BLAZER® Self-Drilling Fasteners Hex Washer Heads

Sizes
- Diameters: #10, #12, 1/4", 5/16"
- Lengths: 1/2" to 10"
- Material: Carbon Steel, 410 Stainless Steel
- Bi-Metal 304 SS
- TRI-SEAL® 1,000 Hrs Salt Spray coated

Any fastener can be painted at one of our 8 In-house Kalida Kote paint facilities!

BLAZER® Bonded Sealer

Sizes
- Diameters: #10, #12, 1/4"
- Lengths: 3/4" to 10"
- Material: Carbon Steel, 410 Stainless Steel

BLAZER® Flange Sealer

Sizes
- Diameters: #12, 1/4"
- Lengths: 3/4" to 3"
- Material: Carbon Steel / TRI-SEAL

BLAZER® Stainless Steel Head

Sizes
- Diameters: #12, 1/4"
- Lengths: 3/4" to 3"
- Material: Carbon Steel / TRI-SEAL 304SS Head

BLAZER® Zinc Head

Sizes
- Diameters: #12, 1/4"
- Lengths: 3/4" to 3"
- Material: Carbon Steel / TRI-SEAL Zinc Head

SELF-TAPPERS

Sizes
- Diameters: #14, 1/4", #17, 3/8"
- Lengths: 3/4" to 8"
- Head Style: HH & HWH
- Material: Carbon Steel 304SS - 410SS

CONCEALOR® Pancake Head Screws

Sizes / Pancake Head
- Diameter: #10, #12, 1/4", #14
- Length: 5/8" to 9"
- Materials: Carbon Steel 410 Stainless Steel 304 Stainless Steel

Triangular Fastener Corporation
Choose from major brands and types of levels, lasers, and tape measures.

- Carbon Steel - Zinc Plated Hot-dipped Galvanized
- 304 & 316 Stainless Steel

Sizes
- Diameters: 1/4" to 1-1/4"
- Lengths: 1-3/4" to 12"

Colors matched to your panel.

Many sizes available to anchor structure.

Sizes
- Diameters: 3/16" to 1/2"
- Lengths: 1-1/4" to 14"

Choose from major brands and types of levels, lasers, and tape measures.

- Copper, Brass, Aluminum
- Carbon Steel - Zinc Plated Hot-dipped Galvanized
- 304 & 316 Stainless Steel

Sizes
- Diameters: 1/4" to 1-1/4"
- Lengths: 1-3/4" to 12"

Visit our website for the most up-to-date product and technical information!

Visit our website for the most up-to-date product and technical information!
#10, #12, & 1/4" PIERCING POINTS AND DRILL POINTS

CONCEALOR® low profile head fasteners are engineered to perform in a variety of applications. They are specified in many metal roofing systems to attached SSR clips to metal or wood. They are easy to install and provides optimal strength.

## Sizes

<table>
<thead>
<tr>
<th>Description</th>
<th>Load Bearing Length (Max)</th>
<th>Part Number</th>
<th>Box Quantity</th>
<th>WT Per Box</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> #10-13 X 1&quot; GP</td>
<td>1&quot;</td>
<td>10100SPCGCSTS</td>
<td>5,000 pcs</td>
<td>36.0 lbs.</td>
</tr>
<tr>
<td><strong>A-1</strong> #10-9 X 1&quot; Type 17</td>
<td>1&quot;</td>
<td>10100SPC17CSCZ</td>
<td>5,000 pcs</td>
<td>36.0 lbs.</td>
</tr>
<tr>
<td><strong>A-2</strong> #10-12 X 1&quot; BURR BUSTER</td>
<td>1&quot;</td>
<td>10100SPCGBBCSTS</td>
<td>5,000 pcs</td>
<td>36.0 lbs.</td>
</tr>
<tr>
<td><strong>B</strong> #10-13 X 1&quot; GP</td>
<td>1&quot;</td>
<td>10100SPCGS3</td>
<td>5,000 pcs</td>
<td>39.0 lbs.</td>
</tr>
<tr>
<td><strong>C</strong> #10-9 X 1-1/8&quot; TYPE 17</td>
<td>1-1/8&quot;</td>
<td>10112SPC17CSTS</td>
<td>5,000 pcs</td>
<td>40.0 lbs.</td>
</tr>
<tr>
<td><strong>D</strong> #10-13 X 1-1/2&quot; GP</td>
<td>1-1/2&quot;</td>
<td>10150SPCGCSTS</td>
<td>3,000 pcs</td>
<td>31.0 lbs.</td>
</tr>
<tr>
<td><strong>E</strong> #10-13 X 1-1/2&quot; GP</td>
<td>1-1/2&quot;</td>
<td>10150SPCGS3</td>
<td>3,000 pcs</td>
<td>32.0 lbs.</td>
</tr>
<tr>
<td><strong>F</strong> #10-13 X 2&quot; GP</td>
<td>2&quot;</td>
<td>10200SPCGCSTS</td>
<td>1,500 pcs</td>
<td>19.0 lbs.</td>
</tr>
<tr>
<td><strong>G</strong> #12-11 X 1&quot; GP</td>
<td>1&quot;</td>
<td>12100SPCGCSTS</td>
<td>5,000 pcs</td>
<td>44.0 lbs.</td>
</tr>
<tr>
<td><strong>H</strong> #10-16 X 5/8&quot; DP3</td>
<td>.125&quot;</td>
<td>10062SPC3CS</td>
<td>5,000 pcs</td>
<td>27.0 lbs.</td>
</tr>
<tr>
<td><strong>I</strong> #10-24 X 5/8&quot; DP3</td>
<td>.125&quot;</td>
<td>10062PPC3CSYZ</td>
<td>5,000 pcs</td>
<td>27.0 lbs.</td>
</tr>
<tr>
<td><strong>J</strong> #10-16 X 1&quot; DP3</td>
<td>.500&quot;</td>
<td>10100SPC3CSTS</td>
<td>5,000 pcs</td>
<td>37.0 lbs.</td>
</tr>
<tr>
<td><strong>K</strong> #10-16 X 1&quot; DP3</td>
<td>.500&quot;</td>
<td>10100SPC3S4</td>
<td>5,000 pcs</td>
<td>37.0 lbs.</td>
</tr>
<tr>
<td><strong>L</strong> #10-16 X 1-1/2&quot; DP3</td>
<td>1&quot;</td>
<td>10150SPC3CSTS</td>
<td>3,000 pcs</td>
<td>32.0 lbs.</td>
</tr>
<tr>
<td><strong>M</strong> #10-16 x 2&quot; DP3</td>
<td>1.5&quot;</td>
<td>10200SPC3CSTS</td>
<td>1,500 pcs</td>
<td>21.0 lbs.</td>
</tr>
<tr>
<td><strong>N</strong> #12-14 X 1&quot; DP3</td>
<td>.375&quot;</td>
<td>12100SPC3CSTS</td>
<td>5,000 pcs</td>
<td>43.0 lbs.</td>
</tr>
<tr>
<td><strong>O</strong> #12-24 X 1-1/4&quot; DP5</td>
<td>.500&quot;</td>
<td>12125SPC5CSTS</td>
<td>4,000 pcs</td>
<td>52.0 lbs.</td>
</tr>
<tr>
<td><strong>P</strong> 1/4-14 X 1&quot; DP3</td>
<td>.325&quot;</td>
<td>14100SPC3CSTS</td>
<td>2,500 pcs</td>
<td>27.0 lbs.</td>
</tr>
</tbody>
</table>

