

**Product Report**
**Manufacturer: Petersen Aluminum Corporation**
**102 Northpoint Parkway  
 Building 106  
 Acworth, GA 30102  
 (800) 272-4482**
**Florida Product Approval # 23953**
**Sub-Category: Metal Roofing**
**Compliant with Florida Building Code 2017 (6<sup>th</sup> ed.)  
 Compliant with Florida Product Approval Rule # 61G20-3  
 Compliant Quality Assurance Program: UL LLC**
**FL # 23953 Snap-On Standing Seam Panel: 24GA Steel & 0.032" Aluminum w/ 1" Right Angle Vertical Legs Non-HVHZ**
**Snap-On standing seam panels with concealed clips @ 12" o.c. with snap-on batten caps over clips and 1" high legs fastened to 19/32" plywood deck w/ corrosion resistant (2) #10-12 fasteners per clip. Clips are concealed between the adjacent vertical legs of the panels & a batten cap is installed over the outside of the vertical legs to retainer lugs on the clips. Panel Width: 12"**

**Design Pressure:	Material:	Support Spacing:
41.6 PSF	24 GA	1'-0" o.c.
41.3 PSF	.032" Alum.	1'-0" o.c.

**FL # 23953 Snap-Clad Panel 16oz/sf Copper Non-HVHZ**
**16oz Copper Snap-Clad panel with clips thru fastened to 19/32" thick APA plywood, grade B-C fastened with corrosion resistant (2) #10-16 x 1" long, SS, pancake head fasteners; two per clip. Manufacturer requires stainless steel fasteners. Panel Clip: one piece 3-3/4" wide x 1-7/8" high with a 1-3/8" wide, horizontal leg fabricated from No. 18 MSG stainless steel. Panel width: 16" wide by 1-3/4" high rib at the female panel, sealant allowed at panel side joints. An underlayment of 60 MIL "high temperature" membrane is required by manufacturer. Fasteners thru clips to substrate are concealed behind the adjacent nesting/lapping vertical ribs of the panels.**

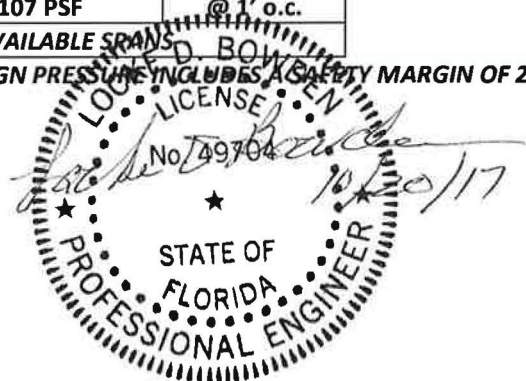
<b>**Design Pressure:</b>
-52.5 PSF

**FL # 23953 Tite-Loc Plus 0.040" Alum x 12" & 0.040" Alum x 16" Non-HVHZ**
**Tite-Loc Plus panel fastened to 19/32" APA plywood deck with corrosion resistant (2) #10-12 x 1" long pancake type A fasteners. The panels were attached to the perimeter of the wood deck at 6" o.c. Panel Clip: Tite-Loc 2-Piece clips w/ #10-12 x 1" fasteners.**

0.040" Alum. X 12"		0.040" Alum. X 16"	
**Design Pressure:	Clip Spacing:	**Design Pressure:	Clip Spacing:
107.9 PSF	24" o.c.	76.7 PSF	24" o.c.
146.9 PSF	12" o.c.	87.15 PSF	12" o.c.
152.1 PSF	6" o.c.	105.3 PSF	6" o.c.

**FL # 23953 M-36 Panel (36" wide): 24GA & 0.032" Aluminum Non-HVHZ**
**M-36 Panel installed over 16GA Steel purlins @ 12" o.c. w/ the shorter side of the system fastened using corrosion resistant (1) #12 x 1-1/4" HWH SDS w/ neoprene washer (per manufacturer) @ ea. valley located 6" o.c. The first panel & ea. panel joint was fastened at the longer side of the system using a single row of #12 x 1-1/4" HWH SDS w/ neoprene washer (per manufacturer) @ 12" o.c.**

24GA Steel		0.032" Aluminum	
**Design Pressure:	Spacing:	**Design Pressure:	Spacing:
-80 PSF	@ 5' o.c.	-70 PSF	@ 5' o.c.
-120 PSF	@ 1' o.c.	-107 PSF	@ 1' o.c.

