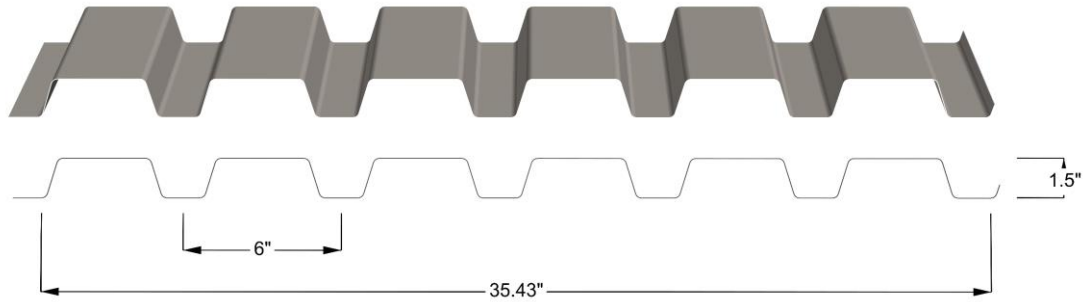


SM900RD-CL

TECHNICAL DATA SHEET



PRODUCT DESCRIPTION

Samson Metals SM900RD Products are cold-formed panels with a total coverage of 35.43" (900 mm). With a nominal depth of 1.5" (38 mm) and cell spacing of 6" (152 mm) centre-to-centre. These products are manufactured using galvanized coated sheet steel in accordance to the ASTM A653 Standard with the corresponding zinc coating in either Z275 (G90) or Z120 (G40).

TECHNICAL DESIGN STANDARDS

The physical properties and load tables presented in this document are based on the North American Specification for the Design of Cold-Formed structural Members (CSA-S136-16) and the Canadian Sheet Steel Building Institute (CSSBI) Guide 10M-18.

The CSSBI dictates best practice for steel deck that is utilized in the calculations contained in this document. The engineer of record is responsible to ensure their design follows the requirements outlined in the CSSBI Standard and the National Building Code of Canada (NBCC).

CAUTIONARY STATEMENT

The reader expressly understands that using steel products beyond or outside of their intended scope of use is inherently dangerous. The reader expressly understands and agrees that Samson Metals is not responsible for any damages or loss caused by the use of Samson Metals products outside of the guidelines and specifications contained in this document. The reader is not relying on any representations made by Samson Metals that are not explicitly contained in this document.

SM900RD-CL - 33 KSI (228 Mpa) - LSD

PHYSICAL PROPERTIES FOR STEEL ROOF DECK

BASE STEEL THICKNESS		Blank	PROD	STEEL DECK PROPERTIES (RD) PER PANEL WIDTH										
				Shear & Web Crippling			Top Flat in Compression				Bottom Flat in Compression			
GAUGE	Thk (in)	Girth	WGT	Va	Pa (End)	Pa (Int)	(Def) Ix	Sx (top)	Sx (bot)	Ma	(Def) Ix	Sx (top)	Sx (bot)	Ma
		(ft)	(lb/ft²)	(Kips)	(Kips)	(Kips)	(in⁴)	(in³)	(in³)	(Kip-ft)	(in⁴)	(in³)	(in³)	(Kip-ft)
22	0.030	4.00	1.66	7.15	2.27	4.22	0.443	0.538	0.540	1.332	0.50	0.534	0.837	1.322
20	0.036	4.00	1.98	8.54	3.15	5.85	0.565	0.656	0.723	1.625	0.60	0.678	1.009	1.678
18	0.048	4.00	2.66	11.37	5.37	9.97	0.809	0.901	1.160	2.232	0.81	0.922	1.344	2.282
16	0.060	4.00	3.31	14.08	8.01	14.84	1.007	1.136	1.619	2.812	1.01	1.140	1.657	2.822

PHYSICAL PROPERTIES TABLE - DEFINITIONS & NOTES:

MINIMUM SPECIFIED YIELD STRESS Fy = 33 KSI (228 MPa).
SECTION PROPERTIES ARE CALCULATED IN ACCORDANCE WITH THE 2016 EDITION (LSD).
APPLIED CODE is LSD S136-16 (R2021).

- Thk: Base Metal Thickness used in Design.
- WGT: Weight of Steel.
- Va: Allowable Shear Capcailly (LSD) per Panel.
- Pa (End): Allowable Web Crippling Capacity (LSD) per Panel at End Support having 1.5" width.
- Pa (Int): Allowable Web Crippling Capacity (LSD) per Panel at End Support having 3" width.
- (Def) Ix: Deflection Inertia that shall be used in deflection calculation.
- Sx (top) Section Modulus (Top Portion in Compression) when the Deck reaches the Ma Value (LSD).
- Sx (bot): Section Modulus (Bottom Portion in Compression) when the Deck reaches the Ma Value (LSD).
- Ma: Allowable Moment Capacity (LSD).

