

## Metl-Span CF-42 Flute Wall Panels

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

### Allowable Connection Load<sup>1,7,8,9,10</sup> (psf) for Two or More Equal 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	13 ft	14 ft	15 ft
2" thick	Connection FP1	31.4	25.7	21.6	18.7	16.5	14.7	13.3	12.1	11.1	10.3	9.6
	Connection FP2	45.9	37.5	31.7	27.4	24.1	21.5	19.5	17.4	14.8	12.7	10.9
	Connection FP3	58.0	47.4	40.0	34.6	29.5	24.5	20.6	17.4	14.8	12.7	10.9
2.5" thick	Connection FP1	33.2	27.1	22.8	19.7	17.3	15.5	13.9	12.7	11.7	10.8	10.0
	Connection FP2	47.3	38.6	32.5	28.1	24.7	22.0	19.9	18.1	16.6	15.4	14.3
	Connection FP3	59.8	48.8	41.2	35.5	31.2	27.9	25.2	22.9	20.7	17.9	15.3
3" thick	Connection FP1	35.1	28.7	24.1	20.8	18.3	16.3	14.7	13.4	12.3	11.3	10.5
	Connection FP2	48.8	39.9	33.6	28.9	25.4	22.6	20.4	18.6	17.0	15.7	14.6
	Connection FP3	61.8	50.5	42.6	36.7	32.2	28.7	25.9	23.6	21.6	20.0	17.9
	Connection FP4	71.1	58.1	48.9	42.2	37.0	33.0	29.7	27.1	24.8	21.1	17.9
4" thick	Connection FP1	43.0	35.2	29.6	25.5	22.4	19.9	18.0	16.3	15.0	13.8	12.8
	Connection FP2	63.0	51.6	43.4	37.4	32.9	29.2	26.3	23.9	21.9	20.2	18.8
	Connection FP3	74.3	60.8	51.2	44.2	38.8	34.5	31.1	28.2	25.9	23.9	22.2
	Connection FP4	79.6	65.1	54.9	47.3	41.5	36.9	33.3	30.2	27.7	25.6	23.7
	Connection FP5	83.3	68.1	57.4	49.5	43.4	38.6	34.8	31.6	29.0	26.8	24.8
	Connection FP9	89.5	73.2	61.7	53.2	46.7	41.5	37.4	34.0	31.2	28.8	26.7
	Connection FP10	92.7	76.0	64.3	55.7	48.8	43.5	39.1	35.6	32.6	30.1	27.3
5" thick	Connection FP1	43.7	35.8	30.2	26.1	22.9	20.3	18.3	16.6	15.2	14.0	13.0
	Connection FP2	64.0	52.5	44.3	38.2	33.5	29.8	26.8	24.4	22.3	20.6	19.1
	Connection FP3	75.5	61.9	52.3	45.1	39.5	35.2	31.6	28.7	26.3	24.2	22.5
	Connection FP4	80.9	66.3	56.0	48.3	42.3	37.7	33.9	30.8	28.2	26.0	24.1
	Connection FP5	84.6	69.4	58.6	50.5	44.3	39.4	35.4	32.2	29.5	27.2	25.2
	Connection FP9	91.0	74.6	62.9	54.3	47.6	42.4	38.1	34.6	31.7	29.2	27.1
	Connection FP10	95.2	78.0	65.8	56.8	49.8	44.3	39.9	36.2	33.1	30.6	28.3
6" thick	Connection FP1	44.2	36.4	30.7	26.5	23.3	20.7	18.6	16.9	15.5	14.2	13.2
	Connection FP2	64.8	53.3	45.1	38.9	34.1	30.4	27.3	24.8	22.7	20.9	19.4
	Connection FP3	76.5	62.9	53.1	45.9	40.3	35.8	32.2	29.2	26.8	24.6	22.8
	Connection FP4	81.9	67.3	56.9	49.1	43.1	38.4	34.5	31.3	28.7	26.4	24.5
	Connection FP5	85.7	70.4	59.5	51.4	45.1	40.1	36.1	32.8	30.0	27.6	25.6
	Connection FP9	92.1	75.7	64.0	55.3	48.5	43.1	38.8	35.2	32.2	29.7	27.5
	Connection FP10	96.3	79.2	67.0	57.8	50.7	45.1	40.6	36.9	33.7	31.1	28.8

**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 26 ga. Flute exterior and 26 ga. Light Mesa interior face (min F<sub>y</sub> = 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.

