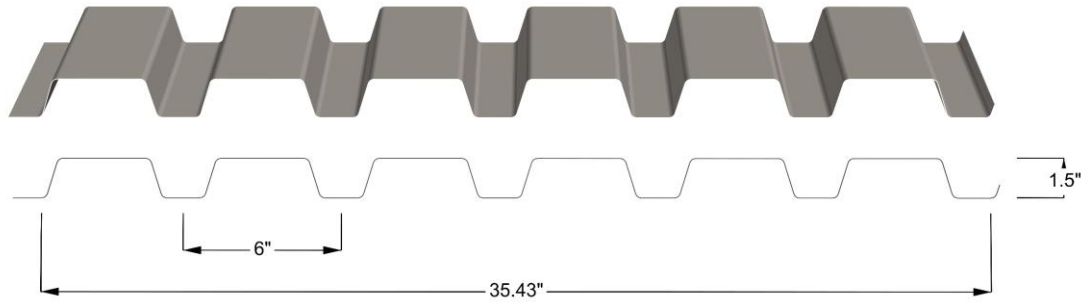


SM900RD-CL

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 - 40 KSI (275 Mpa) - LSD

PHYSICAL PROPERTIES FOR STEEL ROOF DECK

				STEEL DECK PROPERTIES (RD) PER PANEL WIDTH										
BASE STEEL THICKNESS		Blank	PROD	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	3.999	1.66	8.64	2.74	5.09	0.505	0.574	0.785	1.718	0.50	0.516	0.831	1.542
20	0.036	3.999	1.98	10.31	3.8	7.07	0.604	0.693	1.014	2.073	0.60	0.657	1.003	1.965
18	0.048	3.999	2.66	13.73	6.48	12.04	0.809	0.922	1.344	2.757	0.81	0.922	1.344	2.757
16	0.060	3.999	3.31	17	9.67	17.96	1.007	1.140	1.657	3.408	1.01	1.140	1.657	3.408

PHYSICAL PROPERTIES TABLE - DEFINITIONS & NOTES:

MINIMUM SPECIFIED YIELD STRESS Fy = 40 KSI (275MPa).

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 Capcaily (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 L/ 240	259	349	463	573	280	321	449	556	301	345	483	597
		172	208	278	346	*	*	*	*	*	*	*	*
4.5	Stress L/ 240	204	275	365	452	222	255	357	441	239	274	384	474
		120	145	194	242	*	*	*	*	*	*	*	*
5.0	Stress L/ 240	165	222	295	365	180	207	290	358	194	222	312	358
		87	105	141	176	*	*	*	*	*	*	*	*
5.5	Stress L/ 240	136	183	244	301	149	171	240	296	161	184	258	319
		65	79	105	131	*	*	*	*	*	*	*	*
6.0	Stress L/ 240	114	154	204	252	125	144	201	249	135	155	217	268
		50	60	81	100	*	*	*	*	88	*	142	177
6.5	Stress L/ 240	97	130	173	214	107	122	171	212	115	132	184	228
		39	47	63	78	*	*	*	*	69	83	111	138
7.0	Stress L/ 240	83	112	149	184	92	105	148	182	99	113	159	196
		31	37	50	62	*	*	*	*	55	66	89	110
7.5	Stress L/ 240	72	97	129	160	80	91	128	159	86	98	138	171
		25	30	40	50	*	*	*	*	44	53	71	89
8.0	Stress L/ 240	63	85	113	140	70	80	112	139	75	86	121	150
		20	24	32	40	*	*	*	*	36	44	58	73
8.5	Stress L/ 240	56	75	100	124	62	71	99	123	67	76	107	132
		16	20	27	33	*	*	*	*	30	36	48	60
9.0	Stress L/ 240	50	67	89	110	55	63	88	109	59	68	95	118
		14	16	22	27	*	*	*	*	25	30	40	50
9.5	Stress L/ 240	44	60	79	98	49	56	79	98	53	61	85	105
		11	14	18	23	*	*	*	*	21	25	34	42
10.0	Stress L/ 240	40	54	71	88	44	51	71	88	48	54	77	95
		9	11	15	19	*	*	*	*	18	21	29	36
10.5	Stress L/ 240	36	48	64	80	40	46	64	79	43	49	69	85
		8	10	13	16	*	*	*	*	15	18	24	30
11.0	Stress L/ 240	32	44	58	72	36	41	58	72	39	45	63	78
		7	8	11	13	*	*	*	*	13	16	21	26
11.5	Stress L/ 240	30	40	53	66	33	38	53	65	36	41	57	71
		6	7	9	11	*	*	*	*	11	13	18	22
12.0	Stress L/ 240	27	37	49	60	30	34	48	60	33	37	52	65
		5	6	8	10	19	*	32	39	10	12	15	19
12.5	Stress L/ 240	25	33	44	55	28	31	44	55	30	34	48	59
		4	5	7	8	17	21	28	34	8	10	13	17

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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 40 KSI (275 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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Website: samsonmetals.com

