

Metl-Span ThermalSafe Wall Panel System
24 Ga. Exterior / 26 Ga. Interior Facings
Two or More Spans Condition

TS Panel	Design Criteria	LSD (Limit State Design), PSF											
		Panel Span (ft)											
		5	6	7	8	9	10	11	12	13	14	15	16
3" Thick	Bending & Shear	66.6	54.7	46.3	40.2	35.5	31.7	28.5	26.0	23.9	22.0	20.5	19.1
	Deflection (L/240)	90.0	71.8	58.9	49.2	41.8	35.6	30.6	26.4	23.0	20.1	17.6	15.5
	Connection F1	66.6	54.7	46.3	40.2	35.5	31.7	28.5	26.0	23.9	22.0	20.5	19.1
	Connection F2	66.6	54.7	46.3	40.2	35.5	31.7	28.5	26.0	23.9	22.0	20.5	19.1
	Connection F3	61.3	50.1	42.2	36.4	32.0	28.5	25.7	23.4	21.5	19.8	18.4	17.2
4" Thick	Bending & Shear	85.7	70.3	59.5	51.5	45.5	40.7	36.8	33.4	30.6	28.3	26.3	24.5
	Deflection (L/240)	118.2	95.1	78.6	66.3	56.7	49.1	42.9	37.5	33.0	29.1	25.9	23.0
	Connection F1	85.7	70.3	59.5	51.5	45.5	40.7	36.8	33.4	30.6	28.3	26.3	24.5
	Connection F2	85.7	70.3	59.5	51.5	45.5	40.7	36.8	33.4	30.6	28.3	26.3	24.5
	Connection F3	62.4	51.0	43.0	37.1	32.5	28.9	26.1	23.7	21.7	20.1	18.6	17.4
5" Thick	Bending & Shear	102.6	84.1	71.1	61.6	54.2	48.5	43.8	40.0	36.7	33.8	31.4	29.3
	Deflection (L/240)	143.6	116.2	96.6	81.9	70.5	61.4	54.0	47.8	42.5	37.9	33.9	30.4
	Connection F1	102.6	84.1	71.1	61.6	54.2	48.5	43.8	40.0	36.7	33.8	31.4	29.3
	Connection F2	102.6	84.1	71.1	61.6	54.2	48.5	43.8	40.0	36.7	33.8	31.4	29.3
6" Thick	Bending & Shear	116.1	95.2	80.4	69.6	61.2	54.7	49.4	45.0	41.4	38.3	35.5	33.1
	Deflection (L/240)	165.2	134.3	112.2	95.5	82.6	72.2	63.8	56.8	50.8	45.8	41.2	37.3
	Connection F1	116.1	95.2	80.4	69.6	61.2	54.7	49.4	45.0	41.4	38.3	35.5	33.1
	Connection F2	116.1	95.2	80.4	69.6	61.2	54.7	49.4	45.0	41.4	38.3	35.5	33.1
7" Thick	Bending & Shear	136.6	112.0	94.6	81.8	72.0	64.3	58.0	52.9	48.6	44.9	41.8	38.9
	Deflection (L/240)	194.7	158.8	132.9	113.5	98.3	86.2	76.3	68.1	61.2	55.3	50.1	45.5
	Connection F1	127.9	105.0	88.7	76.6	67.2	59.8	53.8	48.8	44.7	41.2	38.2	35.6
	Connection F2	136.6	112.0	94.6	81.8	72.0	64.3	58.0	52.9	48.6	44.9	41.8	38.9
8" Thick	Bending & Shear	157.2	128.9	109.0	94.2	82.9	73.9	66.7	60.8	55.8	51.6	48.0	44.8
	Deflection (L/240)	224.3	183.3	153.8	131.5	114.2	100.4	89.0	79.6	71.6	64.8	59.0	53.8
	Connection F1	128.4	105.6	89.3	77.1	67.7	60.2	54.2	49.2	45.0	41.4	38.4	35.8
	Connection F2	157.2	128.9	109.0	94.2	82.9	73.9	66.7	60.8	55.8	51.6	48.0	44.8