**Metl-Span Flute Wall Panels<sup>7</sup>**  
**26 Ga. Exterior / 26 Ga. Interior Facings**  
**Allowable Positive Load<sup>1,4,5,6</sup> (psf) for Two or More Equal Spans**

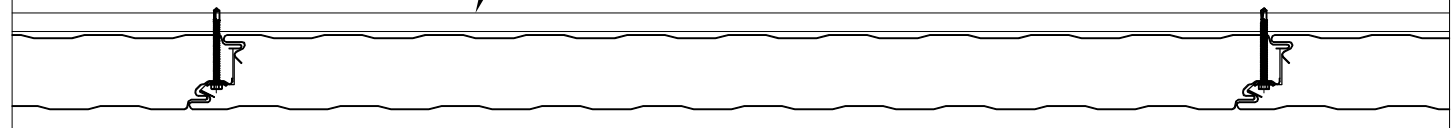
Panel Type <sup>2</sup>	Design Criteria <sup>3</sup>	Support Span										
		5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft
42" wide 2" thick	Bending & Shear	67.9	55.9	47.5	41.1	36.2	31.5	25.2	20.6	17.2	14.6	12.5
	Deflection (L/180)	69.6	54.7	44.0	35.8	29.5	24.5	20.6	17.4	14.8	12.7	10.9
42" wide 2.5" thick	Bending & Shear	77.9	64.0	54.4	47.2	41.5	37.0	31.6	25.7	21.3	17.9	15.3
	Deflection (L/180)	87.6	69.5	56.6	46.9	39.2	33.0	28.1	24.0	20.7	17.9	15.6
42" wide 3" thick	Bending & Shear	87.3	71.7	60.7	52.7	46.5	41.5	37.5	30.6	25.2	21.1	17.9
	Deflection (L/180)	104.7	83.8	68.9	57.7	49.1	42.1	36.2	31.4	27.4	24.0	21.1
42" wide 4" thick	Bending & Shear	92.7	76.0	64.3	55.7	49.1	43.9	39.7	36.1	33.1	30.6	27.3
	Deflection (L/180)	130.5	105.2	87.1	73.6	63.1	54.7	47.9	42.1	37.1	32.9	29.3
42" wide 5" thick	Bending & Shear	106.1	87.0	73.5	63.6	56.0	50.0	45.2	41.2	37.9	35.0	32.4
	Deflection (L/180)	149.0	121.0	100.9	85.8	74.0	64.7	57.0	50.7	45.4	40.7	36.6
42" wide 6" thick	Bending & Shear	118.4	97.1	82.1	71.0	62.4	55.7	50.3	45.8	42.1	38.9	36.2
	Deflection (L/180)	158.9	129.7	108.8	93.0	80.7	70.9	62.9	56.2	50.5	45.7	41.5

**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 26 ga. Flute 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)



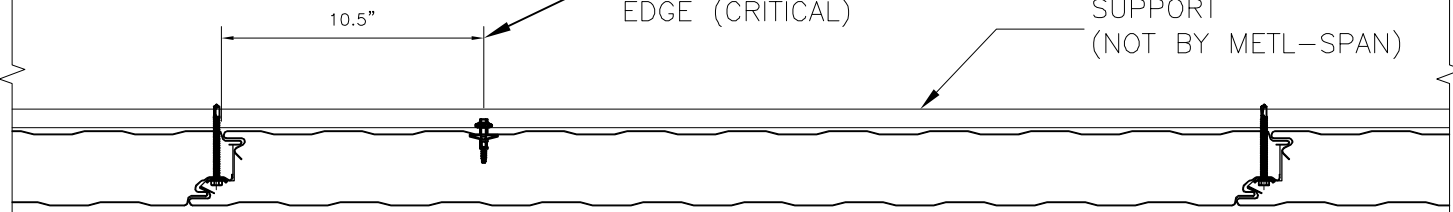
(FP1) SIDE JOINT CLIP ONLY

FROM FEMALE  
EDGE (CRITICAL)

SUPPORT  
(NOT BY METL-SPAN)

10.5"

10.5"

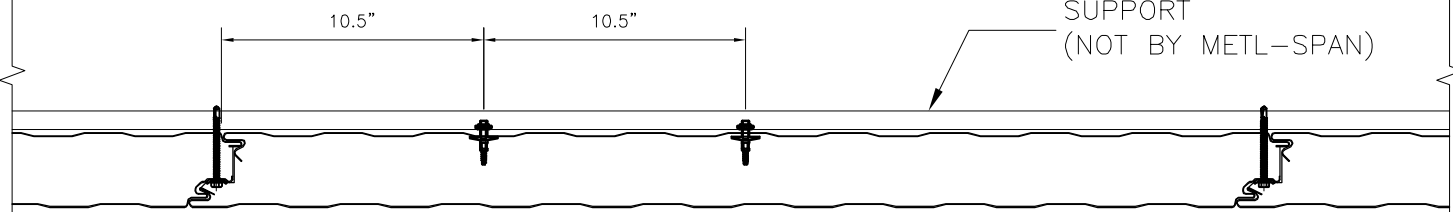


(FP2) SIDE JOINT AND (1) BLIND RIVET

SUPPORT  
(NOT BY METL-SPAN)

