

# Metl-Span CF-42 Santa Fe Wall Panels

## 24 Ga. Exterior / 26 Ga. Interior Facings

Allowable Connection Load<sup>1,7,8,9,10</sup> (psf) for Two or More Qual Spans

Panel Type <sup>2</sup>	Design Criteria <sup>3,4,5,6</sup>	Support Span							
		5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	11 ft	12 ft
2" Thick	Connection FP1	31.6	25.8	21.7	18.8	16.5	14.8	13.3	12.2
	Connection FP2	46.2	37.7	31.8	27.5	24.2	21.6	19.5	17.8
	Connection FP3	58.3	47.6	40.1	34.7	30.5	27.3	23.1	19.6
2½" Thick	Connection FP1	33.3	27.2	22.9	19.8	17.4	15.5	14.0	12.7
	Connection FP2	47.5	38.8	32.7	28.2	24.8	22.1	19.9	18.2
	Connection FP3	60.1	49.1	41.3	35.7	31.4	28.0	25.2	23.0
3" Thick	Connection FP1	35.1	28.7	24.2	20.8	18.3	16.3	14.7	13.4
	Connection FP2	48.8	39.9	33.6	29.0	25.4	22.6	20.4	18.6
	Connection FP3	61.9	50.5	42.6	36.7	32.2	28.7	25.9	23.6
	Connection FP4	71.1	58.1	48.9	42.2	37.0	33.0	29.8	27.1
4" Thick	Connection FP1	43.2	35.4	29.8	25.7	22.5	20.1	18.0	16.4
	Connection FP2	63.4	51.9	43.7	37.7	33.1	29.4	26.5	24.1
	Connection FP3	74.7	61.2	51.6	44.4	39.0	34.7	31.2	28.4
	Connection FP4	80.0	65.5	55.2	47.6	41.8	37.1	33.4	30.4
	Connection FP5	83.7	68.5	57.8	49.8	43.7	38.9	35.0	31.8
	Connection FP9	90.0	73.7	62.1	53.5	47.0	41.8	37.6	34.2
	Connection FP10	94.1	77.1	65.0	56.0	49.1	43.7	39.3	35.8

### Notes:

- The Load Span Table above is based on Allowable Stress Design (ASD). For loads calculated based on ASCE 7-10 (LRFD), please refer to section 2.4.1 of ASCE 7-10 for the applicable load combinations using Allowable Stress Design.
- Based on CF-42 panel with 24 ga. Santa Fe exterior and 26 ga. Light Mesa interior face (min  $F_y = 33$  ksi).
- Fastener pattern FP1 is based on CF panel clips fastened to min. 14 ga. steel. Fastener options will be (2) ¼"-14 SDS Type 3, (2) ¼"-14 Self-Tapping, (2) ¼"-14 Type 5 SDS, (2) ¼"-20 Type 5 SDS, or (2) ¼"-28 Type 5 SDS. Fastener selection will be based on fastener pullout capacity from support steel members.
- The fastener patterns FP2, FP3, FP4, and FP5 include FP1 plus 1, 2, 3, and 4 blind rivets, respectively, at supports per panel width. Blind Rivet spacing is 10.5" o.c. from female edge of panel seam.
- The through fasteners (FP9) are as follows: Panels fastened to min. 14 ga. steel supports with (4) ¼"-14 SDS Type 3, (4) ¼"-14 Self-Tapping, (4) ¼"-14 Type 5 SDS, (4) ¼"-20 Type 5 SDS, or (4) ¼"-28 Type 5 SDS with nominal 5/8" diameter neoprene bonded washers spaced at 8.4" o.c. Fastener shall be of sufficient length to penetrate through the support a minimum of ¾". Fastener selection will be based on fastener pullout capacity from support steel members.
- The through fasteners (FP10) are as follows: Panels fastened to min. 14 ga. steel supports with (5) ¼"-14 SDS Type 3, (5) ¼"-14 Self-Tapping, (5) ¼"-14 Type 5 SDS, (5) ¼"-20 Type 5 SDS, or (5) ¼"-28 Type 5 SDS with nominal 5/8" diameter neoprene bonded washers spaced at 8.4" o.c. Fastener shall be of sufficient length to penetrate through the support a minimum of ¾". Fastener selection will be based on fastener pullout capacity from support steel members.
- Allowable positive or suction load is the lowest value of panel bending strength, shear strength, deflection limit and connection strength for each fastener pattern.
- Allowable loads based on panel stress and deflection design criteria are derived from ASTM E72 structural testing and calculated with factor of safety of 2.5 for bending stress, 3.0 for shear stresses and deflection limitation of L/180.
- The panel connection strength was determined from ASTM E1592 testing and the allowable loads are calculated with factor of safety of 2.
- The structural capacity of the purlins are not considered and must be examined independently.

