EM CFR Insulated Standing Seam Panel

ALLOWABLE UNIFORM LOADS IN POUNDS PER SQUARE FOOT

Panel Depth	Span Type	Load Type	SPAN IN FEET										
			2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
2”	Three Span or more	Bending & Shear	143.80	118.00	99.70	86.20	75.80	67.70	61.10	55.70	51.20	47.30	44.00
		Deflection (L/240)	120.30	98.30	82.70	70.60	61.40	53.80	47.70	42.40	38.10	34.30	31.00
2 fasteners/clip		Pattern FP1	58.50	53.50	49.90	46.80	44.50	42.50	38.20	34.50	31.30	28.50	26.10
3 fasteners/clip		Pattern FP2	-	-	-	-	-	51.90	47.60	44.00	40.90	38.20	35.80
2.5”	Three Span or more	Bending & Shear	165.50	135.80	114.80	99.30	87.30	77.90	70.20	64.00	58.70	54.30	50.40
		Deflection (L/240)	147.50	121.00	102.20	87.60	76.60	67.40	60.10	53.70	48.60	43.90	40.00
2 fasteners/clip		Pattern FP1	65.00	58.50	53.90	50.30	47.40	45.10	40.50	36.60	33.30	30.40	27.80
3 fasteners/clip		Pattern FP2	-	-	-	-	-	56.70	52.00	48.10	44.80	41.80	39.10
3”	Three Span or more	Bending & Shear	184.90	152.00	128.60	111.20	97.80	87.20	78.60	71.50	65.60	60.60	56.30
		Deflection (L/240)	171.50	141.10	119.50	102.80	90.10	79.60	71.20	63.90	58.00	52.70	48.20
2 fasteners/clip		Pattern FP1	71.30	63.50	57.80	53.60	50.30	47.60	42.80	38.70	35.20	32.20	29.50
3 fasteners/clip		Pattern FP2	-	-	-	-	-	61.10	56.10	51.90	47.90	44.30	41.30
4”	Three Span or more	Bending & Shear	196.20	161.60	137.00	118.60	104.30	93.00	83.80	76.20	69.90	64.50	59.80
		Deflection (L/240)	210.00	173.40	147.40	127.30	112.10	99.40	89.40	80.60	73.60	67.20	61.90
2 fasteners/clip		Pattern FP1	84.00	73.40	65.70	59.90	55.40	51.80	46.70	42.40	38.90	35.70	32.80
3 fasteners/clip		Pattern FP2	-	-	-	-	-	66.00	60.70	56.10	51.60	47.80	44.50
5”	Three Span or more	Bending & Shear	223.10	184.20	156.40	135.60	119.40	106.50	96.00	87.30	80.00	73.80	68.50
		Deflection (L/240)	235.40	194.90	166.10	143.80	127.00	112.90	101.90	92.20	84.40	77.30	71.50
2 fasteners/clip		Pattern FP1	86.50	75.50	67.70	61.80	57.10	53.40	48.50	44.40	40.90	37.90	35.40
3 fasteners/clip		Pattern FP2	-	-	-	-	-	64.80	59.50	55.10	51.30	48.00	44.80
6”	Three Span or more	Bending & Shear	247.20	204.50	174.00	151.00	133.20	118.90	107.30	97.60	89.50	82.50	76.50
		Deflection (L/240)	247.80	205.40	175.40	152.20	134.70	120.10	108.50	98.50	90.30	82.90	76.90
2 fasteners/clip		Pattern FP1	88.80	77.60	69.60	63.50	58.80	55.00	50.20	56.30	42.90	40.00	37.50
3 fasteners/clip		Pattern FP2	-	-	-	-	-	63.80	58.50	54.10	50.40	47.10	44.30

NOTES:

1) Based on 42” EM CFR panels with a 24 ga. exterior face (Fy = 50 ksi & 26 ga. Light Mesa interior face- min Fy = 33ksi).
2) The above load table is based on 3 or more span conditions.
3) Allowable positive load is the lowest value of the panel bending and shear strength or deflection limit.

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4) Allowable suction load is the lowest value of the panel bending, shear strength, deflection limited and connection strength for each fastener pattern. Loads based on panel stress, deflection and connection design criteria are derived from ASTM E-72 testing.

5) Allowable loads are calculated with a factor of safety of 2.5 for bending, 3.0 for shear and 2.0 for connection.

6) For pattern FP1, CF panel clips are fastened to minimum 14 gauge steel with (2) ¼" -14 SDS Tek 3 at interior and end supports. For 12 gauge or thicker steel, #12-24 SDS or ¼" -14 SDS Tek 5's may be used. In lieu of self-drilling screws, self-tapping screws may be used.

7) FP1 based on attachment at interior supports with CFR panel clip and (2 or 3 as shown above) ¼" -14 SDS Tek 3 screws in minimum 14 gauge steel or (2) ¼" -14 Self Drilling Tek 3 screws in minimum 12 gauge steel. Two fasteners per clip are required at end supports. In lieu of self-drilling screws, self-tapping screws may be used.

8) FP2 based on adding one Fab-Lok 9" from un-supported edge to pattern FP1. Three fasteners per clip at interior supports and two fasteners per clip at end supports in 14 gauge steel. 12 gauge and thicker steel will only require 2 at all supports.

9) The clip fastener capacity was determined from manufacturer fastener pullout data and the allowable loads are calculated with a factory of safety of 3.0.

10) The structural capacity of the support members are not considered and must be examined independently.

11) This material is subject to change without notice. Please contact Exceptional® Metals at 1-800-248-0280 for the 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.