10.5"

10.5"



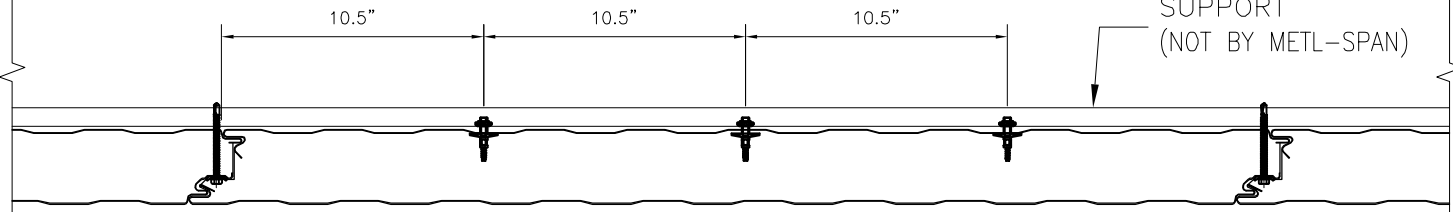
(FP3) SIDE JOINT AND (2) BLIND RIVETS

SUPPORT  
(NOT BY METL-SPAN)

10.5"

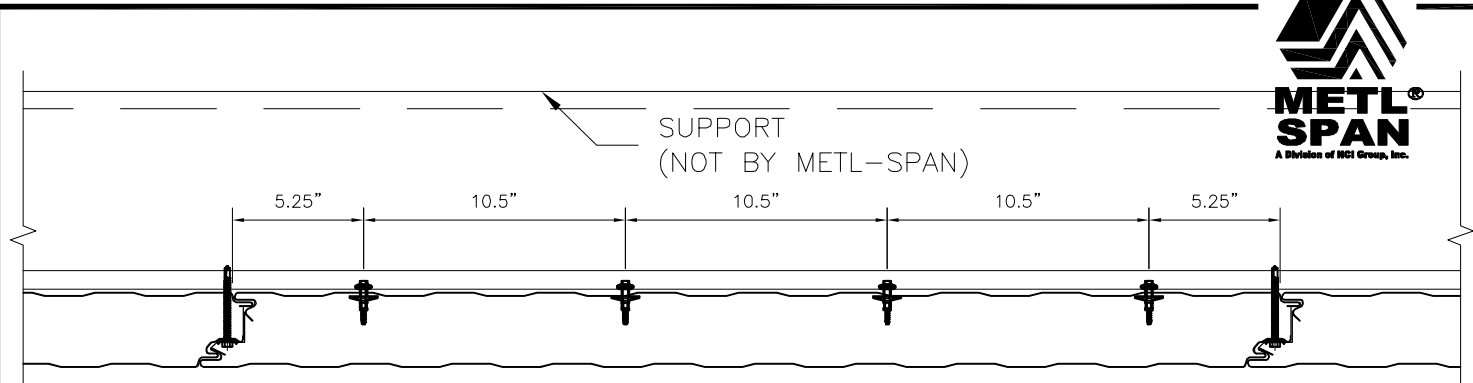
10.5"

10.5"