**Bagged 250 pcs. per bag for your convenience!**

**SPECIAL APPLICATIONS**

We can assemble CONCEALOR® with a bonded sealing washer that locks out weather and looks appealing!

We can color match to your exact requirements in three days or less!

**Installation:** Do not use impact drivers! Use 2,500 RPM max variable speed screw drivers with torque control or depth sensing nosepiece.

**Army Corps of Engineers**

TRIANGLE FASTENER CORPORATION

Visit our website for the most up-to-date product and technical information!
CONCEALOR® screws with patent pending BURR-BUSTER® point and thread technology are engineered for superior performance in OSB.

Supplied with TRI-SEAL® 1,000-hours salt spray coating for exceptional corrosion resistance.

Our special thread produces up to 80% more pullout load compared to low root threads!

- Low Angle Thread
  Reduces over-driving, stripping, and increases resistance to loosening.

- Saw Cut Thread
  “Cuts” the OSB layers that enhances tapping of the thread.

- BURR-BUSTER Point
  Compresses the OSB layers during penetration to minimize delamination.

Specifically designed for use in oriented strand board

Bagged 250 pcs. per bag for your convenience!

SIZES
#10-12 x 1” with BURR-BUSTER Point.
Carbon Steel | TRI-SEAL COATED
Part Number: 10100SPCBBCBSTS

**TECHNICAL INFORMATION**

![#2 Square Recess Drive](image)

<table>
<thead>
<tr>
<th>#10-12</th>
<th>65</th>
</tr>
</thead>
</table>

Fastener Strength

Installation

Do not use impact drivers! Use 2,500 RPM max variable speed screw drivers with torque control or depth sensing nosepiece.

**Pullout - Average Ultimate in Pounds**

<table>
<thead>
<tr>
<th>Fastener Dia. &amp; Point</th>
<th>5/8” Ply</th>
<th>3/4” Ply</th>
<th>7/16” OSB</th>
<th>19/32” OSB</th>
<th>2 x 4 SYP</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-12 Burr Buster</td>
<td>450</td>
<td>706</td>
<td>258</td>
<td>381</td>
<td>648*</td>
</tr>
</tbody>
</table>

Test Report # T279-17 & T299-17 | Farabaugh Engineering.

**How does our “low-angle” thread keep the screw from loosening?**

- Ordinary metal-to-wood screws have steep angled threads that are easily over-driven and can back-out.
- A low-angle thread helps keep the screw from loosening.

**Corrosion Protection**

<table>
<thead>
<tr>
<th>CORROSION TESTING</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO2 Test Per ASTM G87</td>
<td>20 Cycles</td>
</tr>
<tr>
<td>Salt Spray Per ASTM B117</td>
<td>1,000 hrs</td>
</tr>
</tbody>
</table>

TRI-SEAL® Coated | compatible for use in treated lumber.

**DISCLAIMER:** RESULTS AND SPECIFICATIONS ARE A RESULT OF LABORATORY TESTS. APPROPRIATE SAFETY FACTORS SHOULD BE USED. DETERMINING THE PROPER FASTENER IS THE RESPONSIBILITY OF THE USER OR SPECIFIER. SINCE APPLICATION CONDITIONS VARY AND ARE UNCONTROLLABLE BY TFC, WE ASSUME NO LIABILITY FOR THE USE OF THIS INFORMATION.

Visit our website for the most up-to-date product and technical information!
CONCEALOR® ULP
ULTRA LOW PROFILE SCREW

Need it Ultra Low?

- 50% thinner than a standard pancake head. No more dimpling of the panel.
- Special taper: Increase head strength and countersinks into the wood.
- Coarse thread: Pulls fastener tight into the wood.
- Minimum 1" thread length: Provides full thread engagement for increased pullout!
- Sharp gimlet point: Fast penetration into steel clips up to 24 gauge thick!

Available in lengths up to 2-1/8"!

Bagged 250 pcs. per bag for your convenience!

The CONCEALOR® ULP screws are engineered to attach standing seam roof clips to wood. They are the preferred screw for attaching clip-less nail hem metal roof panels, easy to install, and provide optimal strength. ULP’s are supplied with TRI-SEAL® 1,000-hours salt spray coating which can be used in treated and fire treated lumber.

TRUST THE ORIGINAL
Ultra Low Profile Screw!

DESCRIPTION

- Part A #10-9 X 1-1/8" ULP (CS)
  - Long-life TRI-SEAL™ coated
  - 10112SPCUGCSTS 5,000 31.0 lbs
- Part B #10-9 X 1-1/8" ULP (CS)
  - Zinc Plated Interior Use Only
  - 10112SPCUGCSZP 5,000 31.0 lbs
- Part C #10-9 X 1-1/8" ULP (410 SS)
  - Passivated
  - 101125SPCUGS4 5,000 32.0 lbs
- Part D #10-9 X 1-5/8" ULP (CS)
  - Long-life TRI-SEAL™ coated
  - 1062SPCUGCSTS 3,000 34.0 lbs
- Part E #10-9 X 2-1/8" ULP (CS)
  - Long-life TRI-SEAL™ coated
  - 10212SPCUGCSTS 1,500 17.0 lbs

Sizes

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Box Quantity</th>
<th>WT Per Box</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-9 X 1-1/8” ULP (CS)</td>
<td>10112SPCUGCSTS</td>
<td>5,000</td>
<td>31.0 lbs</td>
<td></td>
</tr>
<tr>
<td>Zinc Plated Interior Use Only</td>
<td>10112SPCUGCSZP</td>
<td>5,000</td>
<td>31.0 lbs</td>
<td></td>
</tr>
<tr>
<td>#10-9 X 1-1/8” ULP (410 SS)</td>
<td>101125SPCUGS4</td>
<td>5,000</td>
<td>32.0 lbs</td>
<td></td>
</tr>
<tr>
<td>#10-9 X 1-5/8” ULP (CS)</td>
<td>1062SPCUGCSTS</td>
<td>3,000</td>
<td>34.0 lbs</td>
<td></td>
</tr>
<tr>
<td>#10-9 X 2-1/8” ULP (CS)</td>
<td>10212SPCUGCSTS</td>
<td>1,500</td>
<td>17.0 lbs</td>
<td></td>
</tr>
</tbody>
</table>

