

EM 7.2 Roof Panel

SECTION PROPERTIES								
			NEGATIVE BENDING			POSITIVE BENDING		
PANEL	Fy	WEIGHT	Ixe	Sxe	Maxo	Ixe	Sxe	Maxo
GAUGE	(KSI)	(PSF)	(IN.4/FT.)	(IN.3/FT.)	(KIP-IN.)	(IN.4/FT.)	(IN.3/FT.)	(KIP-IN.)
29	60*	0.66	0.0476	0.0478	1.9277	0.0502	0.0563	2.2693
26	60*	0.86	0.0725	0.0774	3.2078	0.0754	0.0908	3.7590
24	50	1.06	0.0999	0.1134	3.3950	0.0994	0.1242	3.7193
22	50	1.36	0.1342	0.1562	4.6752	0.1329	0.1708	5.1137

*Fy is 80-ksi reduced to 60-ksi in accordance with the 2012 edition of the North American Specification For Design of Cold-Formed Steel Structural Members- A2.3.2.

NOTES:

- 1) All calculations for the properties of EM 7.2 Roof panels are calculated in accordance with the 2012 edition of the North American Specification For Design Of Cold-Formed Steel Structural Members.
- 2) Ixe is for deflection determination.
- 3) Sxe is for bending.
- 4) Maxo is allowable bending moment.
- 5) All values are for one foot of panel width.
- 6) This material is subject to change without notice. Please contact Exceptional® Metals at 1-800-248-0280 for most current data.

The Engineering data contained herein is for the expressed use of customers and design professionals. Along with this data, it is recommended that the design professional have a copy of the most current version of the North American Specification for the Design of Cold-Formed Steel Structural Members published by the American Iron and Steel Institute to facilitate design. This Specification contains the design criteria for cold-formed steel components. Along with the Specification, the designer should reference the most current building code applicable to the project jobsite in order to determine environmental loads. If further information or guidance regarding cold-formed design practices is desired, please contact Exceptional Metals.

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ALLOWABLE UNIFORM LOADS IN POUNDS PER SQUARE FOOT

29 Gauge (0.0133"), Fy = 60 ksi, Fu = 61.5 ksi								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	4.0	5.0	6.0	7.0	8.0	9.0
1-SPAN	Negative Wind Load	142.84	80.35	51.42	35.71	26.24	20.09	15.87
	Live Load/Deflection	102.44	68.59	35.12	20.32	12.80	8.57	6.02
2-SPAN	Negative Wind Load	110.34	71.62	49.82	36.44	27.70	21.71	17.44
	Live Load/Deflection	102.19	64.82	44.37	32.09	24.20	18.86	15.09
3-SPAN	Negative Wind Load	123.35	82.15	58.28	43.24	33.22	26.25	21.21
	Live Load/Deflection	115.90	75.44	52.58	38.51	28.80	19.30	13.55
4-SPAN	Negative Wind Load	119.43	78.91	55.63	41.08	31.45	24.78	19.99
	Live Load/Deflection	111.72	72.13	49.98	36.45	27.66	20.76	14.58
26 Gauge (0.0181"), Fy = 60 ksi, Fu = 61.5 ksi								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	4.0	5.0	6.0	7.0	8.0	9.0
1-SPAN	Negative Wind Load	237.61	133.66	85.54	59.40	43.64	33.41	26.40
	Live Load/Deflection	162.95	103.02	52.75	30.53	19.22	12.88	9.04
2-SPAN	Negative Wind Load	222.59	136.44	91.38	65.16	48.68	37.69	30.01
	Live Load/Deflection	143.95	107.96	79.83	56.57	42.08	32.49	25.82
3-SPAN	Negative Wind Load	258.47	162.17	110.20	79.32	59.63	46.36	37.03
	Live Load/Deflection	163.58	122.69	97.08	64.84	40.83	27.35	19.21
4-SPAN	Negative Wind Load	247.30	153.99	104.13	74.72	56.05	43.52	34.72
	Live Load/Deflection	157.45	118.09	91.48	65.14	44.07	29.52	20.74
24 Gauge (0.0223"), Fy = 50 ksi, Fu = 60 ksi								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	4.0	5.0	6.0	7.0	8.0	9.0
1-SPAN	Negative Wind Load	251.48	141.46	90.53	62.87	46.19	35.36	27.94
	Live Load/Deflection	202.14	135.78	69.52	40.23	25.33	16.97	11.92
2-SPAN	Negative Wind Load	253.79	147.73	96.14	67.39	49.79	38.27	30.31
	Live Load/Deflection	156.28	117.21	88.20	61.73	45.57	35.00	27.71
3-SPAN	Negative Wind Load	307.17	181.07	118.61	83.46	61.81	47.58	37.73
	Live Load/Deflection	177.59	133.19	106.55	76.57	53.77	36.02	25.30
4-SPAN	Negative Wind Load	289.91	170.16	111.21	78.15	57.83	44.49	35.27
	Live Load/Deflection	170.93	128.19	102.17	71.66	52.97	38.84	27.28
22 Gauge (0.0286"), Fy = 50 ksi, Fu = 60 ksi								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	4.0	5.0	6.0	7.0	8.0	9.0
1-SPAN	Negative Wind Load	346.31	194.80	124.67	86.58	63.61	48.70	38.48
	Live Load/Deflection	322.96	181.52	92.94	53.78	33.87	22.69	15.94
2-SPAN	Negative Wind Load	357.18	205.97	133.40	93.26	68.79	52.81	41.80
	Live Load/Deflection	199.38	149.54	119.63	85.47	63.01	48.35	38.26
3-SPAN	Negative Wind Load	435.96	253.83	165.20	115.80	85.57	65.76	52.09
	Live Load/Deflection	226.57	169.93	135.94	106.25	71.31	47.77	33.55
4-SPAN	Negative Wind Load	410.29	238.09	154.70	108.33	80.00	61.46	48.67
	Live Load/Deflection	218.07	163.56	130.84	99.36	73.31	51.25	35.99

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NOTES:

- 1) Strength calculations based on the 2012 AISI Standard North American Specification for the Design of Cold-Formed Steel Structural Members.
- 2) Allowable loads are applicable for uniform loading and spans without overhangs.
- 3) LIVE LOAD/DEFLECTION LOAD capacities are for those loads that push the panel against its supports. The applicable limit states are flexure, shear, combined shear and flexure, web crippling at end and interior supports, and a deflection limit of $L/180$ under strength-level loads.
- 4) NEGATIVE WIND LOAD capacities are for those loads that pull the panel away from its supports. The applicable limit states are flexure, shear, combined shear and flexure, and a deflection limit of $L/60$ under 10-year wind loading.
- 5) Panel pullover and screw pullout capacity must be checked separately using the screws employed for each particular application when utilizing this load chart.
- 6) Effective yield strength has been determined in accordance with section A2.3.2 of the 2012 NAS specification.
- 7) The use of any accessories other than those provided by the manufacturer may damage panels, void all warranties and will void all engineering data.
- 8) This material is subject to change without notice. Please contact Exceptional® Metals at 1-800-248-0280 for the most current data.

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