EM Retro-R®

36” Coverage

SECTION PROPERTIES											
						NEGATIVE BENDING			POSITIVE BENDING		
PANEL GAUGE	Fy (KSI)	WEIGHT (PSF)	VA (Kips/F)	Pa,end (Kips/F)	Pa,int (Kips/F)	Ixe ($IN.^4$/FT.)	Sxe ($IN.^3$/FT.)	Maxo (KIP-IN./FT.)	Ixe ($IN.^4$/FT.)	Sxe ($IN.^3$/FT.)	Maxo (KIP-IN. /FT.)
29	60*	0.63	0.242	0.091	0.128	0.0130	0.0189	0.680	0.0186	0.0247	0.982
26	60*	0.84	0.333	0.164	0.236	0.0204	0.0310	1.158	0.0288	0.0398	1.629

*Panels are made from 80 ksi yield material. Flexural effective yield strengths vary by direction of bending. Shear and web crippling capacities have been determined using effective yield strength of 60 ksi.

NOTES:

1) All calculations for the properties of EM Retro-R® panels are calculated in accordance with the 2012 edition of the North American Specification For Design Of Cold-Formed Steel Structural Members.

2) Va is allowable transverse shear per foot of panel width.

3) Pa,end is allowable web crippling load at the panel end support per foot of panel width.

4) Pa,int is allowable web crippling load at interior panel supports per foot of panel width.

5) Ixe is the effective moment of inertia per foot of panel width at nominal moment capacity.

6) Sxe is the effective section modulus per foot of panel width at nominal moment capacity.

7) Maxo is allowable bending moment based on initiation of yielding.

EXCEPTIONAL® Metals

CUSTOMER CHART

36” EM Retro-R®

Allowable Uniform Loads in Pounds Per Square Foot

29 Gauge Thickness

Span Type	Load Type	Support Spacing						
		3 Ft.	3.5 Ft.	4 Ft.	4.5 Ft.	5 Ft.	5.5 Ft.	6 Ft.
1-Span	Negative Wind Load	50.35	36.99	28.32	22.38	18.13	14.98	12.59
	Live Load/Deflection – L/60	60.99	52.28	40.90	32.32	26.18	21.64	18.18
	Live Load/Deflection – L/180	60.17	37.89	25.38	17.83	13.00	9.76	7.52
	Live Load/Deflection – L/240	45.13	28.42	19.04	13.37	9.75	7.32	5.64
2-Span	Negative Wind Load	63.33	48.10	37.67	30.25	24.80	20.68	17.50
	Live Load/Deflection – L/60	34.02	29.16	25.51	21.65	17.65	14.65	12.35
	Live Load/Deflection – L/180	34.02	29.16	25.51	21.65	17.65	14.65	12.35
	Live Load/Deflection – L/240	34.02	29.16	25.51	21.65	17.65	14.65	12.35
3-Span	Negative Wind Load	75.27	57.76	44.25	34.96	28.32	23.41	19.67
	Live Load/Deflection – L/60	38.66	33.13	28.99	25.77	21.82	18.14	15.32
	Live Load/Deflection – L/180	38.66	33.13	28.99	25.77	21.82	18.14	15.32
	Live Load/Deflection – L/240	38.66	33.13	28.99	25.77	21.82	18.13	13.97
4-Span	Negative Wind Load	71.48	54.66	43.03	34.69	28.52	23.83	20.20
	Live Load/Deflection – L/60	37.21	31.89	27.90	24.80	20.44	16.99	14.34
	Live Load/Deflection – L/180	37.21	31.89	27.90	24.80	20.44	16.99	14.34
	Live Load/Deflection – L/240	37.21	31.89	27.90	24.80	20.44	16.99	14.34

26 Gauge Thickness

Span Type	Load Type	Support Spacing						
		3 Ft.	3.5 Ft.	4 Ft.	4.5 Ft.	5 Ft.	5.5 Ft.	6 Ft.
1-Span	Negative Wind Load	85.77	63.02	48.25	38.12	30.88	25.52	21.44
	Live Load/Deflection – L/60	109.47	88.63	67.86	53.62	43.43	35.89	30.16
	Live Load/Deflection – L/180	93.10	58.63	39.28	27.59	20.11	15.11	11.64
	Live Load/Deflection – L/240	69.83	43.97	29.46	20.69	15.08	11.33	8.73
2-Span	Negative Wind Load	99.76	76.58	60.45	48.33	40.21	33.65	28.55
	Live Load/Deflection – L/60	62.84	53.86	45.36	36.28	29.66	24.68	20.84
	Live Load/Deflection – L/180	62.84	53.86	45.36	36.28	29.66	24.68	20.84
	Live Load/Deflection – L/240	62.84	53.86	45.36	36.28	29.66	24.68	20.84
3-Span	Negative Wind Load	116.84	90.79	72.35	58.88	48.25	39.87	33.50
	Live Load/Deflection – L/60	71.41	61.20	53.55	44.44	36.45	30.41	25.74
	Live Load/Deflection – L/180	71.41	61.20	53.55	44.44	36.45	30.41	25.74
	Live Load/Deflection – L/240	71.41	61.20	53.55	44.44	35.09	26.36	20.30
4-Span	Negative Wind Load	111.49	86.28	68.54	55.64	45.99	38.60	32.83
	Live Load/Deflection – L/60	68.73	58.91	51.55	41.78	34.22	28.53	24.13
	Live Load/Deflection – L/180	68.73	58.91	51.55	41.78	34.22	28.53	24.13
	Live Load/Deflection – L/240	68.73	58.91	51.55	41.78	34.22	28.52	21.97

Notes:

1) Strength calculations are based on the 2012 S100 AISI 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 capacities are for those loads that push the panel against its support. The applicable limit states are flexure, shear, combined shear and flexure, web crippling at end and interior supports and the strength-level load deflection limit shown.
4) Capacities for LIVE LOAD/DEFLECTION pressure loading are determined as the smaller of the LIVE LOAD/DEFLECTION – Strength and the required deflection limit values listed.
5) NEGATIVE WIND LOAD capacities are for those loads that pull the panel away from the support. The applicable limit states are flexure, shear, combined shear and flexure, and a deflection limit of L/60 under 10-year wind loading.
6) Panel pullover and screw pullout connection capacities need to be checked separately for the particular fasteners employed using tributary area-based connection loads.
7) Effective yield strength has been determined in accordance with section A2.3.3 of the 2012 AISI S100 specification.
8) The use of any accessories other than those provided by the manufacturer may damage panels, void all warranties and will void all engineering data.
9) 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.