**SEE LOAD TABLES FOR MORE AVAILABLE SPANS**
**\*\*DESIGN PRESSURE INCLUDES A SAFETY MARGIN OF 2:1**


**FL # 23953 R-36 Panel (36" wide): 22GA Steel, 24GA Steel, .032" Alum & .040" Alum**

**Non-HVHZ**

The panels were installed over 16GA supports fastened w/ corrosion resistant #12-14 x 1" self-drill fasteners w/ 0.55" dia. seal washer head spaced as shown on the install detail. Panel side joints were overlapping using corrosion resistant #12-14 x 3/4" self-drill lap fasteners w/ 0.55" dia. seal washer head located at 12" o.c.

22GA		24GA	
**Design Pressure:	Spacing:	**Design Pressure:	Spacing:
-52.8 PSF	@ 5' o.c.	-49.5 PSF	@ 5' o.c.
-154.1 PSF	@ 2' o.c.	-159.1 PSF	@ 2' o.c.
0.032" Aluminum		0.040" Aluminum	
**Design Pressure:	Spacing:	**Design Pressure:	Spacing:
-28.0 PSF	@ 5' o.c.	-49.7 PSF	@ 5' o.c.
-143.2 PSF	@ 2' o.c.	-143.2 PSF	@ 2' o.c.

**FL # 23953 7.2" Rib Panel: 24GA & .032" Alum.**

**Non-HVHZ**

The panels were installed over 16GA supports fastened w/ corrosion resistant 1/4" - 14 x 1-1/4" long hex head self-drill fasteners with 5/8" seal washer located at every low cell of the panel. The panel side-joints were overlapping corrosion resistant #12-14 x 1" long hex head self-drill fasteners w/ 5/8" seal washer @ 18" o.c.

24GA Steel		0.032" Alum.	
**Design Pressure:	Spacing:	**Design Pressure:	Spacing:
-78.8 PSF	@ 5' o.c.	-61.1 PSF	@ 5' o.c.
-159.7 PSF	@ 2' o.c.	-104.0 PSF	@ 2' o.c.

**FL # 23953 2.67" x 7/8" Corrugated Panels: 24GA & 0.032" Alum.**

**Non-HVHZ**

The 24GA Steel panels were fastened over 16GA supports using corrosion resistant 1/4"-14 x 1-1/4" long hex head self-drill fasteners w/ 5/8" seal washer located at every other low cell of the panel as shown on install details. The fixed end was fastened at every low cell of the panel. The panel side-joints were single overlapping fastened w/ corrosion resistant #12-14 x 1" long hex head self-drill fasteners w/ 5/8" seal washer @ 12" o.c.

24GA Steel	
**Design Pressure:	Spacing:
-78.6 PSF	@ 5' o.c.
-159.8 PSF	@ 2' o.c.

The 0.032" Aluminum panels were fastened over 16GA supports using corrosion resistant 1/4"-14 x 1-1/4" long hex head self-drill fasteners w/ 5/8" seal washer located at every other low cell of the panel as shown on install details. The fixed end was fastened at every low cell of the panel. The panel side-joints were overlapping fastened w/ corrosion resistant #12-14 x 1" long hex head self-drill fasteners w/ 5/8" seal washer @ 12" o.c.

0.032" Aluminum	
**Design Pressure:	Spacing:
-47.1 PSF	@ 5' o.c.
-156.4 PSF	@ 2' o.c.

