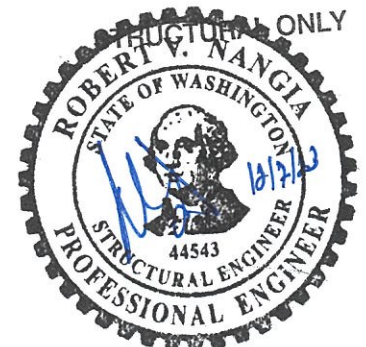


SECTION PROPERTIES				ALLOWABLE UNIFORM LOADS, psf												
				Top in Compression			Bottom in Compression			For various support spacings (i.e. span values)						
				Negative Load												
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx}	$I_{xx(eff)}$	S_{xx}	I_{xx}	$I_{xx(eff)}$	S_{xx}	2'	2.5'	3'	3.5'	4'	4.5'	5'
				in ⁴ /ft.	in ⁴ /ft.	in ³ /ft	in ⁴ /ft.	in ⁴ /ft.	in ³ /ft							
30	24	50	1.48	0.1209	0.1211	0.1243	0.1217	0.1218	0.1311	110.0	108.3	106.7	105.0	103.3	101.7	100.0
30	22	50	1.75	0.1500	0.1502	0.1580	0.1508	0.1506	0.1667	120.0	114.2	108.3	102.5	96.7	90.8	85.0
30	20	33	2.13	0.2093	0.2093	0.2345	0.2093	0.2093	0.2467	120.0	114.2	108.3	102.5	96.7	90.8	85.0
30	18	33	2.78	0.2946	0.2935	0.3450	0.2907	0.2918	0.3589	120.0	114.2	108.3	102.5	96.7	90.8	85.0

- 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 ASTM E1592-05 (2017) 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 ASTM E1592-05 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.
- Panel-to-substrate (structure) fastener evaluation and analysis should be performed by a licensed structural engineer.
- Minimum recommended substrate (structure) recommendations:
 - Open-framing (i.e. purlins) - 16 ga. (design thickness = 0.0566")
 - Plywood/OSB - 15/32" or thicker is recommended to assure an effective degree of fastener thread engagement
 - Metal deck - 22 ga. (design thickness = 0.0283")
- Deflection limit consideration for positive (downward) loading is limited to a deflection ratio of L/180 of the span...where "L" is the span in inches.
- Charted Allowable Uniform Loads cannot be increased by 1/3.
- Tested assembly used five (5) fasteners per panel.

SECTION PROPERTIES				ALLOWABLE UNIFORM LOADS, psf																
				Top in Compression			Bottom in Compression			For various clip spacings (i.e. span values)										
				Positive Load																
Width, in.	Gauge	Yield ksi	Weight psf	I_{xx}	$I_{xx(eff)}$	S_{xx}	I_{xx}	$I_{xx(eff)}$	S_{xx}	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	
				in ⁴ /ft.	in ⁴ /ft.	in ³ /ft	in ⁴ /ft.	in ⁴ /ft.	in ³ /ft											
30	24	50	1.48	0.1209	0.1211	0.1243	0.1217	0.1218	0.1311	780.0	390.0	260.0	194.2	124.3	86.3	63.4	48.6	38.4	31.1	
30	22	50	1.75	0.1500	0.1502	0.1580	0.1508	0.1506	0.1667	1046.4	523.2	348.8	246.9	158.0	109.7	80.61	61.7	48.8	39.5	
30	20	33	2.13	0.2093	0.2093	0.2345	0.2093	0.2093	0.2467	1143.6	571.8	381.2	241.8	154.8	107.5	79.0	60.5	47.8	38.7	
30	18	33	2.78	0.2946	0.2935	0.3450	0.2907	0.2918	0.3589	1973.6	986.8	632.5	355.8	227.7	158.1	116.17	89.0	70.3	56.9	

- 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.
- $I_{xx(eff)}$ values are "effective" stiffness properties for positive (downward) load induced deflection determination.
- 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.
- S_{xx} values are to be used for flexural (bending) stress determination.
- 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 C-10 Beta Panel when installed as a three-span condition with spans of 5 ft. on-center for Steel and 3 ft. on-center for Aluminum are is 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.



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