



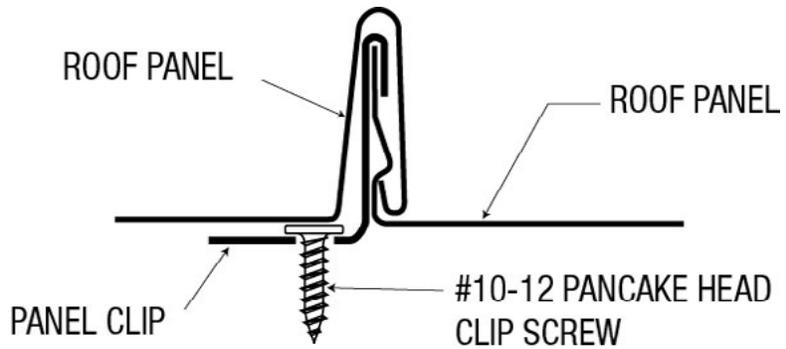
# METAL FASTENING

## Systems, Inc

[www.metalfasteningsystems.com](http://www.metalfasteningsystems.com)

# Clip-Lock

*Pancake Head Screws For Concealed Applications*



TYPICAL CLIP APPLICATION

Charlotte, NC.  
7670 Mikron Dr  
Stanley, NC. 28164  
(704) 822-3562

Raleigh, NC.  
2201 S Wilmington St  
Suite 101  
Raleigh, NC. 27603  
(919) 33-7794

Richmond, VA.  
8131 Virginia Pine Ct  
N. Chesterfield, VA. 23237  
(804) 912-1851

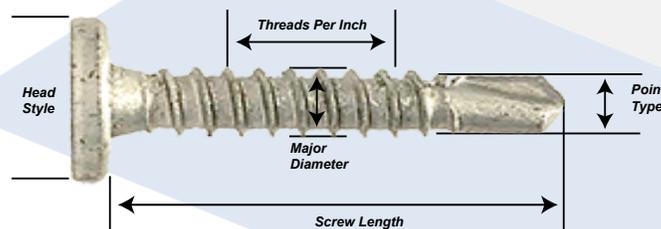
THE NEXT GENERATION OF HIGH PERFORMANCE FASTENERS AND ACCESSORIES

*Table Of Contents*

	<b>PAGE</b>
<b>#10 PANCAKE HEAD CLIP SCREWS FOR WOOD RUSPERT COATED -----</b>	<b>1</b>
<b>#10 PANCAKE HEAD CLIP SCREWS FOR WOOD 304 STAINLESS STEEL -----</b>	<b>2</b>
<b>#10 ULTRA THIN PANCAKE HEAD CLIP SCREWS FOR WOOD RUSPERT COATED ----</b>	<b>3</b>
<b>#10 ULTRA THIN PANCAKE HEAD CLIP SCREWS FOR WOOD 410 STAINLESS STEEL</b>	<b>4</b>
<b>#10 PANCAKE HEAD CLIP SCREWS FOR METAL RUSPERT COATED -----</b>	<b>5</b>
<b>#10 PANCAKE HEAD CLIP SCREWS FOR METAL 410 STAINLESS STEEL -----</b>	<b>6</b>
<b>#12 ULTRA THIN PANCAKE HEAD XG CLIP SCREWS FOR WOOD ZINC PLATED -----</b>	<b>7</b>
<b>#12 PANCAKE HEAD CLIP SCREWS FOR METAL ZINC PLATED -----</b>	<b>8</b>
<b>#12 PANCAKE HEAD CLIP SCREWS FOR HEAVY GAUGE METAL ZINC PLATED -----</b>	<b>9</b>
<b>#12 PANCAKE HEAD CLIP SCREWS FOR HEAVY GAUGE METAL E-COAT -----</b>	<b>10</b>
<b>#14 PANCAKE HEAD CLIP SCREWS FOR METAL RUSPERT COATED -----</b>	<b>11</b>
<b>#14 PHIL TRUSS HEAD CLIP SCREWS FOR METAL 316 STAINLESS STEEL BI-METAL</b>	<b>12</b>
<b>COATING COMPARISON -----</b>	<b>13</b>

## Screw Terminology

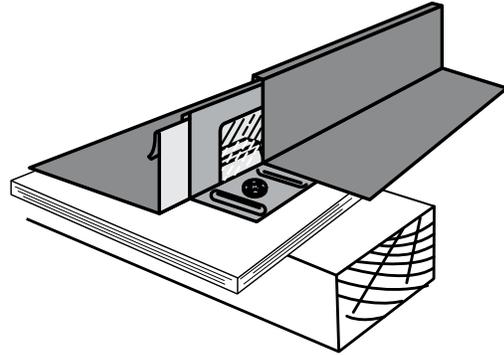
Description: 10-16 X 1-1/2" Pancake Head SD3  
1000 hour salt spary coating



Major Diameter	Threads Per Inch	Screw Length	Point Type	Head Style
<b>#10-16 X 1-1/2" SD3 Pancake</b>				

# Clip-Lock

## #10 Type 17 Pancake SSR Panel Clip to Wood Fastener



### Features and Benefits

- Pancake head low profile fits under most panel profiles
- Type 17 drill point for fast installation
- Quadrex drive provides driving stability
- 1,000 hour coated

### Application

Standing seam panel clip attachment to wood substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
10121000PQ17C	1"	Full	10-12X1" PANCAKE QUADREX TY 17	39	5,000
10121500PQ17C	1-1/2"	Full	10-12X1-1/2" PANCAKE QUADREX TY 17	31	3,000
10122000PQ17C	2"	Full	10-12X2" PANCAKE QUADREX TY 17	29	2,500

Plain product bagged 250 pieces, unless otherwise noted.

