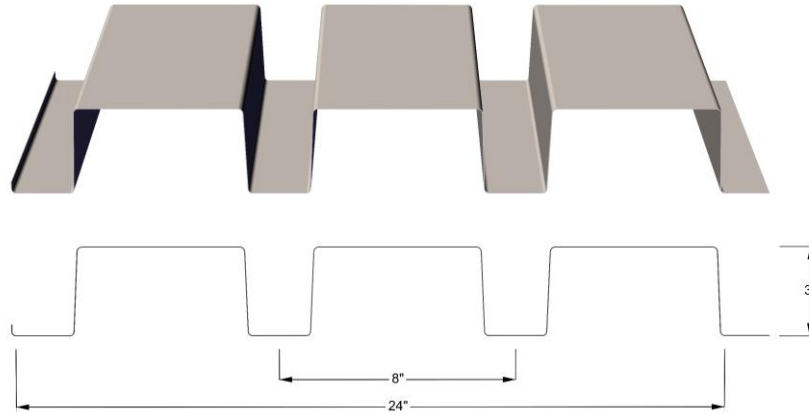


SM675RD-CL

TECHNICAL DATA SHEET



PRODUCT DESCRIPTION

Samson Metals SM675RD Products are cold-formed panels with a total coverage of 24" (610 mm). With a nominal depth of 3" (76 mm) and cell spacing of 8" (203 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.

SM675RD-CL - 40 KSI (275 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	3.51	2.14	6.49	1.32	2.67	1.632	0.871	1.015	2.606	1.75	0.776	1.527	2.32
20	0.036	3.51	2.57	9.87	1.86	3.71	2.09	1.071	1.39	3.203	2.18	1.013	1.844	3.028
18	0.048	3.51	3.44	15.43	3.21	6.34	2.947	1.484	2.77	4.439	2.95	1.473	2.51	4.404
16	0.060	3.51	4.29	19.15	4.83	9.46	3.667	1.873	3.127	5.600	3.67	1.873	3.127	5.600

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 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).

SM675RD-CL - 40 KSI (275 Mpa) - LSD

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	328 *	461 *	798 *	1202 *	265 *	368 *	630 *	941 *	276 *	384 *	656 *	980 *
4.5	Stress L/ 240	291 *	409 *	709 *	1067 *	365 *	327 *	559 *	836 *	245 *	341 *	583 *	871 *
5.0	Stress L/ 240	262* *	368 *	637 *	891 *	211 *	294 *	503 *	752 *	220 *	306 *	524 *	783 *
5.5	Stress L/ 240	238 *	334 *	579 *	735 *	192 *	267 *	457 *	683 *	200 *	278 *	476 *	711 *
6.0	Stress L/ 240	218 *	306 *	489 *	617 *	175 *	244 *	418 *	599 *	183 *	255 *	436 *	644 *
6.5	Stress L/ 240	201 *	282 *	416 *	525 *	162 *	225 *	386 *	512 *	169 *	235 *	402 *	551 *
7.0	Stress L/ 240	186 *	258 *	358 *	452 *	150 *	209 *	348 *	442 *	156 *	218 *	373 *	476 *
7.5	Stress L/ 240	162 *	225 *	311 *	393 *	140 *	195 *	303 *	385 *	146 *	203 *	326 *	415 *
8.0	Stress L/ 240	142 *	197 131	273 *	345 *	131 *	182 *	267 *	339 *	137 *	190 *	287 *	365 *
8.5	Stress L/ 240	126 *	174 109	241 154	305 191	123 *	162 *	236 *	300 *	128 *	174 *	254 *	323 *
9.0	Stress L/ 240	112 *	455 91	215 129	271 161	116 *	144 *	211 *	268 *	121 *	155 *	227 *	288 *
9.5	Stress L/ 240	100 65	139 77	192 109	243 136	110 *	129 *	189 *	240 *	115 *	139 *	203 *	258 *
10.0	Stress L/ 240	90 55	125 66	173 93	219 116	100 *	117 *	170 *	216 *	107 *	125 *	183 *	233 *
10.5	Stress L/ 240	81 47	113 57	157 80	198 100	90 *	105 *	154 *	196 *	97 *	114 *	166 *	211 *
11.0	Stress L/ 240	74 41	103 49	142 69	180 86	82 *	96 *	140 *	178 *	88 *	103 *	151 *	192 *
11.5	Stress L/ 240	67 35	94 42	130 60	164 75	75 *	88 *	128 *	163 *	81 *	94 *	138/ *	175 *
12.0	Stress L/ 240	62 31	86 37	119 52	150 65	69 *	60 *	117 *	149 *	74 *	86 *	126 *	161 *
12.5	Stress L/ 240	57 27	79 32	109 46	138 57	63 *	74 *	108 *	137 *	68 *	79 *	116 *	148 *

SM675RD-CL - 40 KSI (275 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 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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