

THEORETICAL ALLOWABLE LIVE AND WIND LOADS

12" American Architectural Metal Manufacturers TLNF-1500/TLC-1500									
SPAN (ft)	SINGLE SPAN CONDITION								
	26 Gauge & 50 ksi			24 Gauge & 50 ksi			22 Gauge & 50 ksi		
	LL (S) (psf)	LL (D) (psf)	WL (psf)	LL (S) (psf)	LL (D) (psf)	WL (psf)	LL (S) (psf)	LL (D) (psf)	WL (psf)
2	156.2	156.2	180.0	233.0	233.0	245.4	292.7	292.7	312.8
2.5	99.9	99.9	115.2	149.1	149.1	157.0	187.3	187.3	200.2
3	69.4	69.4	80.0	103.6	103.6	109.1	130.1	130.1	139.0
3.5	51.0	51.0	58.8	76.1	76.1	80.1	95.6	95.6	102.1
4	39.0	39.0	45.0	58.3	58.3	61.3	73.2	73.2	78.2
4.5	30.8	30.8	35.6	46.0	46.0	48.5	57.8	57.8	61.8
5	25.0	25.0	28.8	37.3	37.3	39.3	46.8	46.8	50.0
5.5	20.7	20.7	23.8	30.8	30.8	32.4	38.7	38.7	41.4
SPAN (ft)	TWO SPAN CONDITION								
	26 Gauge & 50 ksi			24 Gauge & 50 ksi			22 Gauge & 50 ksi		
	LL (S) (psf)	LL (D) (psf)	WL (psf)	LL (S) (psf)	LL (D) (psf)	WL (psf)	LL (S) (psf)	LL (D) (psf)	WL (psf)
2	135.3	135.3	207.7	184.5	184.5	309.9	235.2	235.2	389.2
2.5	86.6	86.6	132.9	118.1	118.1	198.3	150.5	150.5	249.1
3	60.1	60.1	92.3	82.0	82.0	137.7	104.5	104.5	173.0
3.5	44.2	44.2	67.8	60.2	60.2	101.2	76.8	76.8	127.1
4	33.8	33.8	51.9	46.1	46.1	77.5	58.8	58.8	97.3
4.5	26.7	26.7	41.0	36.4	36.4	61.2	46.5	46.5	76.9
5	21.7	21.7	33.2	29.5	29.5	49.6	37.6	37.6	62.3
5.5	17.9	17.9	27.5	24.4	24.4	41.0	31.1	31.1	51.5
SPAN (ft)	THREE OR MORE SPAN CONDITION								
	26 Gauge & 50 ksi			24 Gauge & 50 ksi			22 Gauge & 50 ksi		
	LL (S) (psf)	LL (D) (psf)	WL (psf)	LL (S) (psf)	LL (D) (psf)	WL (psf)	LL (S) (psf)	LL (D) (psf)	WL (psf)
2	158.1	158.1	242.6	215.5	215.5	362.0	274.7	274.7	454.7
2.5	101.2	101.2	155.3	137.9	137.9	231.7	175.8	175.8	291.0
3	70.3	70.3	107.8	95.8	95.8	160.9	122.1	122.1	202.1
3.5	51.6	51.6	79.2	70.4	70.4	118.2	89.7	89.7	148.5
4	39.5	39.5	60.7	53.9	53.9	90.5	68.7	68.7	113.7
4.5	31.2	31.2	47.9	42.6	42.6	71.5	54.3	54.3	89.8
5	25.3	25.3	38.8	34.5	34.5	57.9	44.0	44.0	72.8
5.5	20.9	20.9	32.1	28.5	28.5	47.9	36.3	36.3	60.1

Notes:

- * Theoretical allowable loads are based on uniform span lengths.
- * LL (S) is allowable live load based on stress limitation
- * LL (D) is allowable live load based on deflection limitation of L/180
- * WL is allowable wind load and has been increased by 33-1/3%.

SECTION PROPERTIES: 12" American Architectural Metal Manufacturers TLNF-1500 / TLC-1500									
Gauge	Thickness in.	Weight psf	Yield Stress ksi	Top in Compression (Positive Bending)			Bottom in Compression (Negative Bending)		
				I_{xx}	S_{xx}	M_a	I_{xx}	S_{xx}	
				in ⁴ /ft	in ³ /ft	in.kips/ft	in ⁴ /ft	in ³ /ft	in.kips/ft
26	0.018	1.055	50.0	0.041	0.031	0.937	0.025	0.027	0.812
24	0.024	1.398	50.0	0.060	0.047	1.398	0.036	0.037	1.107
22	0.030	1.734	50.0	0.075	0.059	1.756	0.048	0.047	1.411

Notes on Section Properties and Load Table:

- * Section properties and allowables are calculated in accordance with 1996 AISI Specifications.
- * I +/- is for deflection determination.
- * S +/- is for bending determination.
- * M_a is allowable bending moment.
- * All values are for one foot of panel width.
- * These loads are for panel strength. Frames, purlins, clips, fasteners and all supports must be designed to resist all loads imposed on the panel,
- * Allowable outward loads based on stress have been increased by 33.33 % for wind uplift.
- * Allowable loads for deflection are based on deflection limitation of span/180.
- * For roof panels, self weight of the panel has to be deducted from the allowable inward load to arrive at the actual 'live load' carrying capacity of the panel.
- * Minimum bearing length must be checked.
- * Minimum deliverable bare steel thickness should not be less than 0.95 of design thickness.