\*Note - Thread length measured from tip of the drill point to end of the threads.

### Product Specifications

Diameter: #10  
 Threads Per Inch: 12  
 Head Style: Pancake  
 Drive: Quadrex

Drill Point: Type 17  
 Thread Major Dia: 0.191"  
 Thread Minor Dia: 0.130"

### Performance Data

#### Material Strength

Tensile	1725 lbf
Shear	1125 lbf
Torsional	66 lbf-in

#### Pull Out Strength Wood:

SPF 1" penetration	734 lbf
3/4" Plywood	650 lbf
5/8" Plywood	500 lbf
1/2" Plywood	378 lbf
23/32" OSB	445 lbf
19/32" OSB	355 lbf
7/16" OSB	165 lbf

Pull out strength values may vary from tested loads depending upon specific wood density variations.

### Installation and Application Considerations

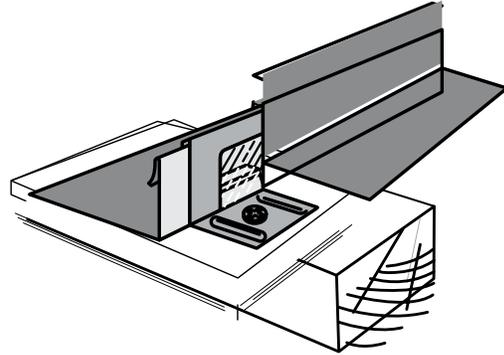
Tools: 0-2500 rpm screw gun equipped with depth sensing nose piece.

Use of impact guns or hammer drills is not recommended.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent guaranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance

# Clip-Lock

## #10 Type 17 Pancake 304 S.S. SSR Panel Clip to Wood Fastener



### Features and Benefits

- Pancake head low profile fits under most panel profiles
- Type 17 drill point for fast installation
- Quadrex drive provides driving stability
- 304 Stainless Steel for maximum corrosion resistance

### Application

Standing seam panel clip attachment to wood substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
10121000PQ173S	1"	Full	10-12X1" PANCAKE QUADREX TY 17	39	5,000
10121500PQ173S	1-1/2"	Full	10-12X1-1/2" PANCAKE QUADREX TY 17	31	3,000
10122000PQ173S	2"	Full	10-12X2" PANCAKE QUADREX TY 17	29	2,500

Plain product bagged 250 pieces, unless otherwise noted.

\*Note - Thread length measured from tip of the drill point to end of the threads.

### Product Specifications

Diameter: #10  
 Threads Per Inch: 12  
 Head Style: Pancake  
 Drive: Quadrex

Drill Point: Type 17  
 Thread Major Dia: 0.191"  
 Thread Minor Dia: 0.130"

### Performance Data

#### Material Strength

Tensile	1040 lbf
Shear	701 lbf
Torsional	45 lbf-in

#### Pull Out Strength Wood:

SPF 1" penetration	734 lbf
3/4" Plywood	650 lbf
5/8" Plywood	500 lbf
1/2" Plywood	378 lbf
23/32" OSB	445 lbf
19/32" OSB	355 lbf
7/16" OSB	165 lbf

Pull out strength values may vary from tested loads depending upon specific wood density variations.

### Installation and Application Considerations

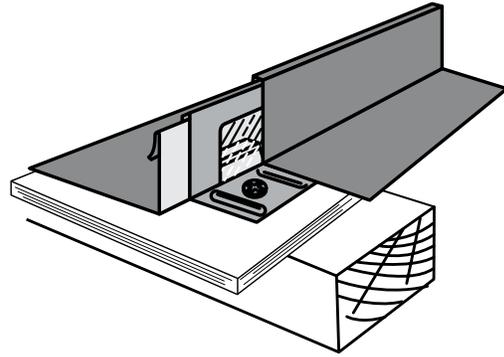
Tools: 0-2500 rpm screw gun equipped with depth sensing nose piece.

Use of impact guns or hammer drills is not recommended.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent guaranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance with all applicable laws and regulations.

# Clip-Lock

## #10 Type 17 UTP Pancake SSR Panel Clip to Wood Fastener



### Features and Benefits

- UTP (Ultra Thin Pancake) head profile provides additional clearance to prevent dimples in panel
- Type 17 drill point for fast installation
- Quadrex drive provides driving stability
- 1,000 hour coated

### Application

Standing seam panel clip attachment to wood substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
100911125UTPQ17C	1-1/8"	Full	10- 9 X 1-1/8" UTP PANCAKE QUADREX TY 17	30	5,000

Plain product bagged 250 pieces, unless otherwise noted.

\*Note - Thread length measured from tip of the drill point to end of the threads.

### Product Specifications

Diameter: #10  
 Threads Per Inch: 9  
 Head Style: UTP (Ultra Thin Pancake)  
 Drive: Quadrex

Drill Point: Type 17  
 Thread Major Dia: 0.200"  
 Thread Minor Dia: 0.130"

### Performance Data

#### Material Strength

Tensile	1520 lbf
Shear	1150 lbf
Torsional	60 lbf-in

#### Pull Out Strength Wood:

SPF 1" penetration	813 lbf
3/4" Plywood	574 lbf
5/8" Plywood	395 lbf
1/2" Plywood	383 lbf
23/32" OSB	514 lbf
19/32" OSB	256 lbf
7/16" OSB	136 lbf

Pull out strength values may vary from tested loads depending upon specific wood density variations.