Notes

- Based on ThermalSafe panel with 24 ga. exterior & 26 ga. interior face (min Fy = 33 ksi) for 2 or more spans condition.
- Factored resistance inward load is the lowest value of panel bending, shear, and deflection resistances.
- Factored resistance outward load is the lowest value of panel bending, shear, deflection, and connection resistances for each fastener pattern.
- Loads based on panel stress and deflection design criteria are derived from ASTM E72 testing. The factored resistance loads are calculated with resistance factor of 0.5 and 0.4 for bending and shear stresses, respectively.
- The panel and its connection strength was determined from ASTM E72 testing and the factored resistance loads are calculated with resistance factor of 0.7.
- Specified loads should not exceed the deflection load for L/240 limit.
- Fastener Spacing across panel width into 14 ga. Girts:
 Connection F1 (3 Fasteners): End Support (3"-18"-18"-3") & Intermediate (7"-14"-14"-7")
 Connection F2 (4 Fasteners): End Support (3"-12"-12"-12"-3") & Intermediate (5.25"-10.5"-10.5"-10.5"-5.25")
 Connection F3: 3 Fasteners at End Support (3"-18"-18"-3") & 4 FabLok at Intermediate (5.25"-10.5"-10.5"-10.5"-5.25")
- The structural capacity of the girts are not considered and must be examined independently.

Metl-Span ThermalSafe Wall Panel System
26 Ga. Exterior / 26 Ga. Interior Facings
Two or More Spans Condition

TS Panel	Design Criteria	LSD (Limit State Design), PSF											
		Panel Span (ft)											
		5	6	7	8	9	10	11	12	13	14	15	16
3" Thick	Bending & Shear	66.4	54.5	46.2	40.2	35.4	31.6	28.5	25.9	23.8	22.0	20.5	19.1
	Deflection (L/240)	89.0	70.8	57.9	48.2	40.6	34.5	29.4	25.3	21.9	19.1	16.7	14.6
	Connection F1	66.4	54.5	46.2	40.2	35.4	31.6	28.5	25.9	23.8	22.0	20.5	19.1
	Connection F2	66.4	54.5	46.2	40.2	35.4	31.6	28.5	25.9	23.8	22.0	20.5	19.1
	Connection F3	54.1	44.1	37.2	32.1	28.2	25.1	22.7	20.7	19.0	17.5	16.3	15.2
4" Thick	Bending & Shear	85.4	70.0	59.3	51.4	45.4	40.6	36.6	33.3	30.5	28.2	26.2	24.5
	Deflection (L/240)	117.2	94.0	77.5	65.2	55.6	48.0	41.6	36.3	31.8	28.0	24.7	21.9
	Connection F1	85.4	70.0	59.3	51.4	45.4	40.6	36.6	33.3	30.5	28.2	26.2	24.5
	Connection F2	85.4	70.0	59.3	51.4	45.4	40.6	36.6	33.3	30.5	28.2	26.2	24.5
	Connection F3	55.1	45.0	37.9	32.7	28.7	25.5	23.0	20.9	19.2	17.7	16.5	15.4
5" Thick	Bending & Shear	102.2	83.7	70.8	61.3	54.1	48.4	43.7	39.8	36.5	33.7	31.3	29.2
	Deflection (L/240)	142.5	115.1	95.4	80.7	69.3	60.2	52.8	46.6	41.2	36.6	32.6	29.2
	Connection F1	89.9	73.6	62.0	53.5	46.9	41.7	37.6	34.1	31.3	28.9	26.8	25.0
	Connection F2	102.2	83.7	70.8	61.3	54.1	48.4	43.7	39.8	36.5	33.7	31.3	29.2
6" Thick	Bending & Shear	115.6	94.7	80.1	69.3	61.0	54.5	49.3	44.9	41.3	38.1	35.3	32.9
	Deflection (L/240)	164.2	133.2	111.0	94.3	81.4	71.0	62.6	55.6	49.7	44.5	39.9	36.0
	Connection F1	91.9	75.4	63.6	54.8	48.1	42.8	38.5	35.0	32.0	29.5	27.4	25.5
	Connection F2	115.6	94.7	80.1	69.3	61.0	54.5	49.1	44.6	40.8	37.6	34.9	32.6
7" Thick	Bending & Shear	136.0	111.5	94.2	81.5	71.7	64.0	57.8	52.7	48.4	44.8	41.6	38.8
	Deflection (L/240)	193.6	157.6	131.7	112.2	97.0	84.9	75.0	66.8	59.9	54.0	48.7	44.1
	Connection F1	93.6	76.8	64.8	55.9	49.1	43.6	39.3	35.6	32.6	30.1	27.9	26.0
	Connection F2	125.2	102.7	86.7	74.8	65.7	58.4	52.5	47.7	43.7	40.2	37.3	34.8
8" Thick	Bending & Shear	156.5	128.3	108.5	93.8	82.5	73.6	66.5	60.6	55.7	51.5	47.9	44.6
	Deflection (L/240)	223.2	182.0	152.4	130.1	112.8	98.9	87.6	78.2	70.3	63.5	57.6	52.3
	Connection F1	94.0	77.2	65.3	56.3	49.4	44.0	39.5	35.9	32.9	30.3	28.1	26.1
	Connection F2	125.8	103.3	87.3	75.4	66.1	58.8	52.9	48.0	44.0	40.5	37.5	35.0

