

Panel Clip Fasteners

- Designed with unique head styles, drill point configurations and material types to meet performance requirements to attach standing seam roof clips.

- Engineered profile features preventing panel damage from fastener head contact.
- Engineered installation torque drive control for uniform installation performance.

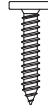
Application

#10 Type A: Pancake Head

#2 Square Drive

Carbon Steel, Zinc Plated

Metal to wood



Head Height: .080 – .068
 Head Dia: .447 – .423
 Thread Major Dia: .194 – .188
 Thread Minor Dia: .133 – .126

Strength (lbs ult.): **Carbon** **Stainless**

Tensile: 1825 1653

Torsional: 48 in-lbs 50 in-lbs

Shear: 1535 1587

#10 Type A, Pull-out (lbs ult.):

SPF wood:

1" penetration: 544

1-1/2" penetration: 995

#10 Self Drill, Pull-out (lbs ult.):

12 ga (.105): 1782

14 ga (.075): 1072

16 ga (.060): 782

#10 Type A: Pancake Head

#2 Square Drive

300 Series Stainless Steel

Metal to wood



#10 Self-Drill: Pancake Head

#2 Square Drive

Carbon Steel, Zinc Plated

Metal to metal

Min projection: 3/8" of threads
 below substrate

#12-8 XG Low Profile Head

#2 Square Drive

Carbon Steel, Zinc Plated

Metal to wood



Head Height: .040 – .030
 Head Dia: .447 – .423
 Thread Major Dia: .215 – .209
 Thread Minor Dia: .133 – .127

Strength (lbs ult.):

Tensile: 2183

Torsional: 60 in-lbs

Shear: 1946

Performance (lbs ult.): **Pull-out**

SPF 1" Penetration 583

SPF 1-1/2" Penetration 1029

1x4" Pine 590

3/4" Plywood 583

5/8" Plywood 368

1/2" Plywood 357

23/32" OSB 412

19/32" OSB 336

15/32" OSB 225

#12-8 XG Sharp Point: Pancake Head

#2 Square Drive

Carbon Steel, Zinc Plated

Metal to wood



Head Height: .080 – .068
 Head Dia: .447 – .423
 Thread Major Dia: .215 – .209
 Thread Minor Dia: .133 – .127

Strength (lbs ult.):

Tensile: 2183

Torsional: 60 in-lbs

Shear: 1946

Performance (lbs ult.): **Pull-out**

SPF 1" Penetration 583

SPF 1-1/2" Penetration 1029

1x4" Pine 590

3/4" Plywood 583

5/8" Plywood 368

1/2" Plywood 357

23/32" OSB 412

19/32" OSB 336

15/32" OSB 225

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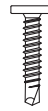
Application

#12 Type A: Pancake Head
#2 Square Drive
Carbon Steel , Zinc Plated
Metal to wood



Head Height: .080 – .068
Head Dia: .447 – .423
Thread Major Dia: .221 – .215
Thread Minor Dia: .162 – .155
Strength (lbs ult.):
Tensile: 1940
Torsional: 90 in-lbs
Shear: 1805
Pull-out (lbs ult.):
SPF wood:
1" penetration: 622

#12 Self-Drill: Pancake Head SD2
#2 Square Drive
Carbon Steel , Zinc Plated
Metal to metal



Drilling Capacity: .035 - .210
Min projection: 3/8" of threads
below substrate .

Head Height: .090 – .078
Head Dia: .447 – .423
Thread Major Dia: .215 – .209
Thread Minor Dia: .164 – .157
Strength (lbs ult.):
Tensile: 2900
Torsional: 92 in-lbs
Shear: 2050
Pull-out (lbs ult.):
12 ga (.105): 1539
14 ga (.075): 1010
16 ga (.060): 724

1/4 -14 SD2 HWH

Drilling capacity (#2 point): .050 – .150
Attachment thickness:
Thickness is based on normal,
single thickness purlin/girt or
multiple material thickness
combined for total.
Min projection: 3/8" of threads
below substrate



5/16" AF Hex Washer Head
3/8" AF Hex Washer Head
Thread Major Dia: .246 – .240
Thread Minor Dia: .192 – .185
Strength (lbs ult.):
Tensile: 3800
Torsional: 150 in-lbs
Shear: 2850
#2 Point, Pull-out (lbs ult.):
12 ga (.105): 2088
14 ga (.075): 1312
16 ga (.060): 903