May 14, 2015

**Metl-Span Santa Fe Wall Panels**  
**24 Ga. Exterior / 26 Ga. Interior Facings**  
**Allowable Connection Load<sup>1,6,7,8</sup> (psf) for Two or More Equal Spans**

Panel Type <sup>2</sup>	Fastener <sup>3,4,5</sup>	Thickness	Support Span								
			4 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	11 ft	12 ft
36" wide	FP1	2"	54.4	42.5	34.7	29.2	25.3	22.2	19.9	17.9	16.4
		2.5"	56.3	44.0	35.9	30.2	26.1	22.9	20.5	18.5	16.8
		3"	58.0	45.4	37.1	31.2	26.9	23.6	21.1	19.0	17.3
		4"	61.2	48.1	39.3	33.2	28.6	25.1	22.3	20.1	18.2
	FP2	2"	65.5	51.1	41.7	35.2	30.4	26.8	23.9	21.6	19.6
		2.5"	70.8	55.3	45.2	38.1	32.9	28.9	25.8	23.2	21.2
		3"	76.1	59.6	48.7	41.0	35.3	31.0	27.6	24.9	22.7
		4"	86.5	67.9	55.6	46.9	40.4	35.4	31.5	28.4	25.8
	FP3	2"	87.6	68.4	55.9	47.1	39.7	32.8	27.4	23.1	19.6
		2.5"	89.4	69.8	57.0	48.0	41.5	36.4	32.5	29.3	26.4
		3"	90.8	71.1	58.1	48.9	42.2	37.0	33.0	29.7	27.1
		4"	93.2	73.2	59.9	50.5	43.6	38.2	34.0	30.6	27.8

**Notes:**

1. The Load Span Table above is based on Allowable Stress Design (ASD). For loads calculated based on ASCE 7-10 (LRFD), please refer to section 2.4.1 of ASCE 7-10 for the applicable load combinations using Allowable Stress Design.
2. Based on CF-panel with 24 ga. Santa Fe exterior and 26 ga. Santa Fe interior face (min  $F_y = 33$  ksi).
3. Fastener pattern FP1 is based on CF panel clips fastened to min. 14 ga. steel. Fastener options will be (2) ¼"-14 SDS Type 3, (2) ¼"-14 Self-Tapping, (2) ¼"-14 Type 5 SDS, (2) ¼"-20 Type 5 SDS, or (2) ¼"-28 Type 5 SDS. Fastener selection will be based on fastener pullout capacity from support steel members.
4. Pattern FP2 is based on FP1 along with (1) blind rivet at 12" o.c. from female panel sidelap.
5. Pattern FP3 is based on FP1 along with (2) blind rivets at 12" o.c. from female panel sidelap.
6. Allowable loads based on panel stress, connection strength and deflection design criteria are derived from ASTM E72 and E1592 structural testing.
7. The allowable inward or outward loads is the smallest load calculated with a factor of safety of 2.5 for bending stress, 3.0 for shear stresses, 2.0 for connection and deflection limitation of L/180.
8. The structural capacity of the supports are not considered and must be examined independently.