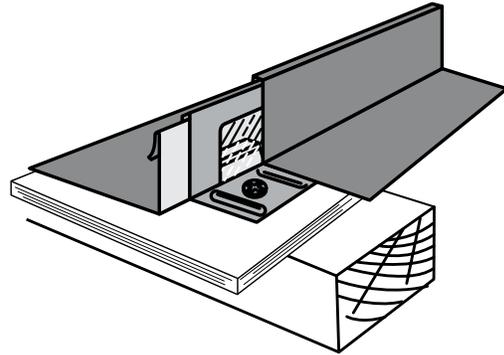
### Installation and Application Considerations

Tools: 0-2500 rpm screw gun equipped with depth sensing nose piece.

Use of impact guns or hammer drills is not recommended.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent warranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance

# #10 Type 17 410 S.S. UTP Clip-Lock Pancake SSR Panel Clip to Wood Fastener



#### Features and Benefits

- UTP (Ultra Thin Pancake) head profile provides additional clearance to prevent dimples in panel
- Type 17 drill point for fast installation
- Quadrex drive provides driving stability
- 410 Stainless Steel provides resistance to corrosion in mild to light industrial environments

#### Application

Standing seam panel clip attachment to wood substrate

#### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
10091125UTPQ174S	1-1/8"	Full	10- 9 X 1-1/8" UTP PANCAKE QUADREX TY 17 410	30	5,000

Plain product bagged 250 pieces, unless otherwise noted.

\*Note - Thread length measured from tip of the drill point to end of the threads.

#### Product Specifications

Diameter: #10  
 Threads Per Inch: 9  
 Head Style: UTP (Ultra Thin Pancake)  
 Drive: Quadrex

Drill Point: Type 17  
 Thread Major Dia: 0.200"  
 Thread Minor Dia: 0.130"

#### Performance Data

##### Material Strength

Tensile	2500 lbf
Shear	1625 lbf
Torsional	85 lbf-in

##### Pull Out Strength Wood:

SPF 1" penetration	813 lbf
3/4" Plywood	574 lbf
5/8" Plywood	395 lbf
1/2" Plywood	383 lbf
23/32" OSB	514 lbf
19/32" OSB	256 lbf
7/16" OSB	136 lbf

Pull out strength values may vary from tested loads depending upon specific wood density variations.

#### Installation and Application Considerations

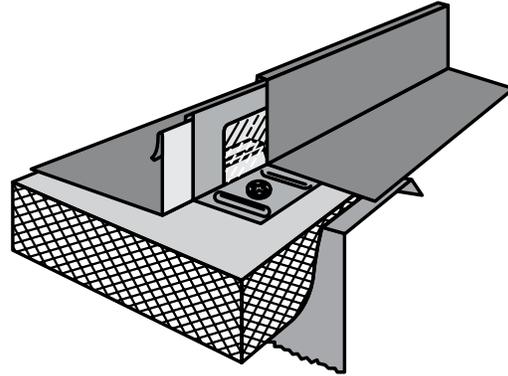
Tools: 0-2500 rpm screw gun equipped with depth sensing nose piece.

Use of impact guns or hammer drills is not recommended.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent guaranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance

# Clip-Lock

## #10 Self-Drill Pancake SD3 SSR Panel Clip to Metal Fastener



### Features and Benefits

- Pancake head low profile fits under most panel profiles
- Self-drill #3 point for fast installation
- Quadrex drive provides driving stability
- 1000 hour coated

### Application

Standing seam panel clip attachment to metal substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
10161000PQ3C	1"	Full	10-16X1" PANCAKE QUADREX SD3	39	5,000
10161500PQ3C	1-1/2"	Full	10-16X1-1/2" PANCAKE QUADREX SD3	31	3,000
10162000PQ3C	2"	Full	10-16X2" PANCAKE QUADREX SD3	32	2,500

Plain product bagged 250 pieces, unless otherwise noted.

\*Note - Thread length measured from tip of the drill point to end of the threads.

### Product Specifications

Diameter: #10  
 Threads Per Inch: 16  
 Head Style: Pancake  
 Drive: Quadrex

Drill Point: SD3  
 Thread Major Dia: 0.185"  
 Thread Minor Dia: 0.138"

### Performance Data

#### Material Strength

Tensile	2100 lbf
Shear	1400 lbf
Torsional	65 lbf-in

#### Pull Out Strength Steel

22 Ga	268 lbf
20 Ga	285 lbf
18 Ga	500 lbf
16 Ga	690 lbf
14 Ga	971 lbf
12 Ga	1405 lbf

### Installation and Application Considerations

Tools: 0-2500 rpm screw gun equipped with depth sensing nose piece.

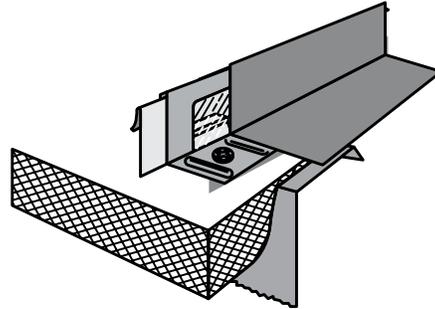
Fasteners length should provide for a minimum of 3/16" penetration of fully developed threads into metal substrate.