MTS FLORIDA BUILDING CODE 1506.6 (TRI-SEAL® & SS ONLY)

TECHNICAL INFORMATION

- Description: #10-9 Gimlet Point self-tapping screw
- Head Style: Ultra low pancake head with taper.
- Drive System: #2 square recess
- Head Thickness: .040"
- Material: C1022 carbon steel
- 410 Stainless steel (Copper Roofing Compatible)
- Heat Treat: Case hardened to ANSI/ASME B18.6.4 specification
- Carbon Steel: TRI-SEAL™ long-life coating (1,000hrs. salt spray)
- Stainless Steel: Passivated (48hrs. salt spray)

Thread Detail

- Major Diameter: .195"
- Minor Diameter: .125"
- Stress Area: .01267 in²

Pullout - Average Ultimate in Pounds

<table>
<thead>
<tr>
<th>Fastener Dia. &amp; Point</th>
<th>1/2&quot; Plywood</th>
<th>5/8&quot; Plywood</th>
<th>3/4&quot; Plywood</th>
<th>7/16&quot; OSB</th>
<th>9/32&quot; OSB</th>
<th>23/32&quot; OSB</th>
<th>2 x 4 SYP</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-9 GP</td>
<td>383</td>
<td>395</td>
<td>574</td>
<td>136</td>
<td>356</td>
<td>514</td>
<td>813</td>
</tr>
</tbody>
</table>

Farabaugh Engineering Test: Project No. T279-10

Fastener Strength

- Torsional: 60 lb-in
- Tensile: 1,520 lbs. min.
- Shear: 1,150 lbs. min.

Installation:
Do not use impact drivers!
Use 2,500 RPM max variable speed screw drivers with torque control or depth sensing nosepiece.
**#14-13 DP1 Pancake Head Screws**
\[Carbon Steel and 304 Stainless Steel\]

### TFC VALUE PROPOSITION

**Large Selection**
Lengths to meet your application needs.

**Best Quality**
Assures low in-place cost.

**Fast Delivery / Need-it-Now!**
Reduces your inventory costs.

*Denotes available sizes in stainless steel

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- **Attach to metal, wood, and concrete** -

  **CARBON STEEL**
  - TRI-SEAL® coated provides over 10-times more corrosion resistance than black epoxy coated screws
  - Drill and tap up to 14 ga steel
  - Can be used in concrete applications.

  **304 STAINLESS STEEL**
  - 304 Stainless Steel Bi-Metal provides superior corrosion resistance
  - Drill and tap up to 16 ga steel
  - TRI-SEAL® coated provides lubricity that minimizes thread roll-over

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**SIZES**

<table>
<thead>
<tr>
<th>Description</th>
<th>Load Bearing Length</th>
<th>Part Number</th>
<th>Carton Quantity</th>
<th>Wt Per Carton</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>#14-13 x 3/4&quot; DP1</td>
<td>.125&quot;</td>
<td>14075SPC1CSTS</td>
<td>3,000 pcs</td>
<td>21 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 1-1/2&quot; DP1</td>
<td>.750&quot;</td>
<td>CS: 14150SPC1CSTS 304SS: 14150SPC1BM</td>
<td>2,500 pcs</td>
<td>34 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 2&quot; DP1</td>
<td>1.250&quot;</td>
<td>CS: 14200SPC1CSTS 304SS: 14200SPC1BM</td>
<td>1,000 pcs</td>
<td>18 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 3&quot; DP1</td>
<td>.125&quot; - 2.250&quot;</td>
<td>CS: 14300SPC1CSTS 304SS: 14300SPC1BM</td>
<td>1,000 pcs</td>
<td>24 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 4&quot; DP1</td>
<td>.125&quot; - 3.250&quot;</td>
<td>14400SPC1CSTS</td>
<td>500 pcs</td>
<td>16 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 4-1/2&quot; DP1</td>
<td>.625&quot; - 3.375&quot;</td>
<td>14450SPC1CSTS</td>
<td>500 pcs</td>
<td>17 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 5&quot; DP1*</td>
<td>1.125&quot; - 4.250&quot;</td>
<td>14500SPC1CSTS</td>
<td>500 pcs</td>
<td>19 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 6&quot; DP1*</td>
<td>2.125&quot; - 5.250&quot;</td>
<td>14600SPC1CSTS</td>
<td>500 pcs</td>
<td>23 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 7&quot; DP1*</td>
<td>3.875&quot; - 6.250&quot;</td>
<td>CS: 14700SPC1CSTS 304SS: 14700SPC1BM</td>
<td>500 pcs</td>
<td>28 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 8&quot; DP1*</td>
<td>4.875&quot; - 7.250&quot;</td>
<td>14800SPC1CSTS</td>
<td>250 pcs</td>
<td>17 lbs</td>
<td></td>
</tr>
<tr>
<td>#14-13 x 9&quot; DP1*</td>
<td>5.875&quot; - 8.250&quot;</td>
<td>14900SPC1CSTS</td>
<td>250 pcs</td>
<td>19 lbs</td>
<td></td>
</tr>
</tbody>
</table>

* Denotes 4-1/2" Thread Length

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**MEETS FLORIDA BUILDING CODE 1506.6 (TRI-SEAL® & SS ONLY)**

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**Installation:** **DO NOT USE IMPACT DRIVERS!**
Use 2,500 RPM max variable speed screw drivers with torque control or depth sensing nosepiece.

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**ONCEALOR**

**LOW PROFILE SCREWS**

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**Technical Info**
Refer to page MD28 for complete technical data.
1/4-14 DP3 - DRILL AND TAP UP TO 1/4" THICK STEEL

#14 DP3 CONCEALOR® pancake head screws are designed for heavy gauge applications and can drill and tap up to 1/4" steel. The 1/4-14 thread produces greater strength and resists bending compared to smaller diameter screws. Originally designed for IMP!

These screws are coated with TRI-SEAL™ long-life coating that exceeds ASTM B633 specifications providing 1,000-hours salt spray performance, and FM4470 per ASTM G87 Sulfur Dioxide Test.