**FL # 23953 Tite-Loc Plus: 12" x 0.040" Aluminum Panel over 22GA Metal B-Deck**

**Non-HVHZ**

Standing seam panel was fastened over min. 22GA, Grade 33 B-deck @ max. 5' o.c. with clip using corrosion resistant (2) #14-10 Dekfast screws per clip through 4" x 5" x 16GA bearing plate and rigid insulation into deck; fastener should be of sufficient length to penetrate min. 3/4" through the deck. Tite-Loc Plus AR sliding clip: 2 fasteners per clip, Clip Tab: 4.313" wide, 50ksi, 22GA G90 Coated Steel; Clip Base: 2.5" wide, 50ksi, 18GA G90 coated steel. MSA "Quick Stick HT" 40 mil peel & stick or approved equal. Installed over insulation board as per manufacturer's install guidelines. Insulation board: 2" min. - 4" max. thickness to comply w/ FBC 2017. Slope 1/4:12 or greater in accordance w/ FBC 2017. Rib Height: 2"

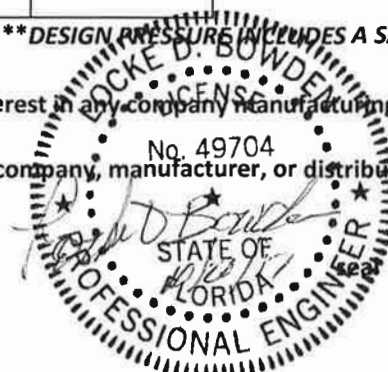
**Design Pressure:	Clip Spacing:
-52.5 PSF	@ 48" o.c.
-160.95 PSF	@ 12" o.c.

**\*\*DESIGN PRESSURE INCLUDES A SAFETY MARGIN OF 2:1**

**Certificate of Independence:**

Locke Bowden, P.E. does not have, nor will acquire a financial interest in any company manufacturing or distributing products under this evaluation.

Locke Bowden, P.E. is not owned, operated, or controlled by any company, manufacturer, or distributor of products under this report.



**FL # 23953 Tite-Loc Plus: 12" x 22GA Steel Panel over 22GA Metal B-Deck****Non-HVHZ**

Standing seam panel was fastened over min. 22GA, Grade 33 B-deck @ max. 5' o.c. with clip using corrosion resistant (2) #14-10 Dekfast screws per clip through 4" x 5" x 16GA bearing plate and rigid insulation into deck; fastener should be of sufficient length to penetrate min. 3/4" through the deck. Tite-Loc Plus AR sliding clip: 2 fasteners per clip, Clip Tab: 4.313" wide, 50ksi, 22GA G90 Coated Steel; Clip Base: 2.5" wide, 50ksi, 18GA G90 coated steel. MSA "Quick Stick HT" 40 mil peel & stick or approved equal. Installed over insulation board as per manufacturer's install guidelines. Insulation board: 2" min. - 4" max. thickness to comply w/ FBC 2017. Slope 1/4:12 or greater in accordance w/ FBC 2017. Rib Height: 2"

<b>**Design Pressure:</b>	<b>Clip Spacing:</b>
-56.0 PSF	@ 48" o.c.
-186.4 PSF	@ 6" o.c.

**FL # 23953 Tite-Loc Plus: 18" x 24GA Panel over 22GA Metal B-Deck****Non-HVHZ**

Standing seam panel was fastened over min. 22GA, Grade 33 B-deck @ max. 5' o.c. with clip using corrosion resistant (2) #14-10 Dekfast screws per clip through 4" x 5" x 16GA bearing plate and rigid insulation into deck; fastener should be of sufficient length to penetrate min. 3/4" through the deck. Tite-Loc Plus AR sliding clip: 2 fasteners per clip, Clip Tab: 4.313" wide, 50ksi, 22GA G90 Coated Steel; Clip Base: 2.5" wide, 50ksi, 18GA G90 coated steel. MSA "Quick Stick HT" 40 mil peel & stick or approved equal. Installed over insulation board as per manufacturer's install guidelines. Insulation board: 2" min. - 4" max. thickness to comply w/ FBC 2017. Slope 1/4:12 or greater in accordance w/ FBC 2017. Rib Height: 2"

<b>**Design Pressure:</b>	<b>Clip Spacing:</b>
-30.0 PSF	@ 48" o.c.
-78.5 PSF	@ 6" o.c.