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ALLOWABLE SUPERIMPOSED UNIFORM LOADS (PSF)

SPAN (ft)	Calculation Mode (-)	Single Span (1)					Double Span (2-Equal)					Triple Span (3-Equal)			
		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	Stress	222	273	375	472		218	274	372	459		234	294	400	494
	L/ 240	*	*	*	*		*	*	*	*		*	*	*	
4.5	Stress	175	215	295	372		173	217	295	364		186	233	317	392
	L/ 240	*	136	194	242		*	*	*	*		*	*	*	*
5.0	Stress	141	174	239	301		140	176	239	296		151	189	257	318
	L/ 240	88	98	141	176		*	*	*	*		*	*	*	*
5.5	Stress	116	143	197	248		116	145	198	244		124	157	213	263
	L/ 240	66	73	105	131		*	*	*	*		*	*	*	*
6.0	Stress	97	120	165	207		97	122	166	205		104	132	179	221
	L/ 240	50	56	81	100		*	*	*	*		*	*	*	*
6.5	Stress	83	102	140	176		83	104	141	175		89	112	152	188
	L/ 240	39	44	63	78		*	*	*	*		*	*	*	*
7.0	Stress	71	87	120	151		71	89	122	150		76	96	131	162
	L/ 240	31	35	50	52		*	*	*	*		*	*	62	*
7.5	Stress	62	76	104	131		62	78	106	131		66	84	114	141
	L/ 240	25	28	40	50		*	*	*	*		*	*	50	71
8.0	Stress	54	66	91	115		54	68	93	114		58	73	100	123
	L/ 240	20	23	32	40		*	*	*	*		*	36	41	58
8.5	Stress	47	58	80	101		48	60	82	101		51	65	88	109
	L/ 240	17	18	27	33		*	*	*	*		*	30	34	48
9.0	Stress	42	52	71	90		42	53	73	90		46	58	78	97
	L/ 240	14	15	22	27		*	*	*	*		*	25	28	40
9.5	Stress	38	46	64	80		38	48	65	80		41	51	70	86
	L/ 240	11	13	18	23		*	*	*	*		*	21	23	34
10.0	Stress	34	42	57	72		34	43	58	72		37	46	63	78
	L/ 240	10	11	15	19		*	*	*	*		*	18	20	29
10.5	Stress	30	37	52	65		31	39	53	65		33	42	57	70
	L/ 240	8	9	13	16		*	*	*	*		*	15	17	24
11.0	Stress	28	34	47	59		28	35	48	59		30	38	51	64
	L/ 240	7	7	11	13		*	*	*	*		*	13	14	21
11.5	Stress	25	31	42	53		25	32	43	53		27	34	47	58
	L/ 240	6	6	9	11		*	*	*	*		*	11	12	18
12.0	Stress	23	28	39	49		23	29	39	49		25	31	43	53
	L/ 240	5	5	8	10		*	*	*	*		*	10	11	15
12.5	Stress	21	26	35	45		21	27	36	45		23	29	39	48
	L/ 240	4	4	7	8		*	*	*	*		*	8	9	13

SM900RD-CL - 33 KSI (228 Mpa) - LSD

TABLE DEFINITIONS & NOTES:

- 1. 'Stress' Line shows the Factored Safe Load checked based on: Crippling, Shear and Moment (LSD).
- 2. L/240 Line shows the Service Unfactored loads to product a deflection of L/ 240 deflection.
- 3. The * sign signifies that Stress is governing.
- 4. Web Crippling is based on a minumum flange width of 1.5" at end support and 3" at intermediate support.
- 5. Panel weight is included in the calculations.
- 6. You can use the Factors of 1.333 to find the service load for L/ 180 deflection.
- 7. You can use the Factor of 0.667 to find the service load for L/ 360 deflection.
- 8. In no case, the service load, whenever factored shall exceed the loads as shown in the Stress Line.
- 9. Grade of steel used to calculate the span capacities in the tables has a yield strength of 33 KSI (228 MPa) in conformance to ASTM A653 standard.
- 10. For Engineered Stamped Load Tables, please contact Samson Metals Ltd.

FOR ADDITIONAL INFORMATION & RESOURCES, PLEASE CONTACT SAMSON METALS LTD.

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