.800, L/360 = L/240 ×0.667.
4. The maximum factored uniformly distributed load in the table must be greater than the sum of factored uniformly distributed loads applied on top of roof deck.
5. Load in brackets are controlled by web crippling. Maximum reactions are calculated for uniformly distributed loading with the end bearing length equal to 38 mm and the interior bearing length equal to 76 mm.
6. For other bearing conditions refer to Web Crippling tables or contact Vicwest engineering.
7. For maximum factored loads due to wind uplift use load tables for normal deck orientation.
8. For acoustic deck, reduce capacity by five percent (5%).
9. Deck is not designed to carry concentrated hanging loads.

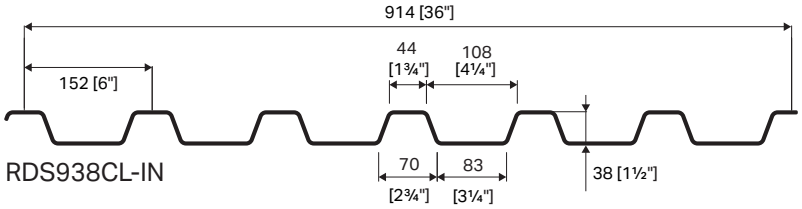
PLANET PASSIONATE

ROOF DECK

RDS938CL - IN (inverted)

LSD - IMPERIAL

33 ksi



PHYSICAL PROPERTIES

STEEL DECK (Per Foot Width)										
NOMINAL THICKNESS	THICKNESS WITH FINISH G90	MASS WITH FINISH G90	EFFECTIVE PROPERTIES				MAX. FACTORED RESISTANCE			
			SECTION MODULUS		MOMENT OF INERTIA		BENDING MOMENT		BEARING REACTION	
			MIDSPAN	SUPPORT	POSITIVE	NEGATIVE	MIDSPAN	SUPPORT	EXT.	INT
t	t	W_s	S_e^+	S_e^-	I_e^+	I_e^-	M_r^+	M_r^-	P_e	P_i
(in)	(in)	(lb/ft²)	(in³)	(in³)	(in⁴)	(in⁴)	(kip·in/ft)	(kip·in/ft)	(kip)	(kip)
0.030	0.0315	1.695	0.194	0.185	0.174	0.154	5.75	5.50	0.729	1.242
0.036	0.0373	2.006	0.234	0.225	0.207	0.194	6.95	6.68	1.010	1.736
0.048	0.0493	2.639	0.311	0.307	0.278	0.278	9.24	9.12	1.721	2.998
0.060	0.0614	3.284	0.389	0.389	0.349	0.349	11.54	11.54	2.610	4.583

LOAD TABLES

Limit States Design - Canada

Span		Factored and Service Uniformly Distributed Loads (psf)											
		Single Span				Double Span				Triple Span			
		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"	F	234	283	376	469	222	269	367	464	273	331	451	570
	D	177	212	284	357	428	511	684	860	335	400	536	674
4' - 6"	F	186	224	298	373	176	214	292	369	218	264	360	455
	D	124	149	199	250	300	359	480	604	235	281	376	473
5' - 0"	F	151	182	242	303	143	174	238	300	177	215	294	371
	D	91	108	145	182	219	261	350	440	171	205	274	345
5' - 6"	F	125	151	201	251	119	144	197	249	147	179	244	308
	D	68	81	109	137	164	196	263	331	129	154	206	259
6' - 0"	F	105	127	169	211	100	121	166	210	124	151	206	260
	D	52	62	84	105	126	151	202	254	99	118	159	199
6' - 6"	F	89	108	144	180	85	104	142	179	106	129	176	222
	D	41	49	66	83	99	119	159	200	78	93	125	157
7' - 0"	F			124	155	74	89	122	155	92	111	152	192
	D			53	66	79	95	127	160	62	74	100	125
7' - 6"	F			108	135	64	78	107	135	80	97	133	168
	D			43	54	64	77	103	130	50	60	81	102
8' - 0"	F				119	56	68	94	119	70	85	117	148
	D				44	53	63	85	107	41	50	67	84
8' - 6"	F					50	61	83	105		76	104	131
	D					44	53	71	89		41	55	70
9' - 0"	F						54	74	94			92	117
	D						44	60	75			47	59
9' - 6"	F							66	84			83	105
	D							51	64			40	50

Material : ASTM A653, Galvanized G90, Grade 33 ksi.

Reference standards:
CAN/CSA-S136-16 North American Specification for the Design of Cold-Formed Steel Structural Members
ANSI/AISI S100-16 North American Specification for the Design of Cold-Formed Steel Structural Members
CSSBI 10M-2018 Standard for Steel Roof Deck

1. Effectives properties are based on a unit width of 12"
2. Loads in row "F" are the maximum factored loads controlled by the strength capacity, and loads in row "D" are the uniform service loads that produce a deflection of L/240.
3. For loads based on alternate deflection limits, multiply loads shown as follows: L/180 = L/240 ×1.333, L/240 = L/240 ×1.000, L/300 = L/240 ×0.800, L/360 = L/240 ×0.667.
4. The maximum factored uniformly distributed load in the table must be greater than the sum of factored uniformly distributed loads applied on top of roof deck.
5. Load in brackets are controlled by web crippling. Maximum reactions are calculated for uniformly distributed loading with the end bearing length equal to 1 1/2" and the interior bearing length equal to 3".
6. For other bearing conditions refer to Web Crippling tables or contact Vicwest engineering.
7. For maximum factored loads due to wind uplift use load tables for normal deck orientation.
8. For acoustic deck, reduce capacity by five percent (5%).
9. Deck is not designed to carry concentrated hanging loads.

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ENG-LT-3105-EN-V2