**FL # 23953 Tite-Loc Plus: 16" x 0.032" Aluminum over min. 19/32" APA Plywood****Non-HVHZ**

Standing seam panel was fastened over min. 19/32" APA rated plywood for new and existing constructions with clip using corrosion resistant (2) #10-12 pancake head type A wood screws per clip into deck; fastener should be of sufficient length to penetrate min. 3/16" through the deck. Tite-Loc Plus AR sliding clip: 2 fasteners per clip, Clip Tab: 4.313" wide, 50ksi, 22GA G90 Coated Steel; Clip Base: 2.5" wide, 50ksi, 18GA G90 coated steel. 1/4:12 or greater in accordance w/ FBC 2017.

<b>**Design Pressure:</b>	<b>Clip Spacing:</b>
-61.1 PSF	@ 24" o.c.
-74.1 PSF	@ 12" o.c.

**FL # 23953 Edge-Loc 1.0: 0.032" (nom.) 16" coverage Aluminum over 1/2" min. Plywood****Non-HVHZ**

The panel was fastened thru top layer of underlayment members into 15/32" 4 ply-CDX plywood attached to framing supports using 8D x 2-1/2" coated ring shank nails spaced @ 6" o.c. Panel fastener: Corrosion resistant #10x15 Pancake Head screws starting 12" from panel end spaced 16" o.c. One #10x15 PH screw secured male and female leg overlap 3" from each end Underlayments applied: H.T. ProQuick (adhesive backed) single layer between adjacent sheets. Fire barrier; single layer of Versashield 5" overlap between adjacent panels.

<b>**Design Pressure:</b>
-52.5 PSF

**FL # 23953 Large Precision Tile Panel: 14.5" x 0.032" Aluminum****Non-HVHZ**

The panel was fastened thru the top layer of underlayment membrane into 5/8" plywood attached to 2 x 10 wood structural framing supports using 8D x 2-1/2" long ring shank nails fastened using corrosion resistant (2) #10-13 x 1" long GP concealor screws. Fasteners located at pre-punched fastener holes @ 12-7/8" o.c. on the top nail flange for each panel. A layer of self-adhering Waterproof Membrane was on top of the plywood sheathing substrate.

<b>**Design Pressure:</b>	<b>Fastener Spacing:</b>
-202 PSF	12.875" o.c.

**FL # 23953 Large Precision Tile Panel: 14.5" x 24GA Steel****Non-HVHZ**

The panel was fastened thru the top layer of underlayment membrane into 5/8" plywood attached to 2 x 10 wood structural framing supports using 8D x 2-1/2" long ring shank nails fastened using corrosion resistant (2) #10-13 x 1" long GP concealor screws. Fasteners located at pre-punched fastener holes @ 12-7/8" o.c. on the top nail flange for each panel. A layer of self-adhering Waterproof Membrane was on top of the plywood sheathing substrate.

<b>**Design Pressure:</b>	<b>Fastener Spacing:</b>
-248 PSF	12.875" o.c.

**\*\*DESIGN PRESSURE INCLUDES A SAFETY MARGIN OF 2:1**



The panel was fastened thru the top layer of underlayment membrane into 5/8" plywood attached to 2 x 10 wood structural framing supports using 8D x 2-1/2" long ring shank nails fastened using corrosion resistant (2) #10-13 x 1" long GP concealor screws. Fasteners located at pre-punched fastener holes @ 12-7/8" o.c. on the top nail flange for each panel. A layer of self-adhering Waterproof Membrane was on top of the plywood sheathing substrate.

<b>**Design Pressure:</b>	<b>Fastener Spacing:</b>
-217 PSF	6-3/8" o.c.

The panel was fastened thru the top layer of underlayment membrane into 5/8" plywood attached to 2 x 10 wood structural framing supports using 8D x 2-1/2" long ring shank nails fastened using corrosion resistant (2) #10-13 x 1" long GP concealor screws. Fasteners located at pre-punched fastener holes @ 12-7/8" o.c. on the top nail flange for each panel. A layer of self-adhering Waterproof Membrane was on top of the plywood sheathing substrate.