# Santa Fe Wall Panels<sup>7</sup>

## 24 Ga. Exterior / 26 Ga. Interior Facings

Allowable Positive Load<sup>1,4,5,6</sup> (psf) for Two or More Equal Spans

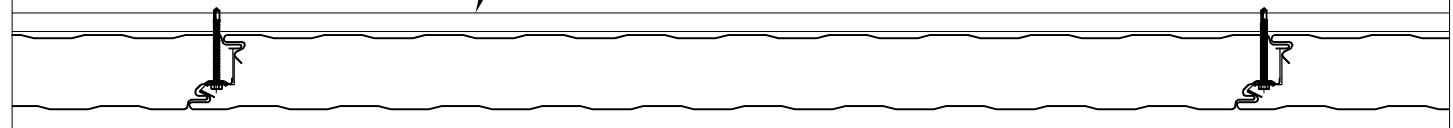
Panel Type <sup>2</sup>	Design Criteria <sup>3</sup>	Support Span							
		5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	11 ft	12 ft
2" Thick	Bending & Shear	71.1	58.5	49.7	43.0	37.9	33.8	27.6	22.5
	Deflection (L/180)	76.2	60.0	48.5	39.7	32.8	27.4	23.1	19.6
2½" Thick	Bending & Shear	80.9	66.5	56.4	49.0	43.1	38.5	33.7	27.3
	Deflection (L/180)	93.7	74.5	60.8	50.6	42.5	36.0	30.7	26.4
3" Thick	Bending & Shear	89.9	73.8	62.5	54.2	47.9	42.8	38.5	32.2
	Deflection (L/180)	108.9	87.1	71.6	60.0	51.1	43.8	37.7	32.7
4" Thick	Bending & Shear	95.1	78.0	65.9	57.1	50.3	45.0	40.7	37.1
	Deflection (L/180)	131.8	106.5	88.4	74.8	64.3	55.9	49.0	43.3

### Notes:

1. The Load Span Table above is based on Allowable Stress Design (ASD). For loads calculated based on ASCE 7-10 (LRFD), please refer to section 2.4.1 of ASCE 7-10 for the applicable load combinations using Allowable Stress Design.
2. Based on CF-panel with 24 ga. Santa Fe exterior and 26 ga. Light Mesa interior face (min  $F_y = 33$  ksi).
3. Refer to the allowable connection load chart, for suction loads.
4. Allowable positive or suction load is the lowest value of panel bending strength, shear strength, deflection limit and connection strength for each fastener pattern.
5. Allowable loads based on panel stress and deflection design criteria are derived from ASTM E72 structural testing and calculated with factor of safety of 2.5 for bending stress, 3.0 for shear stresses and deflection limitation of L/180.
6. The structural capacity of the purlins are not considered and must be examined independently.
7. Consult Metl-Span for recommendations on panel profile and gauge suitable for thermal stresses.



SUPPORT  
(NOT BY METL-SPAN)



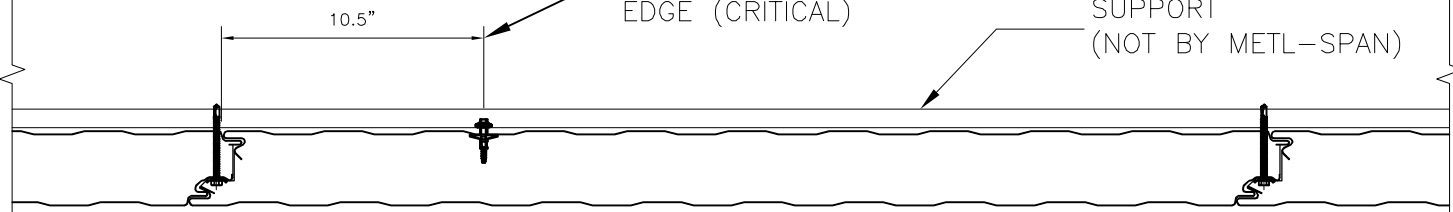
(FP1) SIDE JOINT CLIP ONLY

FROM FEMALE  
EDGE (CRITICAL)

SUPPORT  
(NOT BY METL-SPAN)

10.5"

10.5"

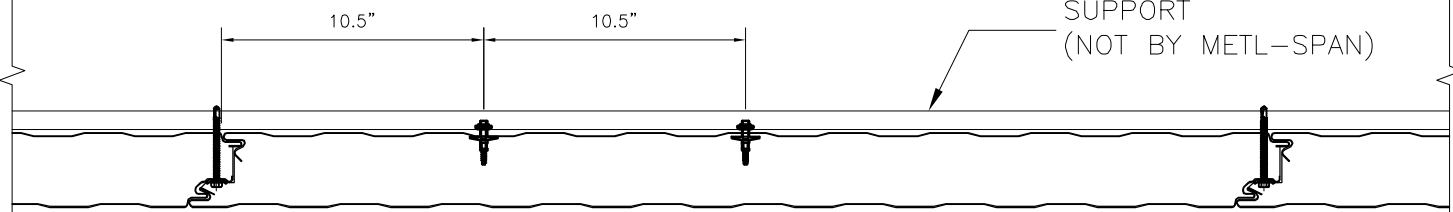


(FP2) SIDE JOINT AND (1) BLIND RIVET

SUPPORT  
(NOT BY METL-SPAN)

10.5"

10.5"



