

FIGURE 6.13 Common panel seams for standing-seam roofs. (From Nimtz,<sup>18</sup> courtesy of Metal Architecture.)

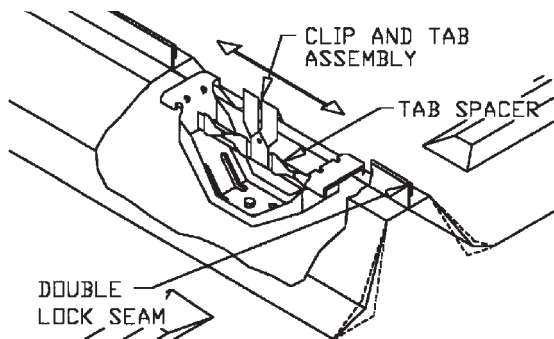
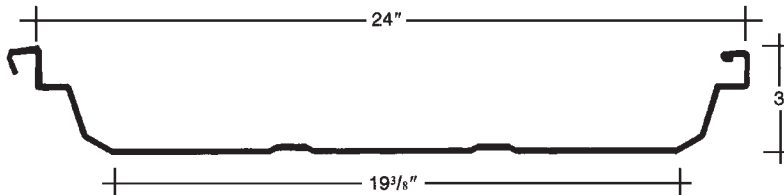


FIGURE 6.14 Trapezoidal seam allows for an easy concealment of the clip and accommodates transverse panel movement. (Butler Manufacturing Co.)



SECTION PROPERTIES								
PANEL GAGE	F <sub>y</sub> (KSI)	WEIGHT (PSF)	TOP FLAT IN COMPRESSION			BOTTOM FLAT IN COMPRESSION		
			I <sub>x</sub> (in. <sup>4</sup> /ft.)	S <sub>x</sub> (in. <sup>3</sup> /ft.)	M <sub>a</sub> (Kip in.)	I <sub>x</sub> (in. <sup>4</sup> /ft.)	S <sub>x</sub> (in. <sup>3</sup> /ft.)	M <sub>a</sub> (Kip in.)
24	50.0	1.23	0.1282	0.0666	1.9945	0.0528	0.0485	1.4528
22	50.0	1.56	0.1905	0.1031	3.0861	0.0720	0.0680	2.0350

**NOTES**

1. All calculations for the properties of double-lock panels are calculated in accordance with the 1986 edition of *Specifications for the Design of Light Gauge Cold Formed Steel Structural Members* - published by the American Iron and Steel Institute (A.I.S.I.).
2. I<sub>x</sub> is for deflection determination.
3. S<sub>x</sub> is for bending.
4. M<sub>a</sub> is allowable bending moment.
5. All values are for one foot of panel width.

**ALLOWABLE UNIFORM LIVE LOADS  
IN POUNDS PER SQUARE FOOT**

**24" double-lock**

24 Gage (F <sub>y</sub> = 50 KSI)								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	3.5	4.0	4.5	5.0	5.5	6.0
SINGLE	POSITIVE WIND LOAD	143	105	81	64	52	43	36
	LIVE LOAD/DEFLECTION	148	109	83	66	53	44	37
2-SPAN	POSITIVE WIND LOAD	197	145	111	88	71	59	49
	LIVE LOAD/DEFLECTION	108	79	61	48	39	32	27
3 OR MORE	POSITIVE WIND LOAD	224	165	126	100	81	67	56
	LIVE LOAD/DEFLECTION	135	99	76	60	48	40	34

22 Gage (F <sub>y</sub> = 50 KSI)								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	3.5	4.0	4.5	5.0	5.5	6.0
SINGLE	POSITIVE WIND LOAD	201	148	113	89	72	60	50
	LIVE LOAD/DEFLECTION	229	168	129	102	82	68	57
2-SPAN	POSITIVE WIND LOAD	305	224	171	135	110	91	76
	LIVE LOAD/DEFLECTION	151	111	85	67	54	45	38
3 OR MORE	POSITIVE WIND LOAD	314	231	177	140	113	93	79
	LIVE LOAD/DEFLECTION	188	138	106	84	68	56	47

**NOTES**

1. Allowable loads are based on uniform span lengths and F<sub>y</sub> of 50 KSI.
2. Live load is allowable live load.
3. Wind load is allowable wind load and has been increased by 33 1/3%.
4. Deflection loads are limited by a maximum deflection ratio of L/240 of span or maximum bending stress from live load.
5. Weight of the panel has not been deducted from allowable loads.
6. Load table values do not include web crippling requirements.

FIGURE 6.15 Sample standing-seam roof panel properties. (MBCI.)