**Physical Properties**
- Thread Diameter: 1/4" (.250" nominal)
- Thread Pitch: 14
- Head Diameter: .625"
- Head Thickness: .100"
- Material: C-1022
- Case Hardened per SAE J-78

<table>
<thead>
<tr>
<th>Description</th>
<th>Load Bearing Length (MAX)</th>
<th>Part Number</th>
<th>Carton Quantity</th>
<th>Wt Per Carton</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1/4-14 x 1&quot; DP3</td>
<td>.325&quot;</td>
<td>14100SPC3CS</td>
<td>2,500 pcs</td>
</tr>
<tr>
<td>B</td>
<td>1/4-14 x 2&quot; DP3</td>
<td>1.000&quot;</td>
<td>14200SPC3CSTS</td>
<td>1,000 pcs</td>
</tr>
<tr>
<td>C</td>
<td>1/4-14 x 3&quot; DP3</td>
<td>1.375&quot; to 2&quot;</td>
<td>14300SPC3CSTS</td>
<td>1,000 pcs</td>
</tr>
<tr>
<td>D</td>
<td>1/4-14 x 4&quot; DP3</td>
<td>1.625&quot; to 3&quot;</td>
<td>14400SPC3CSTS</td>
<td>500 pcs</td>
</tr>
<tr>
<td>E</td>
<td>1/4-14 x 5&quot; DP3</td>
<td>2.750&quot; to 4&quot;</td>
<td>14500SPC3CSTS</td>
<td>500 pcs</td>
</tr>
<tr>
<td>F</td>
<td>1/4-14 x 6&quot; DP3</td>
<td>3.750&quot; to 5&quot;</td>
<td>14600SPC3CSTS</td>
<td>500 pcs</td>
</tr>
<tr>
<td>G</td>
<td>1/4-14 x 7&quot; DP3</td>
<td>4.750&quot; to 6&quot;</td>
<td>14700SPC3CSTS</td>
<td>500 pcs</td>
</tr>
<tr>
<td>H</td>
<td>1/4-14 x 8&quot; DP3</td>
<td>5.750&quot; to 7&quot;</td>
<td>14800SPC3CSTS</td>
<td>250 pcs</td>
</tr>
</tbody>
</table>

**SPECIAL HEAD DESIGN**
- 5/8" diameter head increases pullover strength and minimizes dimpling.
- #3 square recess drive provides stability during installation.

**SPECIAL APPLICATIONS**
Use to attach a variety of material to steel up to 1/4" thick!

**ARCHITECTURAL INSULATED PANELS**

**STRUCTURAL INSULATED PANELS**

**NAIL BASE**

**METAL ROOF CLIPS**

**MEETS FLORIDA BUILDING CODE 1506.6 (TRI-SEAL® ONLY)**

**FM APPROVED**

**TOOLING**: Install using a 2,000 RPM screw-gun with torque control. (DeWalt DW267)
Do not use impact tools.
### Fastener Information (Drill Points)

<table>
<thead>
<tr>
<th>Thread Type</th>
<th>Nom Dia. (In.)</th>
<th>Grade 50 per ASTM A1011 60Ksi Min. Steel</th>
<th>Grade 50 per ASTM A792/A653/A572/A529 60Ksi Min. Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-16</td>
<td>.190</td>
<td>.174 203 231 251 291 349 504 630 787 1102 1312</td>
<td>.174 203 231 251 291 349 504 630 787 1102 1312</td>
</tr>
<tr>
<td>#10-14</td>
<td>.210</td>
<td>.198 234 301 337 393 424 514 648 813 1121 1440</td>
<td>.198 234 301 337 393 424 514 648 813 1121 1440</td>
</tr>
<tr>
<td>#12-24</td>
<td>.216</td>
<td>.142 181 240 284 348 426 514 648 813 1121 1440</td>
<td>.142 181 240 284 348 426 514 648 813 1121 1440</td>
</tr>
</tbody>
</table>

### Tooling

- **Screw-guns with torque control:**
  - 302 & 304 Stainless Steel Tapping Screws: 1050 RPM Max.
  - Carbon Steel & 410SS Screws: 2500 RPM Max.

### Screw-gun RPM

- **Tooling RPM**
  - Carbon Steel & 410SS Screws: 2500 RPM Max.
  - Carbon Steel & 410SS Screws: 2500 RPM Max.

### Performance Specifications

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<tr>
<th>Fastener Dia. &amp; Point</th>
<th>Minimum Ultimate</th>
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<td>#10-9 / Carbon</td>
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### Fastener Properties

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<th>Thread and Point</th>
<th>Material</th>
<th>Head Dia.</th>
<th>Head Thickness</th>
<th>Drive</th>
<th>Finish</th>
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### Fastener Material Selection Based on the Galvanic Series of Metals

<table>
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<tr>
<th>Base Metal</th>
<th>FASTENER MATERIAL</th>
<th>GALLIUM</th>
<th>STEEL, Zinc Plated</th>
<th>STAINLESS STEEL, Type 410</th>
<th>STAINLESS STEEL, Type 302, 304, 316</th>
<th>ALUMINUM</th>
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<td>Zinc (Galvanized)</td>
<td>21A111 Coated Steel</td>
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### Salt Spray

- The chart below provides general corrosion information about various plating and coatings. Contact TFC for detailed information.

### Tooling Tips

- **Minimum of 3 factors of safety should be used for most self-drilling or self-tapping fasteners in metal | 5-6 for wood.**
- **Consult a design professional for appropriate values.**
- **Install fastener perpendicular to the work surface and tighten to no more than approximately 70% of the torsional strength.**
- **Allow at least three full threads to extend beyond the material.**

### DO NOT OVER-TORQUE FASTENERS.

---

**DISCLAIMER:** All data and specifications are based on laboratory tests. Appropriate safety factors should be used by the user or specifier. Determining the proper fastener is the responsibility of the user or specifier. Because application conditions vary, we assume no liability for the use of this information.
**HEX WASHER HEAD**  
**BLAZER® SELF-DRILLING SCREWS**

---

**The largest selection for the construction industry!**

**Thin and Medium Gauge Applications | 29ga to 1/4”**  
**BLAZER 1 - BLAZER 2 - BLAZER 3 Points**

**HEX DRIVE SIZE**
- #8 dia: 1/4” HWH  
- #10 dia: 5/16” HWH  
- #12 dia: 5/16” HWH  
1/4 dia: 5/16” & 3/8” HWH  
5/16 dia: 3/8” HWH

- The hex washer head is the most popular drive system and provides the best stability during installation.
- Available with TRI-SEAL® long life coating for the ultimate corrosion protection...1,000 hrs salt spray with no red rust!