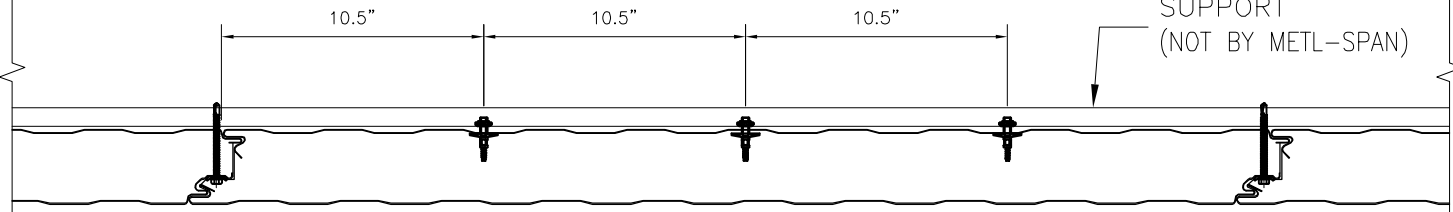
(FP3) SIDE JOINT AND (2) BLIND RIVETS

SUPPORT  
(NOT BY METL-SPAN)

10.5"

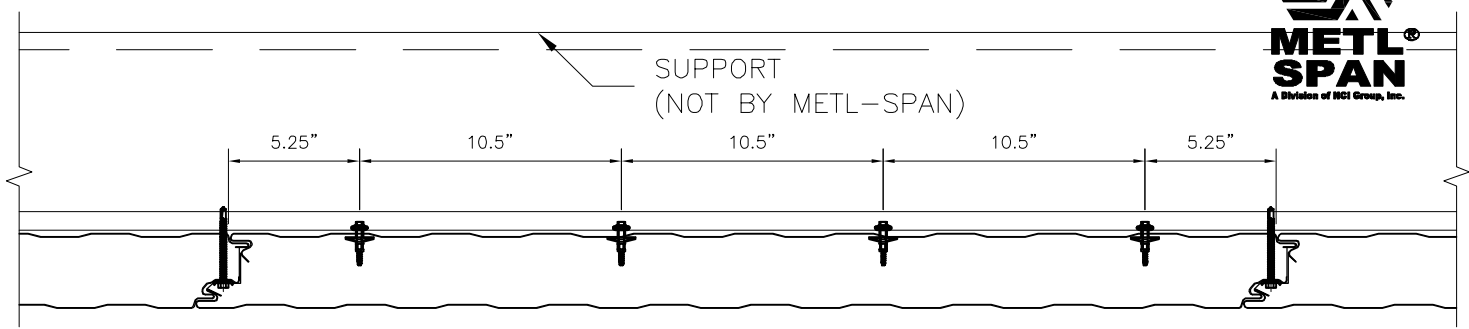
10.5"

10.5"