12-24 SD5: Pancake Head
#2 Square Drive
Carbon Steel, Zinc Plated
Metal to metal

Drilling capacity: .075 – .500
Attachment thickness:
Thickness is based on normal,
single thickness purlin/girt or
multiple material thickness
combined for total.
Min projection: 3/8" of threads
below substrate



Head Height: .090 – .078
Head Dia: .447 – .423
Thread Major Dia: .216 – .210
Thread Minor Dia: .186 – .181
Strength (lbs ult.):
Tensile: 3450
Torsional: 100 in-lbs
Shear: 2420
Pull-out (lbs ult.):
12 ga (.105): 1378
3/16" (.187): Exceeds tensile value
1/4" (.250): Exceeds tensile value

Notes

Dimensions are nominal inches unless noted. Pull-out values (pounds ultimate) are based on 50,000 psi hot rolled steel sheet material. Ultimate values listed are the result of laboratory testing. The specific job conditions should be considered and appropriate safety factors applied when specifying the proper fasteners.

Fasteners installed in less than 1" of solid wood may have an increased potential for a connection failure over time. This may be due to the fasteners being stripped out during installation and/or due to the lack of adequate wood fiber material to hold the fastener in place when forces are exerted upon the connection.

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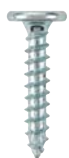
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Drawings are for illustration purpose only. Dimensions are nominal inches unless otherwise noted. Engineering drawings should be referenced for exact tolerances and will be furnished upon request.

Panel Clip Fasteners

Selection

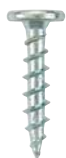
Description	New Part No.	Original Part No.	North American Code
Metal to Wood Application			
#10 Type A Pancake, Carbon Steel			
10 x 1"	1545869	A1191F	CSTA-#10x1-PC-SQ2
10 x 1-1/2"	1545862	A1351F	CSTA-#10x1-1/2-PC-SQ2
10 x 2"	1545882	A1391F	CSTA-#10x2-PC-SQ2
#10 Type A Pancake, 304 Stainless Steel			
10 x 1"	1545891	E0235F	CSTA-S3-#10x1-PC-SQ2
10 x 2"	1545895	E0271F	CSTA-S3-#10x2-PC-SQ2
#12 XG Low Profile			
12-8 x 1"	1545904		CSXG-#12x1-WF-SQ2
12-8 x 1-1/2"	1545899		CSXG-#12x1-1/2-WF-SQ2
12-8 x 2"	1545908		CSXG-#12x2-WF-SQ2
#12 XG Pancake			
12-8 x 1"	1545902	A1900F	CSXG-#12x1-PC-SQ2
12-8 x 1-1/2"	1545898	A1940F	CSXG-#12x1-1/2-PC-SQ2
12-8 x 2"	1545907	A1950F	CSXG-#12x2-PC-SQ2
#12 Type A Pancake			
12 x 1"	1545886	A1710F	CSTA-#12x1-PC-SQ2
Metal to Metal Application			
#10 Self-Drill Pancake			
10-16 x 1" SD 2	1545832	S3431F	CSSD2-#10x1-PC-SQ2
10-16 x 1-1/2" SD 2	1545823	S4221F	CSSD2-#10x1-1/2-PC-SQ2
10-16 x 2" SD 2	1545841	S4421F	CSSD2-#10x2-PC-SQ2
#12 Self-Drill Pancake			
12 x 1" SD 2	1545849	S4552F	CSSD2-#12x1-PC-SQ2
#12-24 # 5 Point Pancake			
12-24 x 1-1/2" SD 5	1545855	S4750F	CSSD5-#12X1-1/2-PC-SQ2
1/4-14 #2 Point 5/16 AF HWH			
1/4-14 x 1-1/4" SD 2	798666	S5191F	SD2-#14x1-1/4-HW5/16
1/4-14 x 1-1/2" SD 2	504058	S5286F	SD2-#14x1-1/2-HW5/16
1/4-14 #2 Point 3/8 AF HWH			
1/4-14 x 1" SD 2	798596	S5171F	SD2-#14x1-HW3/8



#10 Type A Pancake



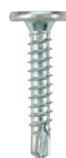
#12 XG Low Profile



#12 XG Pancake



#12 Type A Pancake



#10 Self-Drill Pancake



#12 Self-Drill Pancake



#12-24 #5 Point Pancake



1/4-14 #2 Point

Installation

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

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

Use of impact guns or hammer drill is not recommended.

Drawings are for illustration purpose only. Dimensions are nominal inches unless otherwise noted. Engineering drawings should be referenced for exact tolerances and will be furnished upon request.