Use of impact guns or hammer drills is not recommended.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent warranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance with all applicable laws and regulations.

# Clip-Lock

## #10 Self-Drill Pancake 410 S.S. SSR Panel Clip to Metal Fastener



### Features and Benefits

- Pancake head low profile fits under most panel profiles
- Self-drill #3 point for fast installation
- Quadrex drive provides driving stability
- 410 Stainless Steel provides resistance to corrosion in mild to light industrial environments

### Application

Standing seam panel clip attachment to metal substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
10161000PQ34S	1"	Full	10-16X1" PANCAKE QUADREX SD3	38	5,000

Plain product bagged 250 pieces, unless otherwise noted.

\*Note - Thread length measured from tip of the drill point to end of the threads.

### Product Specifications

Diameter: #10  
 Threads Per Inch: 16  
 Head Style: Pancake  
 Drive: Quadrex

Drill Point: SD3  
 Thread Major Dia: 0.185"  
 Thread Minor Dia: 0.138"

### Performance Data

#### Material Strength

Tensile	2100 lbf
Shear	1400 lbf
Torsional	92 lbf-in

#### Pull Out Strength Steel

22 Ga	268 lbf
20 Ga	285 lbf
18 Ga	500 lbf
16 Ga	690 lbf
14 Ga	971 lbf
12 Ga	1405 lbf

### Installation and Application Considerations

Tools: 0-2500 rpm screw gun equipped with depth sensing nose piece.

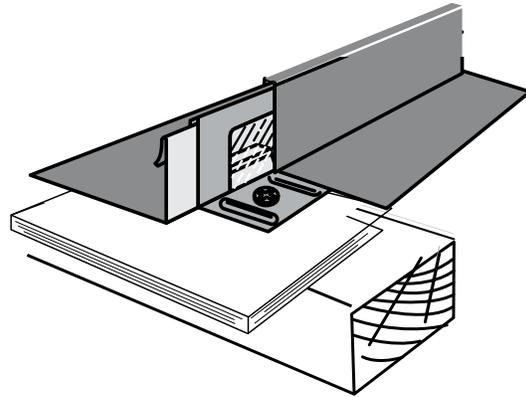
Fasteners length should provide for a minimum of 3/16" penetration of fully developed threads into metal substrate.

Use of impact guns or hammer drills is not recommended.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent guaranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance with all applicable laws and regulations.

# Clip-Lock

## 12 XG Sharp Point Low Profile SSR Panel Clip to Wood Fastener



### Features and Benefits

- Wafer thin head provides additional clearance to prevent dimples in panel
- Sharp drill point for fast installation
- Extra aggressive thread design; superior resistance to strip-out
- Improved pull out and back out values over other wood screws
- #2 square drive provides driving stability
- Zinc plated

### Application

Standing seam panel clip attachment to wood substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
1545904	1"	Full	12-8 X 1" SQ DR PANCAKE XG	14	2,000
1545899	1-1/2"	Full	12-8 X 1-1/2" SQ DR PANCAKE XG	30	2,000
1545908	2"	Full	12-8 X 2" SQ DR PANCAKE XG	30	1,500

Plain product bagged 250 pieces, unless otherwise noted.

\*Note - Thread length measured from tip of the drill point to end of the threads.

### Product Specifications

Diameter: #12  
 Threads Per Inch: 8  
 Head Style: Wafer  
 Drive: #2 square

Drill Point: Sharp point  
 Thread Major Dia: 0.212" (5.38 mm)  
 Thread Minor Dia: 0.130" (3.3 mm)

### Performance Data

#### Material Strength

Tensile	2183 lbf / 9710 N
Shear	1946 lbf / 8656 N
Torsional	60 lbf-in / 6.8 N-m

#### Pull Out Strength Wood: SPF

SPF 1" penetration	583 lbf / 2593 N
SPF 1-1/2" penetration	1029 lbf / 4577 N
1x4" Pine	590 lbf / 2624 N
3/4" Plywood	583 lbf / 2593 N
5/8" Plywood	368 lbf / 1637 N
1/2" Plywood	357 lbf / 1588 N
23/32" OSB	412 lbf / 1833 N
19/32" OSB	336 lbf / 1495 N
15/32" OSB	225 lbf / 1001 N

<sup>1</sup> Pull out strength values may vary from tested loads depending upon specific wood density variations.

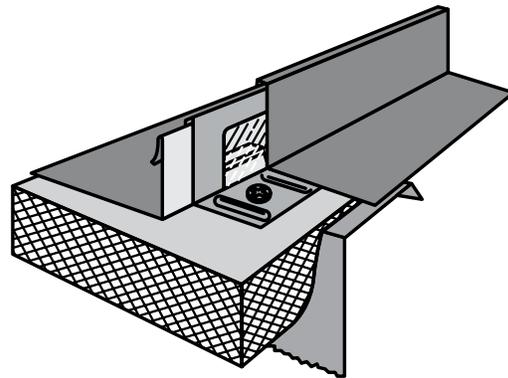
<sup>2</sup> SFS [4954.12]

<sup>3</sup> PLK 15007

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent guaranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance

# Clip-Lock

## #12 Self-Drill Pancake SD2 SSR Panel Clip to Metal Fastener



### Features and Benefits

- Pancake head low profile fits under most panel profiles
- Self-drill #2 point for fast installation
- #2 square drive provides driving stability
- Zinc plated

### Application

Standing seam panel clip attachment to metal substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
1545849	1"	Full	12-14 X 1" SQ DR PANCAKE SD2	25	2,500

Plain product bagged 250 pieces, unless otherwise noted.