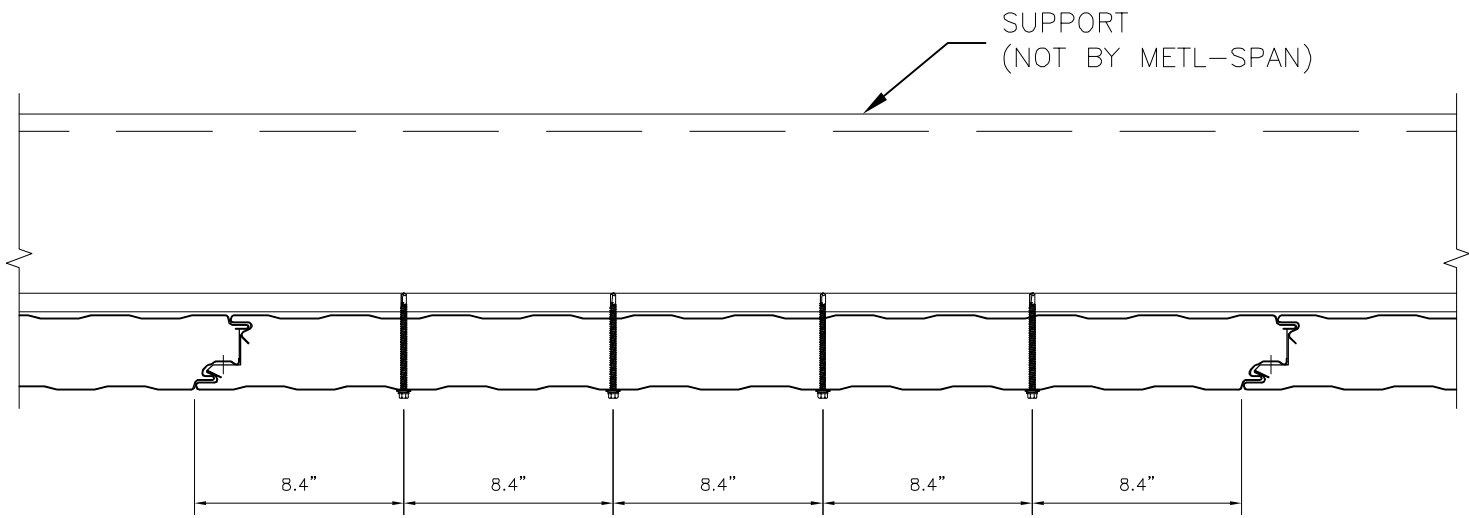


(FP4) SIDE JOINT AND (3) BLIND RIVETS

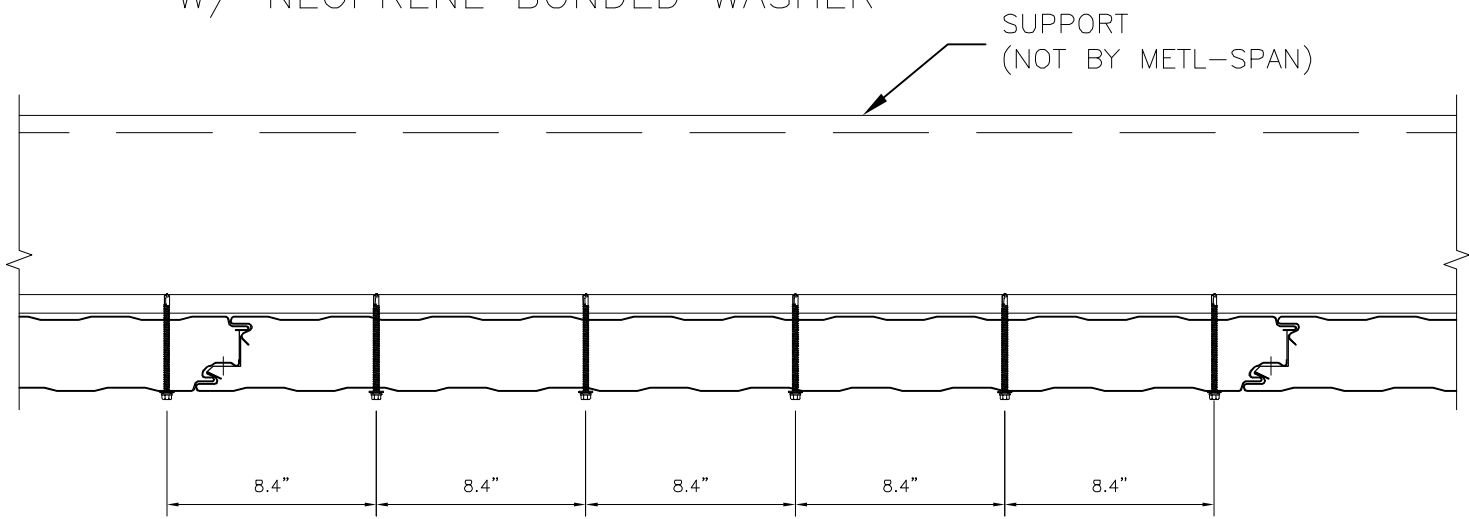
CF42 FASTENING PATTERNS



(FP5) SIDE JOINT AND (4) BLIND RIVETS



(FP9) (4) SELF-DRILLING OR SELF-TAPPING FASTENERS W/ NEOPRENE BONDED WASHER



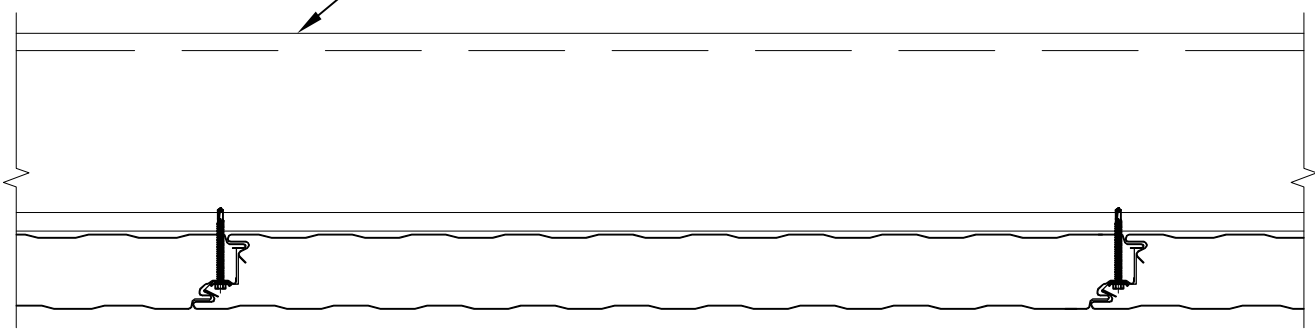
(FP10) (5) SELF-DRILLING OR SELF-TAPPING FASTENERS W/ NEOPRENE BONDED WASHER

# CF42 FASTENING PATTERNS

<b>FASTENING PATTERNS</b>	<b>APPLICATION: FASTENING</b>	<b>2 of 2</b> DATE: MAY 15, 2015