**MATERIAL:** C1018-1022 Carbon Steel  
**PLATING:** .0003" Minimum Zinc Plated (48 hrs salt-spray)  
**Long-Life:** TRI-SEAL® Coating (1,000hrs Salt Spray - ASTM B117).  
**Exceeds ASTM B633 and F1941 Standards**  
**Dimensions:** Meets or exceeds SAE J78 Standards

---

**SIZES AND PERFORMANCE SPECIFICATIONS**

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<tr>
<th>DIAMETER</th>
<th>LENGTHS</th>
<th>Load Bearing Length (MAX)</th>
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All screws are available with Bonded Sealing Washers. Call for sizes
The largest selection for the construction industry!

**BOND-SEAL SEALING WASHER**
- The BOND-SEALER™ sealing washer is EPDM vulcanized to a 20 Gauge galvanized backing.
- TRI-SEAL® long life coated for superior corrosion protection.

**WASHER DETAILS**
- 20 ga G-90 Galvanized Steel
- Vulcanized to .062" thick non-conductive EPDM
- 15MM OD Washer
- Special sizes available upon request.

**CORRECT**
- Slight circle of sealant extrudes to outer edge.

**TOO TIGHT!**
- Metal backing begins to turn up.

**TOO LOOSE**
- Sealant is not compressed and can not form a seal.

To assure a proper seal, torque the fastener until the EPDM sealant extrudes to the outer edge of the backing material.

**FLANGE-SEAL HEAD with EPDM WASHER**
- FLANGE-SEAL™ self-sealing fastener has a deep undercut head that entraps the EPDM sealing washer to assure a leak free seal.
- TRI-SEAL® long-life coated for superior corrosion protection.

**WASHER DETAILS**
- .125" Thick EPDM Non-conductive

**HEAD TYPE**
- 5/16" HWH with Flange Undercut

---

**DIA. AND POINT** | **LENGTH** | **LOAD BEARING LENGTH (Max)** | **BOX** | **PRICE**
---|---|---|---|---
**A** #12-14 BLAZER-2 | 3/4" | .125" | 5M | 2.5M
| 1" | .250" | 3.5M | 2M | 2M
| 1-1/4" | .625" | 3M | 2M | 2M
| 2" | 1.25" | 1M | 1M | 1M
| 2-1/2" | 1.75" | 1M | 1M | 1M
| 3" | 2.25" | 1M | 1M | 1M

**B** 1/4-14 BLAZER-1 VRT | 7/8" VRT | .325" | 2.5M | 2.5M

**C** 1/4-14 BLAZER-3 | 3/4" | 1" | 2.5M | 2.5M
| 1" | .250" | 2M | 2M | 2M
| 1-1/4" | .625" | 2M | 2M | 2M
| 1-1/2" | .875" | 2M | 2M | 2M
| 2" | 1" | 1.5M | 1M | 1M
| 2-1/2" | 1.5" | 1M | 1M | 1M
| 3" | 2" | 1M | 1M | 1M
| 4" | 3" | 500 | 500 | 500
| 5" | 4" | 500 | 500 | 500
| 6" | 2" - 5" | 250 | 250 | 250
| 8" | 4" - 7" | 250 | 250 | 250
| 10" | 6" - 9" | 250 | 250 | 250

**D** 5/16-12 BLAZER-3 | 1" | 2.25" | 1.5M | 1.5M
| 1-1/2" | .875" | 1M | 1M | 1M
| 3" | 2.25" | 500 | 500 | 500
| 4" | 3.25" | 500 | 500 | 500
| 6" | 2.50 - 5" | 750 | 750 | 750
| 8" | 4.25 - 7" | 200 | 200 | 200

**E** #12-24 BLAZER-5 | 1-1/4" | .500" | 3M | 3M
| 1-1/2" | .625" | 2M | 2M | 2M
| 2" | .750" | 3M | 3M | 3M
| 2-1/2" | 1.250" | 1M | 1M | 1M
| 3-1/8" | 2-1/8" | 1M | 1M | 1M
| 4" | 3" | 250 | 250 | 250
| 5" | 4" | 250 | 250 | 250
| 6" | 2.50 - 5" | 250 | 250 | 250
| 8" | 4.25 - 7" | 150 | 150 | 150

**F** 1/4-20 BLAZER-5 | 1-1/2" | .500" | 2M | 2M
| 2" | 1.250" | 1M | 1M | 1M
| 2-1/4" | 1.50" | 1M | 1M | 1M
| 3-1/8" | 2-1/8" | 1M | 1M | 1M
| 4" | 3" | 250 | 250 | 250
| 5" | 4" | 250 | 250 | 250
| 6" | 2.50 - 5" | 250 | 250 | 250
| 8" | 4.25 - 7" | 250 | 250 | 250

**G** #12-14 BLAZER-3 | 1" | 2.25" | 3.5M | 3.5M
| 1-1/4" | .750" | 2M | 2M | 2M
| 1-1/2" | 1.250" | 2M | 2M | 2M
| 2" | 1.5" | 1.5M | 1M | 1M
| 2-1/2" | 1.75" | 1M | 1M | 1M
| 3" | 2.25" | 1M | 1M | 1M
| 4" | 3.25" | 500 | 500 | 500

**H** 1/4-14 BLAZER-1 VRT | 7/8" VRT | .325" | 2.5M | 2.5M

**I** 1/4-14 BLAZER-3 | 1" | 2.50" | 2.5M | 2.5M
| 1-1/4" | .625" | 2.5M | 2.5M | 2.5M
| 1-1/2" | .875" | 2M | 2M | 2M
| 2" | 1" | 1.5M | 1.5M | 1.5M

---

**MATERIAL:** C1018-1022 Carbon Steel
**PLATING:** TRI-SEAL® Coating (1,000hrs Salt Spray - ASTM B117).
**Exceeds ASTM B633 and F1941 Standards**
**Dimensions:** Meets or exceeds SAE J78 Standards

**FLANGE-SEAL HEAD with EPDM WASHER**

---

**SCREW AND POINT** | **DRILL AND TAP CAPACITIES**
---|---
#8-16 BLAZER-2 | .036" .100" .175" .210" .250" .375" .500"
#10-16 BLAZER-3 | .036" .100" .175" .210" .250" .375" .500"
#12-14 BLAZER-3 | .036" .100" .175" .210" .250" .375" .500"
#12-24 BLAZER-3 | .036" .100" .175" .210" .250" .375" .500"
#12-24 BLAZER-4 | .036" .100" .175" .210" .250" .375" .500"
#12-24 BLAZER-5 | .036" .100" .175" .210" .250" .375" .500"
1/4-14 BLAZER-1 VRT | .036" .100" .175" .210" .250" .375" .500"
5/16-12 BLAZER-3 | .036" .100" .175" .210" .250" .375" .500"
1/4-14 BLAZER-3 | .036" .100" .175" .210" .250" .375" .500"
1/4-20 BLAZER-5 | .036" .100" .175" .210" .250" .375" .500"
Specifications

- **BLAZER® STAINLESS CAP HEAD WITH EPDM SEALING WASHER**
  - 304 stainless steel cap head for exceptional corrosion resistance.
  - TRI-SEAL® long life coated shank for superior corrosion protection.