\*Note - Thread length measured from end of pilot length to end of the threads.

### Product Specifications

Diameter: #12  
 Threads Per Inch: 14  
 Head Style: Pancake  
 Drive: #2 square

Drill Point: SD2  
 Drill Capacity: 0.035"-0.210"  
 Thread Major Dia: 0.212"  
 Thread Minor Dia: 0.160"

### Performance Data

#### Material Strength

Tensile	2500 lbf
Shear	1800 lbf
Torsional	120 lbf-in

#### Pull Out Strength Steel

22 Ga	358 lbf
20 Ga	430 lbf
18 Ga	573 lbf
16 Ga	716 lbf
14 Ga	895 lbf
12 Ga	1253 lbf

<sup>1</sup> PLK 10103

<sup>2</sup> STQA50573

### Installation and Application Considerations

Tools: 0-2000 rpm screw gun equipped with depth sensing nose piece.

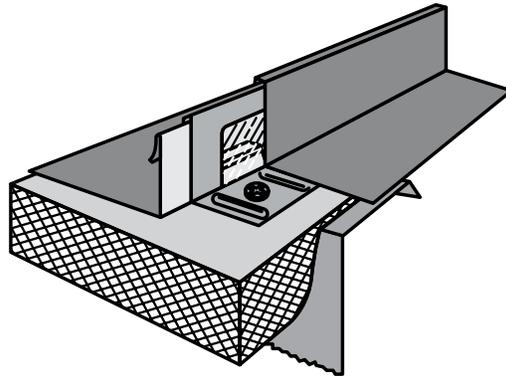
Fastener length should provide for a minimum of 3/16" penetration of fully developed threads into metal substrate.

Use of impact guns or hammer drills is not recommended.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent guaranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance

# Clip-Lock

## #12 Self-Drill Pancake SD5 SSR Panel Clip to Metal Fastener



### Features and Benefits

- Pancake head low profile fits under most panel profiles
- Self-drill #5 point for fast installation
- #2 square drive provides driving stability
- Zinc plated

### Application

Standing seam panel clip attachment to heavy gauge metal substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
1545855	1-1/2"	0.770"	12-24 X 1-1/2" SQ DR PANCAKE SD5	33	2,500

Plain product bagged 250 pieces, unless otherwise noted.

\*Note – Thread length measured from end of pilot length to end of the threads.

### Product Specifications

Diameter: #12  
 Threads Per Inch: 24  
 Head Style: Pancake  
 Drive: #2 square

Drill Point: SD5  
 Drill Capacity: 0.075"–0.500"  
 Thread Major Dia: 0.213"  
 Thread Minor Dia: 0.185"

### Performance Data

#### Material Strength

Tensile	2950 lbf
Shear	2400 lbf
Torsional	100 lbf-in

#### Pull Out Strength Steel

12 Ga (2.7 mm)	1260 lbf
3/16" (4.7 mm)	Exceeds tensile value
1/4" (6.4 mm)	Exceeds tensile value

### Installation and Application Considerations

Tools: 0–2000 rpm screw gun equipped with depth sensing nose piece.

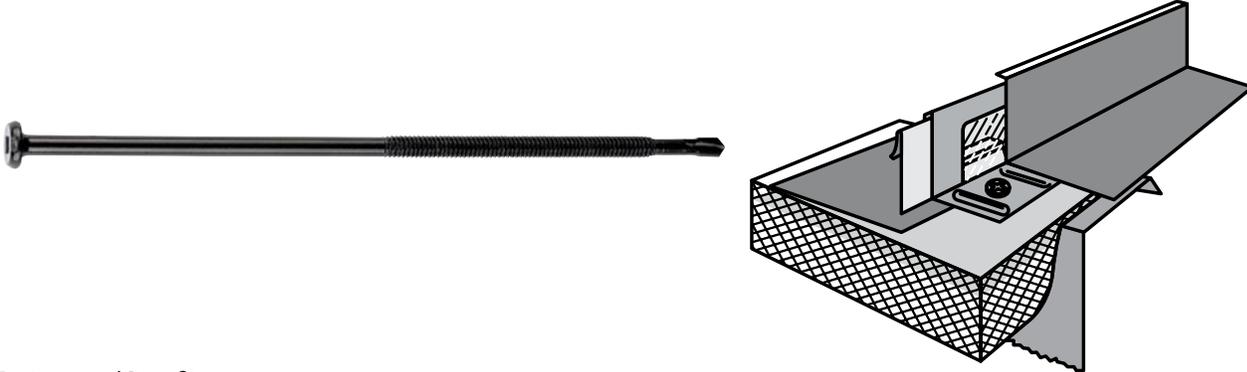
Use of impact guns or hammer drills is not recommended.