Notes

- Based on ThermalSafe panel with 26 ga. exterior & 26 ga. interior face (min Fy = 33 ksi) for 2 or more spans condition.
- Factored resistance inward load is the lowest value of panel bending, shear, and deflection resistance.
- Factored resistance outward load is the lowest value of panel bending, shear, deflection, and connection resistances for each fastener pattern.
- Loads based on panel stress and deflection design criteria are derived from ASTM E72 testing. The factored resistance loads are calculated with resistance factor of 0.5 and 0.4 for bending and shear stresses, respectively.
- The panel and its connection strength was determined from ASTM E72 testing and the factored resistance loads are calculated with resistance factor of 0.7.
- Specified loads should not exceed the deflection load for L/240 limit.
- Fastener Spacing across panel width into 14 ga. Girts:
 Connection F1 (3 Fasteners): End Support (3"-18"-18"-3") & Intermediate (7"-14"-14"-7")
 Connection F2 (4 Fasteners): End Support (3"-12"-12"-12"-3") & Intermediate (5.25"-10.5"-10.5"-10.5"-5.25")
 Connection F3: 3 Fasteners at End Support (3"-18"-18"-3") & 4 FabLok at Intermediate (5.25"-10.5"-10.5"-10.5"-5.25")
- The structural capacity of the girts are not considered and must be examined independently.

Metl-Span ThermalSafe Wall Panel System
24 Ga. Exterior / 26 Ga. Interior Facings
Single Span Condition

TS Panel	Design Criteria	LSD (Limit State Design), PSF											
		Panel Span (ft)											
		5	6	7	8	9	10	11	12	13	14	15	16
3" Thick	Bending & Shear	74.7	62.2	53.3	46.7	41.5	37.3	33.9	31.1	28.7	26.7	24.9	22.3
	Deflection (L/240)	86.8	67.5	53.7	43.3	35.4	29.3	24.4	20.5	17.3	14.8	12.6	10.9
	Connection F1	74.7	62.2	53.3	46.7	41.5	37.3	33.9	31.1	28.7	26.7	24.9	22.3
4" Thick	Bending & Shear	94.7	78.9	67.6	59.2	52.6	47.4	43.0	39.5	36.4	33.8	31.6	28.7
	Deflection (L/240)	115.7	91.6	74.1	60.9	50.7	42.6	36.0	30.7	26.3	22.7	19.7	17.2
	Connection F1	94.7	78.9	67.6	59.2	52.6	47.4	43.0	39.5	36.4	33.8	31.6	28.7
5" Thick	Bending & Shear	111.9	93.3	80.0	70.0	62.2	56.0	50.9	46.6	43.1	40.0	37.3	34.3
	Deflection (L/240)	141.6	113.4	92.8	77.3	65.1	55.3	47.4	40.9	35.4	30.9	27.0	23.8
	Connection F1	111.9	93.3	80.0	70.0	62.2	56.0	50.9	46.6	43.1	40.0	37.3	34.3
6" Thick	Bending & Shear	125.2	104.4	89.5	78.3	69.6	62.6	56.9	52.2	48.2	44.7	41.7	39.1
	Deflection (L/240)	163.7	132.1	109.1	91.7	77.9	66.9	57.9	50.3	44.0	38.7	34.2	30.3
	Connection F1	125.2	104.4	89.5	78.3	69.6	62.6	56.9	52.2	48.2	44.7	41.7	39.1
7" Thick	Bending & Shear	146.4	122.0	104.5	91.5	81.3	73.2	66.5	61.0	56.3	52.3	48.8	45.7
	Deflection (L/240)	193.4	156.7	130.1	109.8	93.9	81.0	70.4	61.6	54.2	47.9	42.5	37.9
	Connection F1	146.4	122.0	104.5	91.5	81.3	73.2	66.5	61.0	56.3	52.3	48.8	45.7
8" Thick	Bending & Shear	167.5	139.6	119.6	104.7	93.0	83.7	76.1	69.8	64.4	59.8	55.8	52.3
	Deflection (L/240)	223.2	181.4	151.1	128.1	109.9	95.3	83.2	73.1	64.6	57.4	51.1	45.7
	Connection F1	162.4	135.3	116.0	101.5	90.2	81.2	73.8	67.7	62.5	58.0	54.1	50.8