<b>**Design Pressure:</b>	<b>Fastener Spacing:</b>
-243 PSF	6-3/8" o.c.

**\*\*DESIGN PRESSURE INCLUDES A SAFETY MARGIN OF 2:1**

**Limitations:**

- Underlayment to be compliance with current Florida Building Code (FBC)2017 6<sup>TH</sup> ed. see Chart 1507.1.1
- Minimum slope to be compliant with Florida Building Code 2017 6<sup>th</sup> ed., and per with Manufacturer’s installation reference.
- Products are compliant with State of Florida product approval per Rule 61G20-3. Compliance Method: 1-D
- Engineering analysis for “project specific approval by local authorities w/jurisdiction is allowed by other registered engineers.
- Fire classification is not part of this acceptance. Shear diaphragm values are outside this report.
- Support framing in compliance w/FBC 2017 6<sup>th</sup> ed., Chapter 22 for Steel, Chapter for 23 Wood and Chapter 16 for Structural Loading.
- This report does not imply warranty, installation, recommended product use outside of this report

		Reference Data:
Farabaugh Engineering & Testing (TST-1654)	T233-05	TAS 125-03 (UL 580-94)
Farabaugh Engineering & Testing (TST-1654)	T222-05	TAS 125-03 (UL 580-94)
Farabaugh Engineering & Testing (TST-1654)	T225-05	UL 1897-98
Farabaugh Engineering & Testing (TST-1654)	T224-05	UL 1897-98
Underwriters Laboratory	Construction # 614	UL 580-2006
Farabaugh Engineering & Testing (TST-1654)	T347-07	TAS 125-03 (UL 580-94)
Farabaugh Engineering & Testing (TST-1654)	T345-07	TAS 125-03 (UL 580-94)
Fenestration Test Laboratory (TST-1657)	15-5715	ASTM E 1592-05(2012)
Farabaugh Engineering & Testing (TST-1654)	T170-08	ASTM E 1592-01
Farabaugh Engineering & Testing (TST-1654)	T171-08	ASTM E 1592-01
Farabaugh Engineering & Testing (TST-1654)	T176-08	ASTM E 1592-01
Farabaugh Engineering & Testing (TST-1654)	T175-08	ASTM E 1592-01
Farabaugh Engineering & Testing (TST-1654)	T166-08	ASTM E 283-04
		ASTM E 331-00
Farabaugh Engineering & Testing (TST-1654)	T281-08	ASTM E 1592-01
Farabaugh Engineering & Testing (TST-1654)	T227-08	ASTM E 1592-01
		ASTM E 283-04
Farabaugh Engineering & Testing (TST-1654)	T267-08	ASTM E 283-04
		ASTM E 331-00
Farabaugh Engineering & Testing (TST-1654)	T126-09	ASTM E 1592-01
Farabaugh Engineering & Testing (TST-1654)	T124-09	ASTM E 1592-01
Farabaugh Engineering & Testing (TST-1654)	T132-09	ASTM E 283-04
		ASTM E 331-00
Farabaugh Engineering & Testing (TST-1654)	T330-09	UL 580/1897
Farabaugh Engineering & Testing (TST-1654)	T114-10	UL 580/1897
Farabaugh Engineering & Testing (TST-1654)	T102-10	UL 580/1987
Farabaugh Engineering & Testing (TST-1654)	T163-07	TAS 125-03
Intertek Architectural Testing (TST-1527)	E1977.01-450-18	TAS 125-03
Farabaugh Engineering & Testing (TST-1654)	T111-17	UL 580-06/1897-04
Farabaugh Engineering & Testing (TST-1654)	T112-17	UL 580-06/1897-04
Farabaugh Engineering & Testing (TST-1654)	T109-17	UL 580-06/1897-04
Farabaugh Engineering & Testing (TST-1654)	T110-17	UL 580-06/1897-04

**Equivalency statements:**

UL 580-94 is equivalent to UL 580-06 test standard. UL 1897-98, 04 is equivalent to UL 1897-2012 test standard.

ASTM E 1592-01 is equivalent to ASTM E 1592-05(2012) test standard.