- **Specifications**
  - Washer: .100" Thick EPDM. Non-conductive
  - Head Type: 5/16" HWH

- **Material**
  - HEAD - 304 Stainless Steel
  - BODY - Carbon Steel

- **Plating**
  - HEAD - Passivated
  - BODY - TRI-SEAL® Long-life Coating

- **Corrosion Resistance**
  - HEAD - >2,000hrs Salt Spray
  - BODY - 1,000hrs Salt Spray

- **LP denotes long-pilot design for metal roofing and siding**

**Sizes and Performance Specifications**

<table>
<thead>
<tr>
<th>DIAMETER AND POINT</th>
<th>LENGTH</th>
<th>Load Bearing Length (Max)</th>
<th>Box Qty</th>
<th>LIST PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  #12-14 BLAZER-2/3 LP</td>
<td>x 1&quot;</td>
<td>250°</td>
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<td>1-1/2&quot;</td>
<td>.750&quot;</td>
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<tr>
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<td>1-1/8&quot; VRT</td>
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<td>3&quot;</td>
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<td>1-1/2&quot;</td>
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<td>.750&quot;</td>
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<td>3-1/4&quot;</td>
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<td>4&quot;</td>
<td>2.500&quot; - 3.1875&quot;</td>
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**BLAZER® ZINC CAP HEAD WITH EPDM SEALING WASHER**

- ZAMAC 5 zinc alloy cap head for premium corrosion resistance WILL NOT RED RUST!
- TRI-SEAL® long life coated shank for superior corrosion protection.

- **Specifications**
  - Washer: .125" Thick EPDM. Non-conductive
  - Head Type: 5/16" HWH

- **WASHER DETAILS**
  - Head Type: 5/16" HWH
  - Washer Details: .125" Thick EPDM. Non-conductive

**Sizes and Performance Specifications**

<table>
<thead>
<tr>
<th>DIAMETER AND POINT</th>
<th>LENGTH</th>
<th>Load Bearing Length (Max)</th>
<th>Box Qty</th>
<th>LIST PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>G  #12-14 BLAZER-2/3 LP</td>
<td>x 1&quot;</td>
<td>250°</td>
<td>3.5M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-1/4&quot;</td>
<td>.625&quot;</td>
<td>2.5M</td>
<td></td>
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<td>1-1/2&quot;</td>
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<td>2&quot;</td>
<td>1.25&quot;</td>
<td>2M</td>
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<td>2-1/2&quot;</td>
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<tr>
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<td>x 7/8&quot; VRT</td>
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<td>1-1/8&quot; VRT</td>
<td>.750&quot;</td>
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<td>I  1/4-14 BLAZER-3</td>
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<td>J  #12-24 BLAZER-5</td>
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<td>1-1/2&quot;</td>
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</table>

**LP denotes long-pilot design for metal roofing and siding**

Material: HEAD - Zamac 5 Zinc Alloy; THREAD - Carbon Steel

Plating: BODY - TRI-SEAL® Long-life Coating.

Corrosion Resistance: HEAD - No Red Rust; BODY - 1,000hrs Salt Spray

Need a 3/8" Hex Washer Head? Contact us for available sizes.

Visit our website for the most up-to-date product and technical information!

TRIANGLE FASTENER CORPORATION
800.486.1832 | www.trianglefastener.com
BLAZER SELF-DRILLING SCREWS
410 Stainless Steel

- Provides corrosion resistance in mild atmospheres.
- Plated to resist surface rust and to reduce tapping torque.
- Optional TRI-SEAL® 1,000 hrs salt spray long-life coated to reduce tapping torque and provide additional corrosion protection.

**SIZES AND PERFORMANCE SPECIFICATIONS**

<table>
<thead>
<tr>
<th>DIAMETER &amp; POINT</th>
<th>LENGTH</th>
<th>LOAD BEARING LENGTH (MAX)</th>
<th>BOX QTY</th>
<th>LIST PRICE</th>
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<td>1&quot;</td>
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<td>1-1/2&quot;</td>
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<tr>
<td><strong>C</strong> #12-14 BLAZER-3</td>
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<td>2&quot;</td>
<td>.875&quot;</td>
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</table>

**MATERIAL:** 410 Stainless Steel

**PLATING:** Passivated (24hrs Salt Spray), Zinc Plated (48hrs Salt Spray), TRI-SEAL® Coated (1,000hrs Salt Spray). Call for sizes.

**DISCLAIMER:** ALL TEST RESULTS AND SPECIFICATIONS ARE A RESULT OF LABORATORY TESTS. APPROPRIATE SAFETY FACTORS SHOULD BE USED BY THE USER OR SPECIFIER. DETERMINING THE PROPER FASTENER IS THE RESPONSIBILITY OF THE USER OR SPECIFIER. SINCE APPLICATION CONDITIONS VARY AND ARE UNCONTROLLABLE BY TFC, WE ASSUME NO LIABILITY FOR THE USE OF THIS INFORMATION.

**PULLOUT LOADS | ULTIMATE LOAD IN POUNDS**

<table>
<thead>
<tr>
<th>FASTENER INFORMATION</th>
<th>PULLOUT</th>
<th>ULTIMATE LOAD IN POUNDS</th>
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<tbody>
<tr>
<td><strong>Nom Dia. (in.)</strong></td>
<td><strong>Grade 50 per ASTM A1011 60Ksi Min. Steel</strong></td>
<td><strong>Grade 50 per ASTM A792/653/A572/A529 65Ksi Min. Steel</strong></td>
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<tr>
<td>1/4-14 .250&quot;</td>
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**FOR ALLOWABLE LOADS, PLEASE APPLY AN APPROPRIATE FACTOR OF SAFETY AS REQUIRED BY LOCAL AND NATIONAL CODE REQUIREMENTS.**

**AISI S100 Section E4 recommends a Factor of Safety of 3 for allowable loads.**

**PULLOUT LOADS | ULTIMATE LOAD IN POUNDS**

<table>
<thead>
<tr>
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Our Vibration Resistant Thread (VRT®) is designed to significantly increase back-out torque and reduce the potential for leaks. VRT® keeps the fastener tighter in applications where expansion, contraction and vibration are a concern. Independent tests verify that VRT® produces 3-1/2 times more back-out resistance than a standard thread.

**PROBLEM**

Screws with standard threads can back-out easily with little force. This can cause joint failure resulting in leaks.

**SOLUTION**

Our Vibration Resistant Thread (VRT) is designed to significantly increase back-out torque and reduce the potential for leaks.