Notes

1. Based on ThermalSafe panel with 24 ga. exterior & 26 ga. interior face (min Fy = 33 ksi). The panel span is single span condition.
2. Factored resistance inward load is the lowest value of panel bending, shear, and deflection resistances.
3. Factored resistance outward load is the lowest value of panel bending, shear, deflection, and connection resistances for each fastener pattern.
4. Loads based on panel stress and deflection design criteria are derived from ASTM E-72 testing. The factored resistance loads are calculated with resistance factor of 0.5 and 0.4 for bending and shear stresses, respectively.
5. The panel and its connection strength was determined from ASTM E1592 testing and the factored resistance loads are calculated with resistance factor of 0.7.
6. Specified loads should not exceed the deflection load for L/240 limit.
7. Based on attachment with 14 ga. steel girt with fastener spacing 3"-18"-18"-3" across panel width
8. The structural capacity of the girts are not considered and must be examined independently.

$$cap = \begin{pmatrix} 48.2 & 44.0 & 48.2 \\ 52.2 & 50.3 & 52.2 \end{pmatrix} \cdot psf \quad spn = \begin{pmatrix} 13 \\ 12 \end{pmatrix} \cdot ft \quad i = 1..3$$

$$sp'_i = \text{linterp}(cap^{(i)}, spn, 50 \cdot psf) \quad sp' = \begin{pmatrix} 12.55 \\ 12.048 \\ 12.55 \end{pmatrix} \cdot ft$$

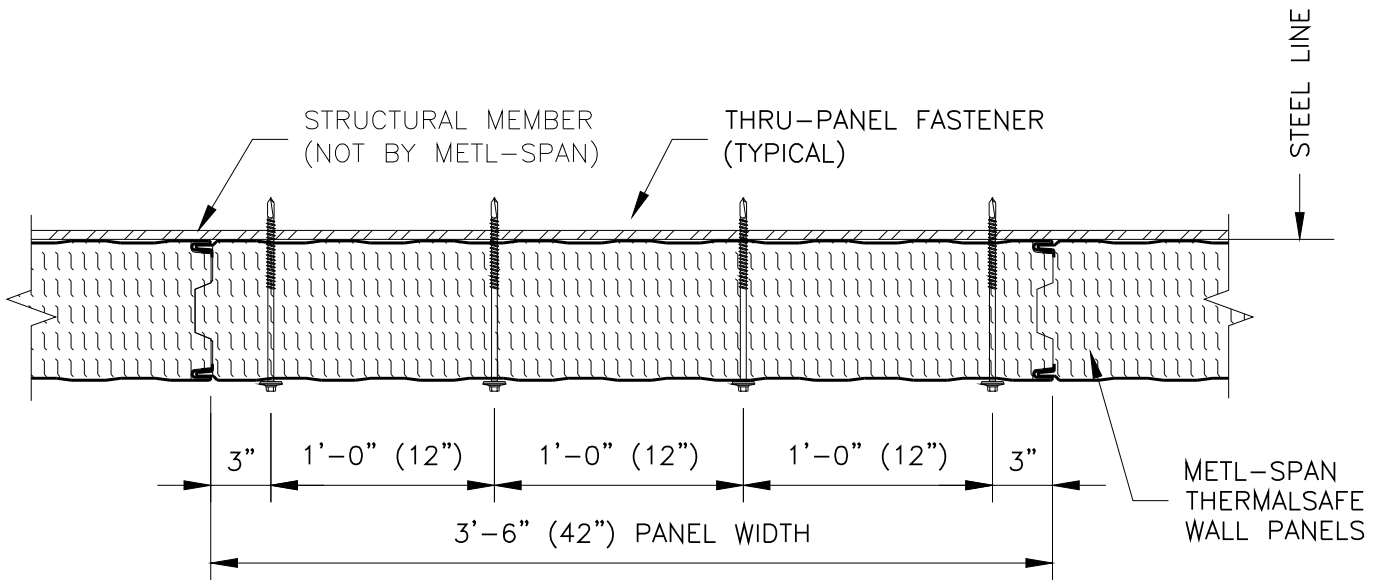
$$span_{max} = \min(sp') \quad span_{max} = 12.048 \cdot ft$$

