

**THEORETICAL ALLOWABLE LIVE AND WIND LOADS**

15" 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	117.5	117.5	135.2	175.5	175.5	184.2	224.3	224.3	234.9
2.5	75.2	75.2	86.5	112.3	112.3	117.9	143.5	143.5	150.3
3	52.2	52.2	60.1	78.0	78.0	81.9	99.7	99.7	104.4
3.5	38.4	38.4	44.1	57.3	57.3	60.1	73.2	73.2	76.7
4	29.4	29.4	33.8	43.9	43.9	46.1	56.1	56.1	58.7
4.5	23.2	23.2	26.7	34.7	34.7	36.4	44.3	44.3	46.4
5	18.8	18.8	21.6	28.1	28.1	29.5	35.9	35.9	37.6
5.5	15.5	15.5	17.9	23.2	23.2	24.4	29.7	29.7	31.1

  

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	101.6	101.6	156.3	138.5	138.5	233.4	176.6	176.6	298.3
2.5	65.0	65.0	100.0	88.6	88.6	149.4	113.0	113.0	190.9
3	45.2	45.2	69.5	61.6	61.6	103.7	78.5	78.5	132.6
3.5	33.2	33.2	51.0	45.2	45.2	76.2	57.7	57.7	97.4
4	25.4	25.4	39.1	34.6	34.6	58.4	44.2	44.2	74.6
4.5	20.1	20.1	30.9	27.4	27.4	46.1	34.9	34.9	58.9
5	16.3	16.3	25.0	22.2	22.2	37.3	28.3	28.3	47.7
5.5	13.4	13.4	20.7	18.3	18.3	30.9	23.4	23.4	39.4

  

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	118.7	118.7	182.6	161.8	161.8	272.7	206.3	206.3	348.4
2.5	76.0	76.0	116.8	103.6	103.6	174.5	132.1	132.1	223.0
3	52.8	52.8	81.1	71.9	71.9	121.2	91.7	91.7	154.9
3.5	38.8	38.8	59.6	52.8	52.8	89.0	67.4	67.4	113.8
4	29.7	29.7	45.6	40.4	40.4	68.2	51.6	51.6	87.1
4.5	23.5	23.5	36.1	32.0	32.0	53.9	40.8	40.8	68.8
5	19.0	19.0	29.2	25.9	25.9	43.6	33.0	33.0	55.7
5.5	15.7	15.7	24.1	21.4	21.4	36.1	27.3	27.3	46.1

**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: 15" 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)		
				$I_{xx}$	$S_{xx}$	$M_a$	$I_{xx}$	$S_{xx}$	$M_a$
				in <sup>4</sup> /ft	in <sup>3</sup> /ft	in.kips/ft	in <sup>4</sup> /ft	in <sup>3</sup> /ft	in.kips/ft
26	0.018	0.975	50.0	0.032	0.024	0.705	0.019	0.020	0.610
24	0.024	1.292	50.0	0.047	0.035	1.053	0.027	0.028	0.831
22	0.030	1.606	50.0	0.059	0.045	1.346	0.036	0.035	1.060

**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.