(FP4) SIDE JOINT AND (3) BLIND RIVETS

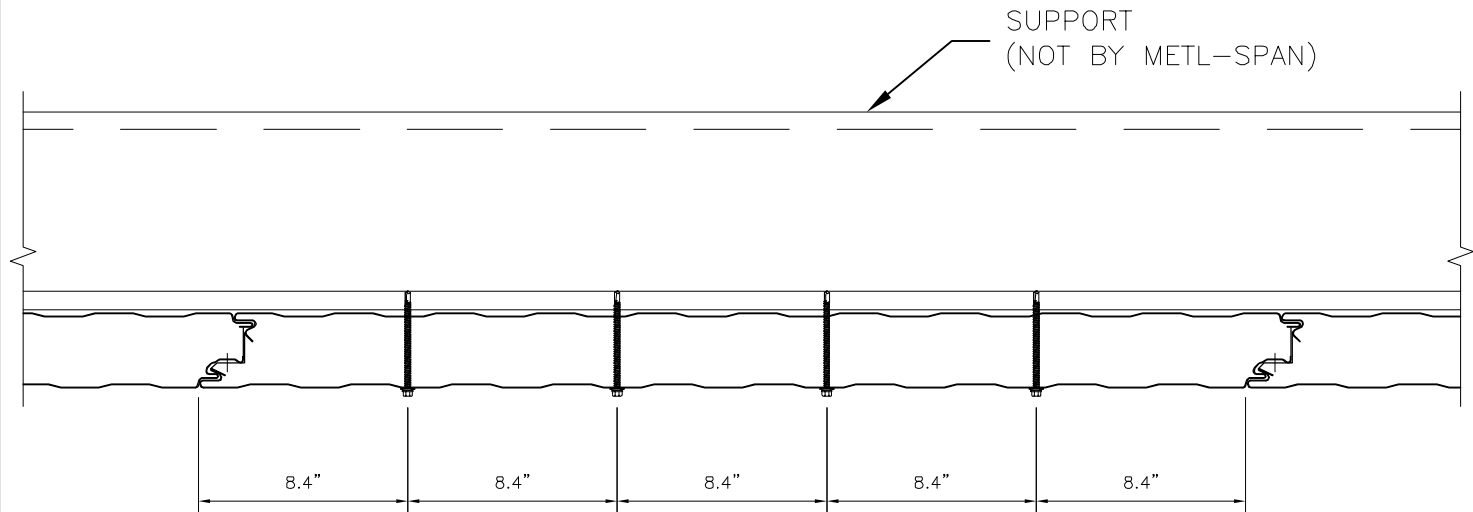
## CF42 FASTENING PATTERNS



SUPPORT  
(NOT BY METL-SPAN)

5.25" 10.5" 10.5" 10.5" 5.25"

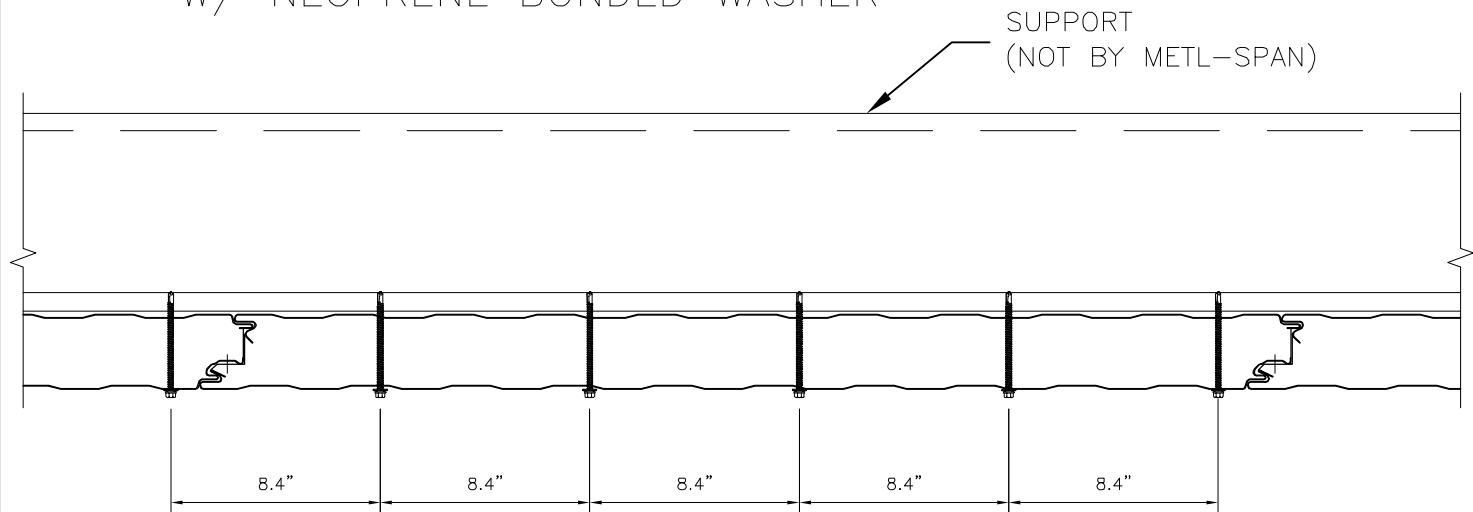
(FP5) SIDE JOINT AND (4) BLIND RIVETS



SUPPORT  
(NOT BY METL-SPAN)

8.4" 8.4" 8.4" 8.4" 8.4"

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



SUPPORT  
(NOT BY METL-SPAN)

8.4" 8.4" 8.4" 8.4" 8.4"

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

## CF42 FASTENING PATTERNS