Metal Roof and Wall Systems

T10-A

SECTION PROPERTIES											
MATERIAL			SHEAR & WEB CRIPPLING			NEGATIVE BENDING			POSITIVE BENDING		
PANEL	F_y	WEIGHT	V_a	$P_{a,end}$	$P_{a,int}$	I_{xe}	S_{xe}	M_{axo}	I_{xe}	S_{xe}	M_{axo}
GAUGE	ksi	psf	kips/ft	kips/ft	kips/ft	in^4/ft	in^3/ft	in-kip/ft	in^4/ft	in^3/ft	in-kip/ft
24	50	1.58	3.136	1.014	1.864	0.1547	0.1668	4.993	0.1230	0.1580	4.731
22	50	2.05	4.056	1.773	3.108	0.2109	0.2332	6.981	0.1719	0.2257	6.759

NOTES:

1. All calculations for the properties of panels are in accordance with the 2016 edition of AISI S100, North American Specification for the Design of Cold-Formed Steel Structural Members, with Supplement 2.
2. F_y is the minimum Yield Strength.
3. V_a is allowable transverse shear across the depth of the profile, not diaphragm shear.
4. $P_{a,end}$ is allowable web crippling load at the panel end supports for a 2.5" bearing length.
5. $P_{a,int}$ is allowable web crippling load at internal panel supports for a 2.5" bearing length.
6. I_{xe} is effective moment of inertia for deflection determination.
7. S_{xe} is effective section modulus for bending.
8. M_{axo} is allowable bending moment.
9. V_a, P_a, I_{xe}, S_{xe} and M_{axo} values are per foot of panel width.
10. Negative bending occurs when the exposed face is in tension.
11. Positive bending occurs when the exposed face is in compression.

The Engineering data contained herein is for the expressed use of customers and design professionals. Along with this data, it is recommended that the design professional have a copy of the most current version of the North American Specification for the Design of Cold-Formed Steel Structural Members published by the Americal Iron and Steel Institute to facilitate design. This Specification contains the design criteria for cold-formed steel components. Along with the Specification, the designer should reference the most current building code applicable to the project jobsite in order to determine environmental loads. If further information or guidance regarding cold-formed design practices is desired, please contact the manufacturer.