Fastener length should provide for a minimum of 3/16" penetration of fully developed threads into metal substrate.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent guaranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance

# Clip-Lock

## #12 H.D. Self-Drill Pancake SD4 SSR Panel Clip to Metal Fastener



### Features and Benefits

- Extra stable #3 square drive provides superior bit engagement
- Drill point design prevents fastener walking
- 24 threads per inch allow for easier driving of the fastener and greater pull-out values
- Shank diameter is smaller than that of the drill point and the outside thread diameter, allowing thick metal to be drilled and cleared of chips before threads tap into metal
- Cathodic epoxy e-coat

### Application

Standing Seam panel clip attachment to heavy gauge metal substrate

### Product Selection

Material No.	Fastener Length	Thread* Length	Pilot Length	Description	Carton Wt. (lbs.)	Carton Qty.
1202220	1-3/8"	Full	3/4"	12-14 X 1-3/8" SQ DR HD PANCAKE	30	2,500
1202222	2-3/4"	Full	3/4"	12-24 X 2-3/4" SQ DR HD PANCAKE	22	1,000
1202224	3-3/4"	2-5/8"	3/4"	12-24 X 3-3/4" SQ DR HD PANCAKE	33	1,000
1202226	4-3/4"	2-5/8"	3/4"	12-24 X 4-3/4" SQ DR HD PANCAKE	41	1,000
1202228	5-3/4"	2-5/8"	3/4"	12-24 X 5-3/4" SQ DR HD PANCAKE	48	1,000
1202230	6-3/4"	2-5/8"	3/4"	12-24 X 6-3/4" SQ DR HD PANCAKE	28	500
1202232	7-3/4"	3-5/8"	3/4"	12-24 X 7-3/4" SQ DR HD PANCAKE	48	500
1202234	8-3/4"	3-5/8"	3/4"	12-24 X 8-3/4" SQ DR HD PANCAKE	28	500

\*Note – Thread length measured from end of the pilot length to end of the threads.

### Performance Data

Material Strength	
Tensile	2300 lbf / 10231 N
Torsional	100 lbf-in / 11.30 N-m

### Pull Out Strength Steel

12 Ga (2.6 mm):	1477 lbf / 6570 N
14 Ga (1.9 mm):	869 lbf / 3866 N
16 Ga (1.5 mm):	599 lbf / 2664 N
18 Ga (1.2 mm):	424 lbf / 1886 N
3/16" (4.8 mm):	2300* lbf / 10231 N
1/4" (6.4 mm):	2300* lbf / 10231 N

\* Denotes tensile failure of fastener (fastener failed in tension before pulling out of tabulated substrate). Fasteners are designed for the attachment of roofing materials to purlins. Designated pull-out values depend on the quality of materials to which the fastener is being attached. Pull-out tests need to be conducted to verify that the substrate provides adequate pull-out values.

### Installation and Application Considerations

Tools: 1800–2500 rpm screw gun equipped with depth sensing nosepiece. The standard carton package includes one Square Drive Bit #3.

Use of impact guns or hammer drills is not recommended.

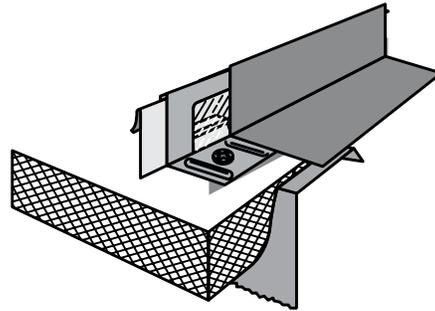
Up to 1/4" purlin steel

- Steel thickness from 18 ga (0.048") through 1/4" (0.250")
- Fastener length should provide for a minimum of 3/16" penetration of fully developed threads into metal substrate.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent guaranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance

# Clip-Lock

## #14-13 Pancake DP1 Clip to Metal, Wood or Concrete Fastener



### Features and Benefits

- Pancake head low profile fits under most panel profiles
- Self-drill #1 point for fast installation
- #2 square drive provides driving stability
- 1000 hour coated

### Application

Standing seam panel clip attachment to metal, wood or concrete substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
14131500PSC1	1-1/2"	Full	14-13 X 1-1/2" PANCAKE SQ DR DP1	18	2,500
1413200PSC1	2"	Full	14-13 X 2" PANCAKE SQ DR DP1	15	1,800
14133000PSC1	3"	Full	14-13 X 3" PANCAKE SQ DR DP1	15	1,300
14134000PSC1	4"	3-1/2"	14-13 X 4" PANCAKE SQ DR DP1	14	1,000
14135000PSC1	5"	4"	14-13 X 5" PANCAKE SQ DR DP1	15	800
14136000PSC1	6"	4"	14-13 X 6" PANCAKE SQ DR DP1	13	600
14137000PSC1	7"	4"	14-13 X 7" PANCAKE SQ DR DP1	17	600
14138000PSC1	8"	4"	14-13 X 8" PANCAKE SQ DR DP1	17	600
14139000PSC1	9"	4"	14-13 X 9" PANCAKE SQ DR DP1	15	500

\*Note – Thread length measured from tip of the drill point to end of the threads.

### Product Specifications

Diameter: #14  
 Threads Per Inch: 13  
 Head Style: Pancake  
 Drive: #2 square

Drill Point: DP1  
 Thread Major Dia: 0.235"  
 Thread Minor Dia: 0.150"

### Performance Data

#### Material Strength

Tensile	2600 lbf
Shear	1500 lbf
Torsional	95 lbf-in

#### Pull Out Strength Wood

	Pull Out Strength Wood	Pull Out Strength Steel	Pull Out Strength Concrete
SPF 1" penetration	991 lbf	14 Ga	974 lbf
3/4" Plywood	626 lbf	16 Ga	779 lbf
5/8" Plywood	475 lbf	18 Ga	623 lbf
1/2" Plywood	434 lbf	20 Ga	467 lbf
23/32" OSB	457 lbf	22 Ga	390 lbf
19/32" OSB	327 lbf	24 Ga	312 lbf
7/16" OSB	153 lbf	26 Ga	223 lbf

### Installation and Application Considerations

Tools: 0–2500 rpm screw gun equipped with depth sensing nose piece.