**Why VRT™?**

You can see how the shape of VRT® is designed to increase the resistance to back-out compared to a standard thread. VRT® keeps the fastener tighter in applications where expansion, contraction and vibration are a concern.

**Test Results**

Independent tests verify that VRT produces over 3-1/2 times more back-out resistance than standard threads due to its innovative thread design that increases friction.
Our Vibration Resistant Thread (VRT®) is designed to significantly increase back-out torque and reduce the potential for leaks. VRT® keeps the fastener tighter in applications where expansion, contraction and vibration are a concern. Independent tests verify that VRT® produces 3 -1/2 times more back-out resistance than a standard thread.

---

**BACK-OUT RESISTANT SCREWS**

**Sizes and Technical Data Sheet**

**Light Gauge Applications**

*Maximum Drilling Thickness: .090”*

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<th>Description</th>
<th>Part Number</th>
<th>Carton</th>
<th>WT Per M Pcs</th>
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</thead>
<tbody>
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<td>14087C1TSVBW</td>
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</tr>
<tr>
<td>1/4” -14 X 1-1/8” DP1/LAP w/VRT® BLAZER® Stainless Cap Head w/Sealing Washer TRI-SEAL™ Coated 1,000Hrs Salt Spray</td>
<td>14112HW1CSTSVWSC</td>
<td>2,000 pcs 250/Bag</td>
<td>19.3#</td>
</tr>
<tr>
<td>#17-14 X 1” TYPE AB w/VRT® TAPPER w/Bonded Sealing Washer (3/4”OD) TRI-SEAL™ Coated 1,000Hrs Salt Spray</td>
<td>17100HWABCSTSVBW</td>
<td>2,000 pcs 250/Bag</td>
<td>20#</td>
</tr>
</tbody>
</table>

---

**Technical Data**

**Specifications**

BLAZER Drill Screws conforms to SAE J-78 for self-drilling tapping screws.

#17 TAPPER conforms to ANSI/ASME B18.6.4 for tapping screws.

**Material**

Carbon Steel: C1022
Stainless Cap: 304 SS
Zinc Cap: Zamac 5

**Tensile Strength**

1/4-14: 4,275 lbs.
#17-14: 5,200 lbs.

**Torsional Strength**

1/4-14: 150 lbs-inch
#17-14: 175 lbs-inch

**Corrosion Resistance**

TRI-SEAL® Salt Spray: 1,000 hrs minimum.

**Sealing Washers**

Flange Head: EPDM Cut Tubular

---

Visit our website for the most up-to-date product and technical information!
Security screws specifically designed for metal siding and roofing applications

**TORX® PIN-HEAD**

Maximum torque transfer and positive tool engagement means easier drive installation with less pressure and slippage. Torx® Pin Head offers a high degree of security and requires matching drive bit. Available in button head for neat appearance and TRI-SEAL™, 1,000 hours salt spray coating for additional corrosion protection.

**Does your building need security?**
- Mini Storage
- Prisons
- Government Buildings
- Banks
- Dealerships

Assembled with a BOND-SEALER™ sealing washer that has EPDM vulcanized to a 20 Gauge galvanized backing that will withstand harsh weather conditions.

**SIZES AND PERFORMANCE SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Size</th>
<th>Point Type</th>
<th>Drilling Thickness</th>
<th>Load Bearing Length</th>
<th>Box Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A #12-14 x 1-1/2”</td>
<td>BLAZER 3</td>
<td>.036&quot; -.210&quot;</td>
<td>1.250”</td>
<td>2.0M</td>
</tr>
<tr>
<td>B #12-14 x 2”</td>
<td>BLAZER 1</td>
<td>.036&quot; -.090”</td>
<td>.750”</td>
<td>2.0M</td>
</tr>
<tr>
<td>C 1/4-14 x 7/8”</td>
<td>BLAZER 1</td>
<td>.036&quot; -.090”</td>
<td>.250”</td>
<td>2.5M</td>
</tr>
</tbody>
</table>

**MATERIAL:** C1018-1022 Carbon Steel

**PLATING:** TRI-SEAL™, 1,000 hours salt spray coating

To assure a proper seal, torque the fastener until the EPDM sealant extrudes to the outer edge of the backing material.

**CONTACT**

We supply insert bits to make installation fast and easy!

**INSTALLATION TIP**

Screw gun: 2,000 RPM

**DO NOT USE IMPACT TOOLS**

Pullout Test Result - Ultimate Average in Pounds

<table>
<thead>
<tr>
<th>Fastener Information</th>
<th>PULLOUT</th>
<th>ULTIMATE LOAD IN POUNDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Calculated Values in Accordance to AISI S-100</td>
<td>Section E4</td>
</tr>
<tr>
<td>Screw Size</td>
<td>Nom Dia. (in.)</td>
<td>Grade 50 per ASTM A1011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60Ksi Min. Steel</td>
</tr>
<tr>
<td>#12</td>
<td>.216&quot;</td>
<td>196</td>
</tr>
<tr>
<td>1/4</td>
<td>.250&quot;</td>
<td>230</td>
</tr>
</tbody>
</table>

Contact Triangle Fastener for additional sizes and types of security screws.

**DISCLAIMER:** All test results and specifications are a result of laboratory tests. Appropriate safety factors should be used by the user or specifier. Determining the proper fastener is the responsibility of the user or specifier. Since application conditions vary and are uncontrollable by TFC, we assume no liability for the use of this information.
We have the largest selection of wood-to-metal drill screws engineered to provide high performance and easy installation.

**Need to attach wood to metal thinner than 1/4”?**
Our full line of sizes are designed to fasten to metal as thin as 18-gauge!

**Need to attach wood to steel that is 1/2” thick?**
We offer the only wood-to-metal fastener that will drill and tap steel up to 1/2” thick. It has a special hex-countersunk head that provides optimal driving stability and can also be installed flush to the surface of the wood.

Square recess for superior stability during installation.

