



ATTACH FRAMING TO SUBSTRATE

HELPFUL TIPS

- Analyze existing roof to determine pull-out load & fastener.
- Fasteners should be long life coated or stainless steel.
- Attach base to existing structure concrete deck
- All penetrations should be sealed prior to installation of the new roof system.
- 1/4" diameter or larger should be used.



Drill and tap up to 1/2" steel

SUBSTRATE
STEEL

Material: Carbon Steel and 304SS Bi-Metal
Finish: TRI-SEAL® 1,000 Hour Salt Spray Coating
Head Style: 3/8" Hex Washer

Concerned about bending?
5/16" Diameter screws are available in lengths up to 8" long.

Diameter	Screw Length	Load Bearing Length (MAX)	Box Qty
1/4-14 BLAZER-3	3"	2"	1M
	4"	3"	500
	5"	4"	
	6"	5"	
	8"	7"	250
10"	9"		
1/4-20 BLAZER-5	3-1/8"	2.125"	1M
	4"	3"	250
	5"	4"	
	6"	5"	
	7"	6"	500
8"	7"		
5/16-12 BLAZER-3	4"	3.25"	500
	5"	1.38 - 4.25"	
	6"	2.50 - 5"	200
	8"	4.25" - 7"	



SUBSTRATE
STEEL
WOOD
CONCRETE

Material: Carbon Steel
Finish: Epoxy coating (black) meets or exceeds FM4470 corrosion standards. Do not use in exposed applications.

Head Style: #3 Phillips Truss Head

PRE-DRILL

METAL: For thickness 14ga and thicker, predrill with 1/4" split point drill bit

WOOD: NONE

CONCRETE: 7/32" Carbide tip masonry bit.

Diameter	Screw Length	Load Bearing Length (MAX)	Box Qty.
#15-13 SP5	10"	9.125"	500
	11"	10.125"	
	12"	11.125"	
	14"	14.125"	250
	16"	16.125"	
	18"	17.125"	
	20"	19.125"	
	22"	21.125"	
24"	23.125"		



SUBSTRATE
STEEL

1/4-14 TYPE AB & B

NOTE: PRE-DRILL REQUIRED INTO STEEL
Recommended screw-gun speed: 2,000 RPM MAX

Diameter	Screw Length	Carbon Steel	304 Stainless Steel
1/4-14	4"	X	X
	5"	X	X
	6"		X
	8"		X

Drill Bit Size Chart

Screw Type	14ga (.075")	12ga (.105")	1/8" (.125")	10ga (.134")	3/16" (.187")	1/4" (.250")	3/8" (.375")	1/2" (.500")
1/4-14 Type AB			#7					Not recommended
1/4-14 Type B			#7					#1



1/4-14 TYPE A HEX HEAD

NOTE: NO PRE-DRILL REQUIRED INTO WOOD.
Recommended screw-gun speed: 2,000 RPM MAX

Material: Carbon Steel | 304 Stainless Steel
Finish: Carbon Steel - TRI-SEAL 1,000 Hrs Salt Spray
Head Size: 3/8" Hex Head

SUBSTRATE
WOOD

Diameter	Screw Length	Carbon Steel	304 Stainless Steel
#14-10 Type A	4"	X	X
	5"	X	X
	6"		X

Allow a minimum of 1-1/2" embedment into the wood.



ATTACH FRAMING TO SUBSTRATE



Material: Carbon Steel | 304 Stainless Steel
 Finish: TRI-SEAL® 1,000 Hour Salt Spray Coating
 Head Style: Pancake | #2 Square Recess

Allow a minimum of 1-1/2" embedment into the wood.
 CONCRETE: Pre-drill using a 3/16" carbide tip drill bit.



For attaching clip directly to wood, use #10 GP, #12GP or #14 DP1 | 1", 1-1/8, 1-1/2", 1-5/8", 2" Lengths

SUBSTRATE

- WOOD
- CONCRETE

Dia.	Length	Load Bearing Length (MAX)
14-13	3"	2.250"
	4"	3.250"
	4-1/2"	3.375"
	5"	4.250"
	6"	5.250"
	7"	6.250"
	8"	7.250"
9"	8.250"	



WEDGE ANCHOR

Carbon Steel HDG | 304 Stainless Steel

Drill Bit Size: 3/8" Carbide Tip Drill Bit
 Tooling: Hammer Drill

SUBSTRATE

- CONCRETE

Anchor Size	Anchor Length	Max Attachment Thickness
3/8-16	3-3/4"	1-7/8"
	5"	3-1/8"
	7"	5-1/8"

Other sizes available



THREADED CONCRETE SCREWS

Carbon Steel | Long-Life Coated | 410 Stainless Steel
 316 Stainless Steel

Drill Bit Size
 5/16" Screw: 1/4" Carbide Tip Drill Bit
 3/8" Screw: 3/8" Carbide Tip Drill Bit

Tooling: Hammer Drill

SUBSTRATE

- CONCRETE

Screw Size	Anchor Length	Attachment Thickness
5/16"	4"	2-1/2" - 3"
	5"	3-1/2" - 4"
	6"	4-1/2" - 5"
3/8"	4"	2-1/2" - 3"
	5"	3-1/2" - 4"
	6"	4-1/2" - 5"

TECHNICAL INFORMATION | Pull-out - Avg Ult Lbs



Job site pull-out test should be performed to help determine roof condition and fastener type. This sections provides load data based on laboratory conditions and should be used to compare actual job-site results.

Contact TFC for assistance.

SUBSTRATE

- WOOD

Fastener Size	Pull-out Values in WOOD		
	2x SYP	5/8" Plywood	3/4" Plywood
#10-13 GP CONCEALOR	737	505	654
#10-9 GP CONCEALOR ULP	813	395	574
#14-13 DP1 CONCEALOR	991	475	625
#14-10 TYPE A TFC TAPPER	1030	475	626
#15-13 DP1 SENTRY PLUS FIVE	1165	525	685

SUBSTRATE

- CONCRETE

Fastener Size	EMBEDMENT DEPTH	Pull-out Values in CONCRETE	
		4,000 PSI	3,000 PSI
#14-13 DP1 CONCEALOR	1"		740
#15-13 DP1 SP5	1"		1,002
5/16" THREADED ANCHOR	1-3/4"		2,785
3/8" THREADED ANCHOR	2-1/2"		5,445
3/8-16 WEDGE ANCHOR	1-1/2"	2,240	

SUBSTRATE

- STEEL

Pre-drill required for #15-13 DP1 and 1/4-14 Type B / AB
 Pull-out Values in 65 Ksi Steel

Fastener Size	Ultimate Load in Pounds Calculated per AISI S100					
	14 Ga. (.075")	12 Ga. (.105")	1/8" (.125")	3/16" (.188")	1/4" (.250")	1/2" (.500")
1/4-14 DP3	1036	1450	1727	1865		
1/4-20 DP5					*3453	*6906
#15-13 DP1 (Pre-Drill)	1077	1508	1796	2693	3591	*7182
1/4-14 Type AB/B (Pre-Drill)	1036	1450*	1727	1865	*3453	*6906

*Denotes load exceeds tensile strength of fastener