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SUPPORT  
(NOT BY METL-SPAN)

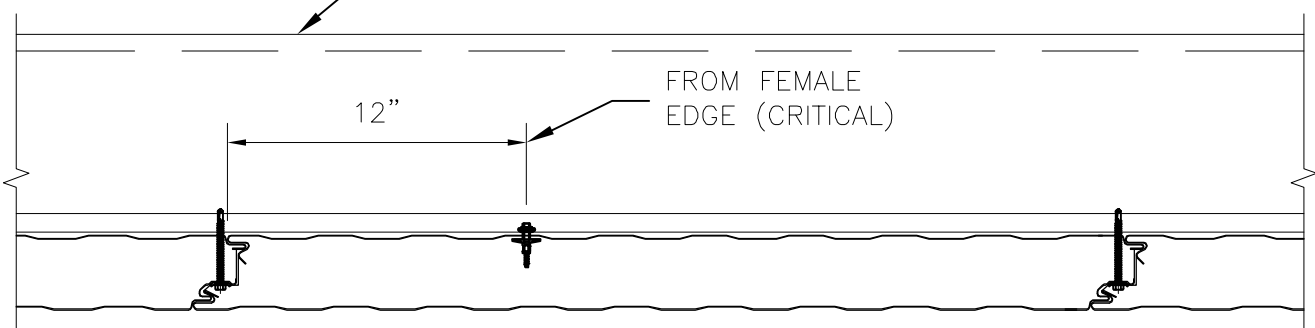


(FP1) SIDE JOINT CLIP ONLY

SUPPORT  
(NOT BY METL-SPAN)

12"

FROM FEMALE  
EDGE (CRITICAL)



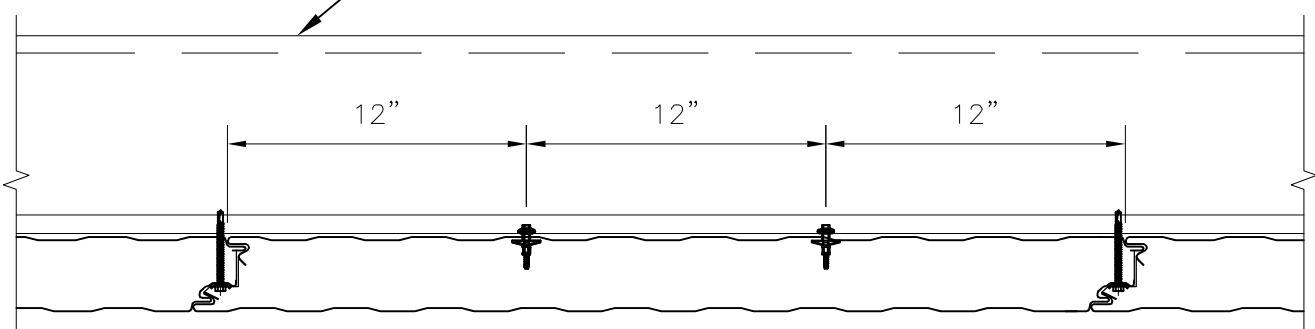
(FP2) SIDE JOINT AND (1) BLIND RIVET

SUPPORT  
(NOT BY METL-SPAN)

12"

12"

12"



(FP3) SIDE JOINT AND (2) BLIND RIVETS

# CF36 FASTENING PATTERNS