TAYLOR METAL PRODUCTS

12" Board and Batten Wall Panel

Width, in.	Gauge	Yield ksi	Weight psf	SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf For various fastener spacings (i.e. span values)								
				Top in Compression			Bottom in Compression			Negative Load								
				I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	1'	1.5'	2'	2.5'	3'	3.5'	4'	4.5'	5'
12	24	50	1.31	0.0166	0.0164	0.0258	0.0159	0.0161	0.0365	92.5	82.5	72.5	62.5	52.5	42.5	32.5	22.5	12.5
12	22	50	1.51	0.0212	0.0208	0.0332	0.0198	0.0202	0.0435	92.5	82.5	72.5	62.5	52.5	42.5	32.5	22.5	12.5

1. Theoretical section properties for steel panels have been calculated per AISI S100 Specification for the Design of Cold-Formed Steel Structural Members.
2. $I_{xx\ (eff)}$ values are "effective" stiffness properties for positive (downward) load induced deflection determination.
3. S_{xx} values are to be used for flexural (bending) stress determination.
4. Charted Load/Span values are based on ASTM E1592-05 (2017) testing protocol.
5. Charted Load/Span values above are based on Allowable Stress Design (ASD).....Load Resistance Factor Design (LRFD) technique not recommended for charted values.
6. Charted Allowable Uniform Loads are based on the Ultimate Uniform Load (per ASTM E1592-05 testing) divided by a 2.00 Factor-of-Safety.
7. Charted Allowable Uniform Loads do not consider panel weight (Dead Load) or clip-to-substrate (structure) fastener connection strength.
8. Panel-to-substrate (structure) fastener evaluation and analysis should be performed by a licensed structural engineer.
9. Minimum recommended substrate (structure) recommendations:
   a. Open-framing (i.e. girts) - 16 ga. (design thickness = 0.0566")
   b. Plywood/OSB - 15/32" or thicker is recommended to assure an effective degree of fastener thread engagement
   c. Metal deck - 22 ga. (design thickness = 0.0283")
10. 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.
11. Charted Allowable Uniform Loads cannot be increased by 1/3.

Width, in.	Gauge	Yield ksi	Weight psf	SECTION PROPERTIES						ALLOWABLE UNIFORM LOADS, psf For various clip spacings (i.e. span values)									
				Top in Compression			Bottom in Compression			Positive Load									
				I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	I_{xx} $in^4/ft.$	$I_{xx\ (eff)}$ $in^4/ft.$	S_{xx} in^3/ft	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'
12	24	50	1.31	0.0166	0.0164	0.0258	0.0159	0.0161	0.0365	716.4	228.3	101.4	57.1	36.5	25.4	18.6	14.3	11.3	8.7
12	22	50	1.51	0.0212	0.0208	0.0332	0.0198	0.0202	0.0435	961.8	271.9	120.8	67.9	43.5	30.2	22.2	17.0	13.4	10.9

1. Theoretical section properties for Steel panelshave 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.
2. 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.
3. Ixx (eff) values are "effective" stiffness properties for positive (downward) load induced deflection determination.
4. 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.
5. Sxx values are to be used for flexural (bending) stress determination.
6. Allowable load does not address panel weight, fasteners, connection strength or support material.
7. Allowable load includes web crippling.
8. Load/Span values are based on theoretical computations and not load testing.
9. Deflection is not considered.
10. Allowable loads do not include a 1/3 stress increase for wind.
11. The 12" wide Board & Batten Panel when installed as a three-span condition with spans of 8 ft. on-center for Steel and 4 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).
12. When panels are installed over solid or closely fitted sheathing, the capacity is limited to the capacity of the underlying sheathing.

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