Metl-Span ThermalSafe Wall Panel System
26 Ga. Exterior / 26 Ga. Interior Facings
Single Span Condition

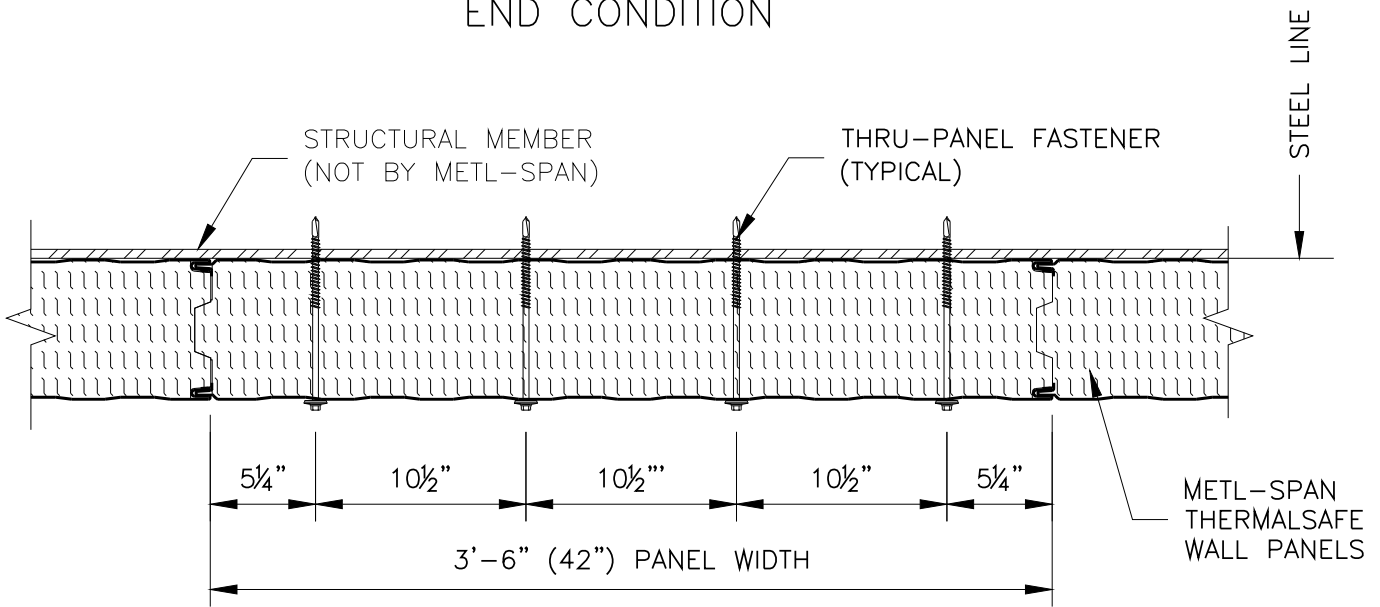
TS Panel	Design Criteria	LSD (Limit State Design), PSF											
		Panel Span (ft)											
		5	6	7	8	9	10	11	12	13	14	15	16
3" Thick	Bending & Shear	74.8	62.3	53.4	46.8	41.6	37.4	34.0	31.2	28.8	26.7	24.9	22.4
	Deflection (L/240)	85.2	65.9	52.0	41.7	33.9	27.8	23.0	19.2	16.2	13.7	11.7	10.1
	Connection F1	73.2	61.0	52.3	45.7	40.6	36.6	33.3	30.5	28.1	26.1	24.4	22.4
4" Thick	Bending & Shear	94.8	79.0	67.7	59.3	52.7	47.4	43.1	39.5	36.5	33.9	31.6	28.9
	Deflection (L/240)	114.1	89.9	72.3	59.1	48.9	40.8	34.4	29.2	24.9	21.4	18.5	16.0
	Connection F1	87.1	72.6	62.2	54.4	48.4	43.5	39.6	36.3	33.5	31.1	29.0	27.2
5" Thick	Bending & Shear	112.0	93.4	80.0	70.0	62.2	56.0	50.9	46.7	43.1	40.0	37.3	34.9
	Deflection (L/240)	140.1	111.7	91.0	75.4	63.2	53.4	45.6	39.1	33.7	29.3	25.5	22.4
	Connection F1	101.4	84.5	72.4	63.4	56.3	50.7	46.1	42.2	39.0	36.2	33.8	31.7
6" Thick	Bending & Shear	125.3	104.5	89.5	78.3	69.6	62.7	57.0	52.2	48.2	44.8	41.8	39.2
	Deflection (L/240)	162.4	130.5	107.4	89.8	76.0	65.0	55.9	48.5	42.2	37.0	32.5	28.7
	Connection F1	115.6	96.4	82.6	72.3	64.2	57.8	52.6	48.2	44.5	41.3	38.5	36.1
7" Thick	Bending & Shear	146.5	122.1	104.6	91.5	81.4	73.2	66.6	61.0	56.3	52.3	48.8	45.8
	Deflection (L/240)	192.0	155.1	128.3	107.9	91.8	78.9	68.4	59.6	52.2	45.9	40.6	36.0
	Connection F1	129.9	108.3	92.8	81.2	72.2	65.0	59.1	54.1	50.0	46.4	43.3	40.6
8" Thick	Bending & Shear	167.6	139.7	119.7	104.7	93.1	83.8	76.2	69.8	64.5	59.9	55.9	52.4
	Deflection (L/240)	221.7	179.7	149.3	126.1	107.8	93.1	81.0	70.9	62.4	55.2	49.0	43.6
	Connection F1	129.9	108.3	92.8	81.2	72.2	65.0	59.1	54.1	50.0	46.4	43.3	40.6