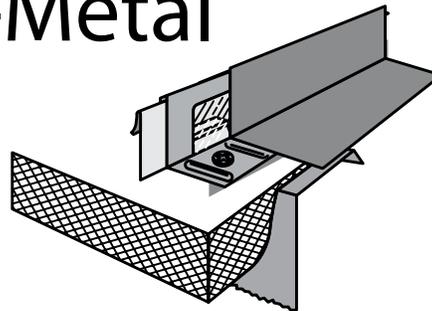
Use of impact guns or hammer drills is not recommended.

Fasteners length should provide for a minimum of 3/16" penetration of fully developed threads into metal substrate.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent guaranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance with all applicable laws and regulations.

# Clip-Lock

## #14-13 Flat Truss DP2 Clip to Metal or Wood Fastener 316 Stainless Steel Bi-Metal



### Features and Benefits

- low profile flat truss head fits under most panel profiles
- Self-drill #2 double flute point for fast installation
- #3 philips drive provides driving stability
- 316 Stainless Steel with a hardened carbon steel drill point

### Application

Standing seam panel clip attachment to metal or wood substrate

### Product Selection

Material No.	Fastener Length	Thread Length*	Description	Carton Wt. (lbs.)	Carton Qty.
HDB-1500-SS	1-1/2"	Full	14-13 X 1-1/2" FLAT TRUSS DP2 BI-METAL	12.9	1,000
HDB-2000-SS	2"	Full	14-13 X 2" FLAT TRUSS DP2 BI-METAL	15.5	1,000
HDB-3000-SS	3"	2-7/8"	14-13 X 3" FLAT TRUSS DP2 BI-METAL	23.7	1,000
HDB-4000-SS	4"	3-7/8"	14-13 X 4" FLAT TRUSS DP2 BI-METAL	30.9	1,000
HDB-5000-SS	5"	3-7/8"	14-13 X 5" FLAT TRUSS DP2 BI-METAL	37.3	1,000
HDB-6000-SS	6"	3-7/8"	14-13 X 6" FLAT TRUSS DP2 BI-METAL	44.0	1,000
HDB-7000-SS	7"	3-7/8"	14-13 X 7" FLAT TRUSS DP2 BI-METAL	25.9	500
HDB-8000-SS	8"	3-7/8"	14-13 X 8" FLAT TRUSS DP2 BI-METAL	29.7	500
HDB-10000-SS	10"	3-7/8"	14-13 X 10" FLAT TRUSS DP2 BI-METAL	17.6	250
HDB-12000-SS	12"	3-7/8"	14-13 X 12" FLAT TRUSS DP2 BI-METAL	21.3	250

\*Note - Thread length measured from tip of the drill point to end of the threads.

### Product Specifications

Diameter: #14  
 Threads Per Inch: 13  
 Head Style: Flat truss  
 Drive: #3 Philips

Drill Point: DP2  
 Thread Major Dia: 0.237"

### Performance Data

#### Material Strength

Tensile	2000 lbf
Shear	1400 lbf

#### Pull Out Strength Wood

SPF 1" penetration	795 lbf
23/32" Plywood	730 lbf
19/32" Plywood	410 lbf
15/32" Plywood	360 lbf
23/32" OSB	410 lbf
19/32" OSB	310 lbf
7/16" OSB	270 lbf

#### Pull Out Strength Steel

18 Ga	885 lbf / 80.0 ksi
20 Ga	615 lbf / 80.0 ksi
22 Ga	480 lbf / 80.0 ksi
24 Ga	255 lbf / 36.5 ksi

### Installation and Application Considerations

Tools: 0-2500 rpm screw gun equipped with depth sensing nose piece.

Fasteners length should provide for a minimum of 3/4" penetration of fully developed threads into metal substrate.

Use of impact guns or hammer drills is not recommended.

The details stated are results of tests and/or calculations and therefore are non-binding and do not represent warranties or warranted characteristics for not specified applications. All calculations therefore have to be checked and approved by the responsible planner ahead of execution. The user is responsible to assure compliance with all applicable laws and regulations.

## Coating Comparison

Coating	Salt Spray	Application
Clear Zinc	24 hrs.	Used indoors for dry, non-corrosive applications
*Ruspert	1,000 hrs.	Used indoors and outdoors for high corrosive applications
E-Coat	500 hrs.	Used outdoors for medium corrosive applications
*410 Stainless Steel	500 hrs.	Used outdoors for medium corrosive applications
*304 Stainless Steel	2,000+ hrs.	Used outdoors for high corrosive applications
*316 Stainless Steel	2,000+ hrs.	Used outdoors for severely corrosive applications

\*ACQ Compatible

## Coating Description

**Clear Zinc:** A coating that is applied electrically to fasteners that prevents oxidation of steel by forming a protective barrier.

**Ruspert:** A high-grade metal surface processing technology that prevents corrosion. The coating system consists of three layers: a metallic zinc layer, a high-grade anti-corrosion chemical conversion film, and a baked ceramic surface coating.

