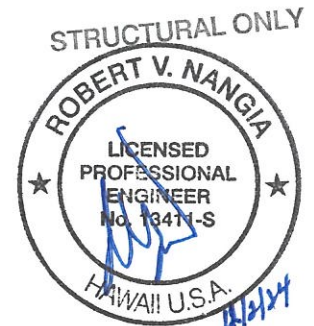


SECTION PROPERTIES										ALLOWABLE UNIFORM LOADS, psf For various clip spacings (i.e. span values)					
Width, in.	Gauge	Yield ksi	Weight psf	Top in Compression			Bottom in Compression			Negative Load					
				$I_{xx}$ in <sup>4</sup> /ft.	$I_{xx}$ (eff) in <sup>4</sup> /ft.	$S_{xx}$ in <sup>3</sup> /ft.	$I_{xx}$ in <sup>4</sup> /ft.	$I_{xx}$ (eff) in <sup>4</sup> /ft.	$S_{xx}$ in <sup>3</sup> /ft.	8"	1'	1.5'	2'	2.5'	3'
14	24	50	1.40	0.2100	0.1832	0.0992	0.1175	0.1443	0.0939	101.0	96.7	90.3	83.9	77.4	71.0
14	22	50	1.69	0.2709	0.2350	0.1296	0.1470	0.1829	0.1135	101.0	96.7	90.3	83.9	77.4	71.0
16	24	50	1.34	0.1872	0.1630	0.0866	0.1038	0.1280	0.0826	93.5	89.2	82.8	76.4	59.7	63.5
16	22	50	1.62	0.2428	0.2099	0.1140	0.1293	0.1622	0.1000	93.5	89.2	82.8	76.4	59.7	63.5
18	24	50	1.30	0.1673	0.1455	0.0763	0.0920	0.1138	0.0827	86.0	81.3	74.1	66.9	59.7	52.5
18	22	50	1.57	0.2180	0.1880	0.1017	0.1147	0.1447	0.0887	86.0	81.3	74.1	66.9	59.7	52.5

- Theoretical section properties for steel panels have been calculated per AISI S100 Specification for the Design of Cold-Formed Steel Structural Members.
- $I_{xx}$  (eff) values are "effective" stiffness properties for positive (downward) load induced deflection determination.
- $S_{xx}$  values are to be used for flexural (bending) stress determination.
- Charted Load/Span values are based on UL580/UL1897 testing protocol.
- Charted Load/Span values above are based on Allowable Stress Design (ASD)....Load Resistance Factor Design (LRFD) technique not recommended for charted values.
- Charted Allowable Uniform Loads are based on the Ultimate Uniform Load (per UL580/UL1897 testing) divided by a 2.00 Factor-of-Safety.
- Charted Allowable Uniform Loads do not consider panel weight (Dead Load) or clip-to-substrate (structure) fastener connection strength.
- Clip-to-substrate (structure) fastener evaluation and analysis should be performed by a licensed structural engineer.
- Panel tested over plywood (15/32" min. APA rated) substrate.
- Charted Allowable Uniform Loads do not consider deflection limits of panel.
- Charted Allowable Uniform Loads cannot be increased by 1/3.
- Panel tested using two (2) piece MS-200 floating clip.
- Clip attached to plywood substrate with four (4) #10-13 low-profile pancake head screws.

SECTION PROPERTIES										ALLOWABLE UNIFORM LOADS, psf For various clip spacings (i.e. span values)									
Width, in.	Gauge	Yield ksi	Weight psf	Top in Compression			Bottom in Compression			Positive Load									
				$I_{xx}$ in <sup>4</sup> /ft.	$I_{xx}$ (eff) in <sup>4</sup> /ft.	$S_{xx}$ in <sup>3</sup> /ft.	$I_{xx}$ in <sup>4</sup> /ft.	$I_{xx}$ (eff) in <sup>4</sup> /ft.	$S_{xx}$ in <sup>3</sup> /ft.	2'	2.5'	3'	3.5'	4'	4.5'	5'	5.5'	6'	
14	24	50	1.40	0.2100	0.1832	0.0992	0.1175	0.1443	0.0939	174.1	139.3	116.1	99.5	87.1	77.4	69.6	63.3	58.0	
14	22	50	1.69	0.2709	0.2350	0.1296	0.1470	0.1829	0.1135	234.1	187.3	156.1	133.8	117.1	104.0	93.6	85.1	78.0	
14	0.032"	19	0.66	0.2470	0.2470	0.1535	0.2470	0.2470	0.6313	24.1									
14	0.040"	19	0.83	0.3034	0.3034	0.1885	0.3034	0.3034	0.7753	37.0	23.7								
16	24	50	1.34	0.1872	0.1630	0.0866	0.1038	0.1280	0.0826	174.1	139.3	116.1	99.5	87.1	77.4	69.6	63.3	57.4	
16	22	50	1.62	0.2428	0.2099	0.1140	0.1293	0.1622	0.1000	234.1	187.3	156.1	133.8	117.1	104.0	93.6	82.6	69.4	
16	0.032"	19	0.64	0.2233	0.2233	0.1359	0.2233	0.2233	0.6264	22.2									
16	0.040"	19	0.80	0.2744	0.2744	0.1669	0.2744	0.2744	0.7686	28.7	20.0								
18	24	50	1.30	0.1673	0.1455	0.0763	0.0920	0.1138	0.0827	174.1	139.3	116.1	99.5	87.1	77.4	69.6	63.3	57.4	
18	22	50	1.57	0.2180	0.1880	0.1017	0.1147	0.1447	0.0887	234.1	187.3	156.1	133.8	117.1	104.0	88.7	73.3	61.6	
18	0.032"	19	0.62	0.2027	0.2027	0.1212	0.2027	0.2027	0.6179										
18	0.040"	19	0.77	0.2487	0.2487	0.1488	0.2487	0.2487	0.7575	22.7									

- Theoretical section properties for Steel panels have been calculated per 2020 AISI S100 North American Specification for the Design of Cold-Formed Steel Structural Member.  $I_{xx}$  and  $S_{xx}$  are effective section properties for deflection and bending.
- Theoretical section properties for Aluminum panels have been calculated per the 2020 edition of the Aluminum Association's Design Manual.  $I_{xx}$  and  $S_{xx}$  are effective section properties for deflection and bending.
- Allowable loads for Steel panels are calculated in accordance with 2020 AISI S100 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers a 3 or more equal span condition.
- Allowable loads for Aluminum panels are calculated in accordance with the 2020 edition of the Aluminum Association's Design Manual considering bending, shear, combined bending and shear and deflection. Allowable load considers a 3 or more equal span condition.
- Allowable load does not address panel weight, fasteners, connection strength or support material.
- Allowable load includes web crippling.
- Load/Span values are based on theoretical computations and not load testing.
- Deflection is not considered.
- Allowable loads do not include a 1/3 stress increase for wind.
- The MS-150 Panel when installed as a three-span condition with spans of 5 ft. on-center for Steel and 2.0 ft. on-center for Aluminum are capable of withstanding the minimum uniform distributed load of 20 psf (0.958 kPa) noted in Table 1607.1 of the IBC and a minimum concentrated load of 300 lbf (1.33 kN).
- When panels are installed over solid or closely fitted deck sheathing, the capacity is limited to the capacity of the underlying sheathing.



**EXPIRES 4-30-2026**

**THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION**

**Robert V. Nangia P.E.**  
7423 Hollow Ridge Drive  
Houston, Texas 77095