Notes

1. Based on ThermalSafe panel with 26 ga. exterior & 26 ga. interior face (min Fy = 33 ksi). The panel span is single span condition.
2. Factored resistance inward load is the lowest value of panel bending, shear, and deflection resistances.
3. Factored resistance outward load is the lowest value of panel bending, shear, deflection, and connection resistances for each fastener pattern.
4. Loads based on panel stress and deflection design criteria are derived from ASTM E-72 testing. The factored resistance loads are calculated with resistance factor of 0.5 and 0.4 for bending and shear stresses, respectively.
5. The panel and its connection strength was determined from ASTM E1592 testing and the factored resistance loads are calculated with resistance factor of 0.7.
6. Specified loads should not exceed the deflection load for L/240 limit.
7. Based on attachment with 14 ga. steel girt with fastener spacing 3"-18"-18"-3" across panel width
8. The structural capacity of the girts are not considered and must be examined independently.



END CONDITION



INTERMEDIATE CONDITION

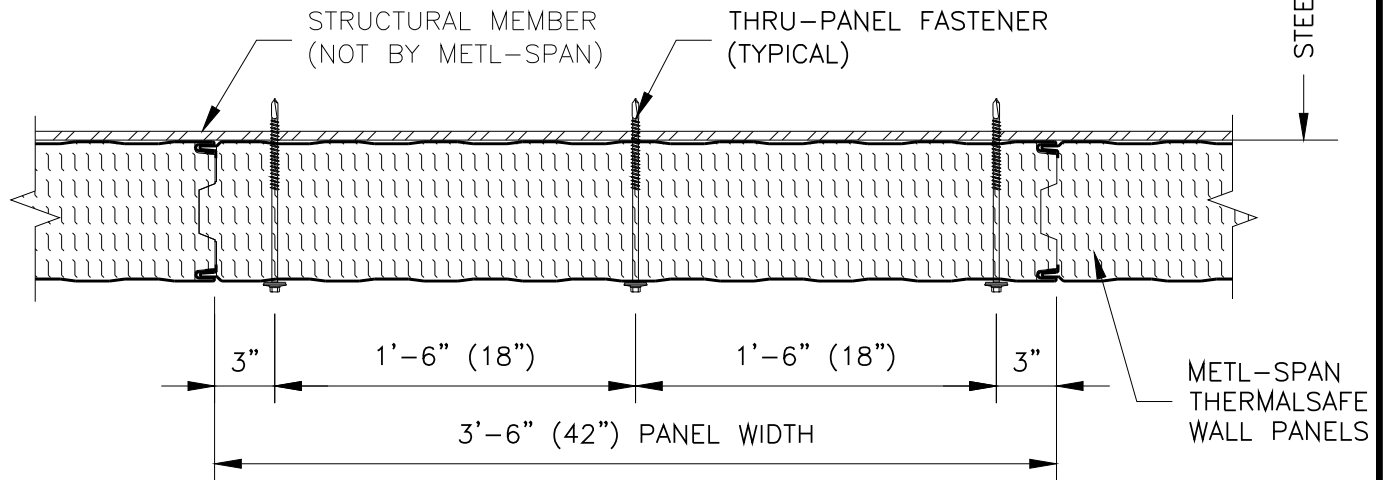
VERTICAL PANEL – THRU PANEL FASTENER PATTERNS
TSFP2

NOTE: FASTENER PATTERN TO BE DETERMINED PER SPECIFIC PROJECT DESIGN REQUIREMENTS.

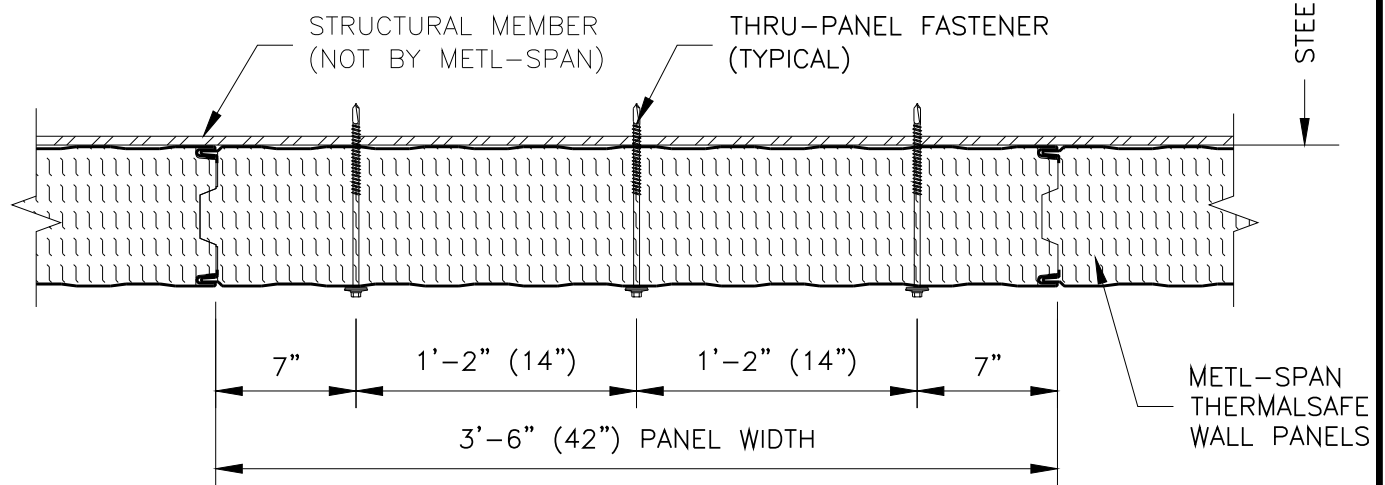
**COMMERCIAL AND
INDUSTRIAL**

**FASTENER PATTERNS TSFP2
THERMALS SAFE PANEL**

TSW03011
DATE: 01-12-2016



END CONDITION



INTERMEDIATE CONDITION

VERTICAL PANEL – THRU PANEL FASTENER PATTERNS
TSFP1

NOTE: FASTENER PATTERN TO BE DETERMINED PER SPECIFIC PROJECT DESIGN REQUIREMENTS.

COMMERCIAL AND
INDUSTRIAL

FASTENER PATTERNS TSFP1
THERMALS SAFE PANEL

TSW03010
DATE: 01-12-2016