**E-Coat:** A electrical current to deposit the coating material and oven cured.

**410 Stainless Steel:** A low-carbon grade of hardenable stainless steel. Good corrosion in mild atmospheres.

**304 Stainless Steel:** A nickel-chromium austenitic grade of stainless steel that has a high resistance to corrosion.

**316 Stainless Steel:** A nickel-chromium austenitic grade of stainless steel that provides a level of corrosion protection suitable for severe environments.

\*(Tested in accordance with the American Society of Testing Materials - ASTM B 117)

Charlotte, NC.  
 7670 Mikron Dr  
 Stanley, NC. 28164  
 (704) 822-3562

Raleigh, NC.  
 2201 S Wilmington St  
 Suite 101  
 Raleigh, NC. 27603  
 (919) 33-7794

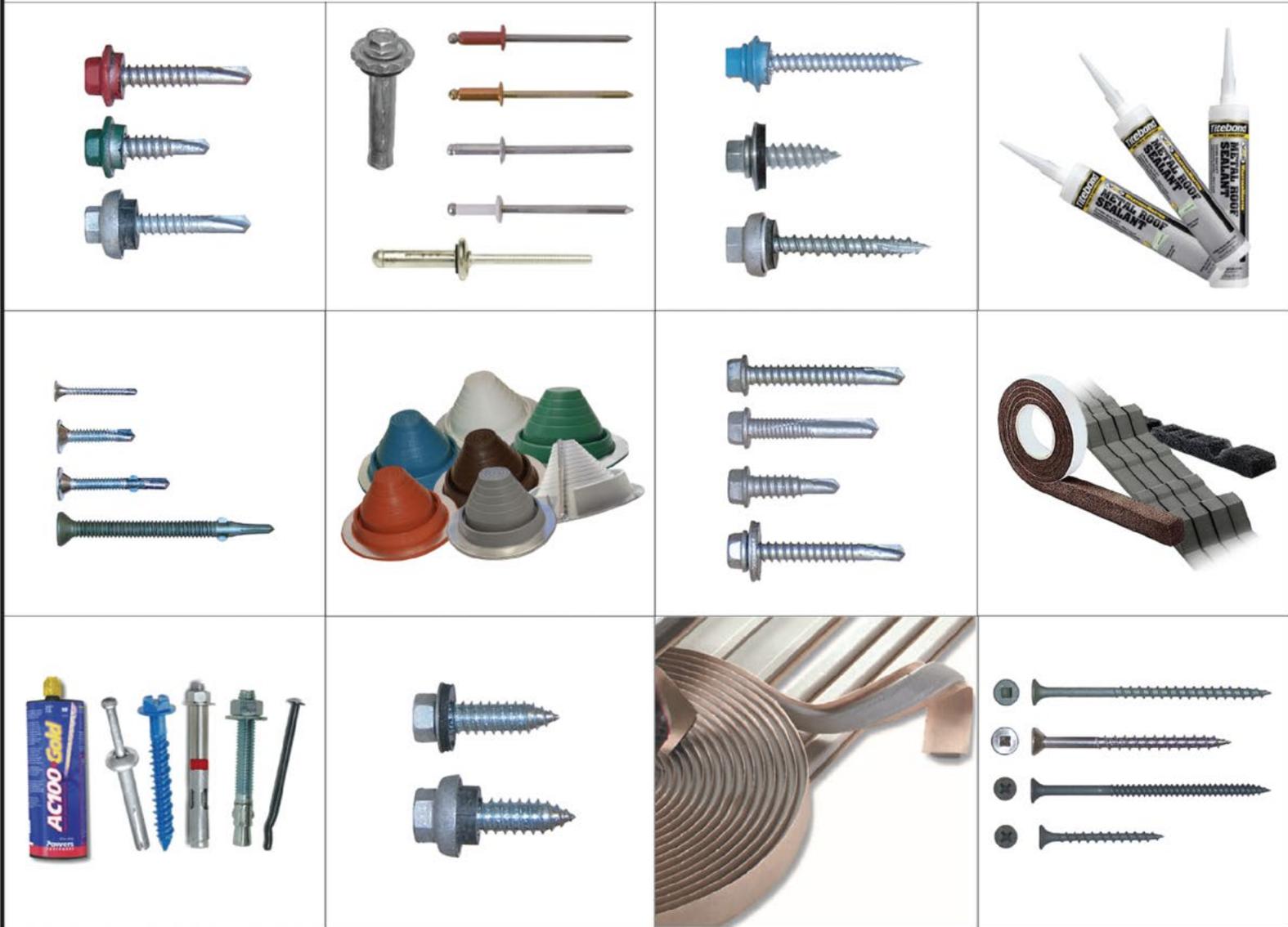
Richmond, VA.  
 8131 Virginia Pine Ct  
 North Chesterfield, VA. 23237  
 (804) 912-1851



# METAL FASTENING

S y s t e m s , I n c

[www.metalfasteningsystems.com](http://www.metalfasteningsystems.com)



Charlotte, NC.  
7670 Mikron Dr  
Stanley, NC. 28164  
(704) 822-3562

Raleigh, NC.  
2201 S Wilmington St  
Suite 101  
Raleigh, NC. 27603  
(919) 33-7794

Richmond, VA.  
8131 Virginia Pine Ct  
N. Chesterfield, VA. 23237  
(804) 912-1851