**SIZES**

<table>
<thead>
<tr>
<th>WOOD THICKNESS</th>
<th>DRILLING THICKNESS</th>
<th>Screw</th>
<th>Diameter</th>
<th>Length</th>
<th>Point</th>
<th>Head Dia.</th>
<th>Box Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2” to 3/4”</td>
<td>.048” -.210”</td>
<td>A</td>
<td>#10-24</td>
<td>1-7/16” BLAZER-3 With Wings</td>
<td>.460”</td>
<td>4M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.018” -.175”</td>
<td>B</td>
<td>#10-16</td>
<td>1-3/4” BLAZER-3 Long Pilot</td>
<td>.380”</td>
<td>2.5M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.048” -.210”</td>
<td>C</td>
<td>#12-14</td>
<td>1-3/4” BLAZER-2 With Wings</td>
<td>.500”</td>
<td>2M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.210” -.500”</td>
<td>D</td>
<td>#12-24</td>
<td>2-1/8” BLAZER-5 With Wings</td>
<td>.500”</td>
<td>2M</td>
<td></td>
</tr>
<tr>
<td>3/4” to 1-1/2”</td>
<td>.048” -.210”</td>
<td>E</td>
<td>#12-14</td>
<td>2-1/2” BLAZER-2 With Wings</td>
<td>.500”</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.210” -.500”</td>
<td>F</td>
<td>1/4-20</td>
<td>3-1/8” BLAZER-5 With Wings</td>
<td>.510”</td>
<td>1M</td>
<td></td>
</tr>
</tbody>
</table>

5/16 hex countersunk head provides exceptional stability during installation and can be installed flush to the wood surface.

Select a screw based on the thickness of the wood and the thickness of the steel substrate.

**Screw Recommendations**

Steel <= .210”: Screw E
Steel > .210”: Screw F

**Screw Recommendations**

Steel <= .210”: Screw A, B, C
Steel > .210”: Screw D

**TECHNICAL DATA**

Recommended Screw Gun Speed: 2,000 RPM Max

<table>
<thead>
<tr>
<th>Fastener Information</th>
<th>PULLOUT</th>
<th>ULTIMATE LOAD IN POUNDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw Size</td>
<td>Nom Dia. (in.)</td>
<td>Grade 50 per ASTM A1011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50Ksi Min. Steel</td>
</tr>
<tr>
<td>#10 .190”</td>
<td>.26 G.</td>
<td>.018”</td>
</tr>
<tr>
<td>#12 .216”</td>
<td>.174</td>
<td>.018”</td>
</tr>
<tr>
<td>1/4 .250”</td>
<td>.198</td>
<td>.018”</td>
</tr>
</tbody>
</table>

* Denotes load exceeds tensile strength of screw.

DISCLAIMER: ALL TESTS RESULTS AND SPECIFICATIONS ARE A RESULT OF LABORATORY TESTS. APPROPRIATE SAFETY FACTORS SHOULD BE USED BY THE USER OR SPECIFIER. DETERMINING THE PROPER FASTENER IS THE RESPONSIBILITY OF THE USER OR SPECIFIER. SINCE APPLICATION CONDITIONS VARY AND ARE UNCONTROLLABLE BY TFC, WE ASSUME NO LIABILITY FOR THE USE OF THIS INFORMATION.
BLAZER® ENGINEERING DATA

The following information is compiled to assist the design professional in selecting the appropriate fastener for the application. This data is compiled from fastener standards and independent tests. An engineering professional should be consulted to determine expected loads on the connection, environmental effects, and any other conditions that could effect the performance of the fastener. Selecting a fastener is the responsibility of the engineer and changes to a fastener should not be made without approval. Using the wrong fastener can lead to failure.

TFC WILL NOT WARRANTY, EITHER EXPRESSED OR IMPLIED, THE USE OF THIS INFORMATION.

PULLOVER TEST RESULTS

These pullover results are for self-sealing fasteners listed in this catalog.

Pounds - Ultimate Average

<table>
<thead>
<tr>
<th>Steel Thickness</th>
<th>BOND-SEALER 12.7MM OD</th>
<th>BOND-SEALER 15MM OD</th>
<th>FLANGE SEALER</th>
<th>FLANGE SEALER</th>
<th>ZINC CAP HEAD</th>
<th>ZINC CAP HEAD</th>
<th>STAINLESS CAP HEAD</th>
<th>STAINLESS CAP HEAD</th>
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</thead>
<tbody>
<tr>
<td>22 ga</td>
<td>945</td>
<td>1,249</td>
<td>1,288</td>
<td>1,647</td>
<td>1,298</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 ga</td>
<td>704</td>
<td>1,056</td>
<td>1,102</td>
<td>1,310</td>
<td>1,102</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 ga</td>
<td>519</td>
<td>654</td>
<td>692</td>
<td>794</td>
<td>692</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Estimated pullover for fasteners without sealing washers can be calculated using the following formula per AISI.

Pullover force = 1.5 - x - Thickness of the member in contact with the screw head. - x- Larger of the screw head diameter or washer diameter. - x- Tensile strength of the member in contact with the screw head.

Material: C1018-C1022 / 410 SS
Heat Treatment: Case Harden
Case Hardness: 52-58 Rockwell C
Case Depth: #6 Dia = .002" -.007" #8, #10, #12 Dia = .004" -.009" 1/4" = .005" -.11"
Core Hardness
Carbon Steel: 32-40 Rockwell C
410 Stainless: 42-48 Rockwell C
Ductility: 5 Degree minimum bend

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English to Metric

Formula to Use

<table>
<thead>
<tr>
<th>Unit</th>
<th>English to Metric</th>
<th>Formula to Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decimal to Millimeters</td>
<td>Decimal x 25.4</td>
<td></td>
</tr>
<tr>
<td>PSI to Newton / Millimeters</td>
<td>PSI x .007</td>
<td></td>
</tr>
<tr>
<td>Pounds Force to Newtons</td>
<td>Pounds Force x 4.448</td>
<td></td>
</tr>
</tbody>
</table>

Gauge Thickness

<table>
<thead>
<tr>
<th>Gauge Thickness</th>
<th>Decimal</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 GA</td>
<td>.105&quot;</td>
<td>.33mm</td>
</tr>
<tr>
<td>28 GA</td>
<td>.115&quot;</td>
<td>.36mm</td>
</tr>
<tr>
<td>26 GA</td>
<td>.133&quot;</td>
<td>.46mm</td>
</tr>
<tr>
<td>24 GA</td>
<td>.136&quot;</td>
<td>.61mm</td>
</tr>
<tr>
<td>22 GA</td>
<td>.155&quot;</td>
<td>.76mm</td>
</tr>
<tr>
<td>20 GA</td>
<td>.186&quot;</td>
<td>.91mm</td>
</tr>
<tr>
<td>18 GA</td>
<td>.249&quot;</td>
<td>1.22mm</td>
</tr>
<tr>
<td>16 GA</td>
<td>.360&quot;</td>
<td>1.52mm</td>
</tr>
<tr>
<td>14 GA</td>
<td>.433&quot;</td>
<td>1.91mm</td>
</tr>
<tr>
<td>12 GA</td>
<td>.505&quot;</td>
<td>2.67mm</td>
</tr>
<tr>
<td>10 GA</td>
<td>.600&quot;</td>
<td>3.18mm</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>.750&quot;</td>
<td>3.43mm</td>
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<tr>
<td>7/32&quot;</td>
<td>.250&quot;</td>
<td>6.35mm</td>
</tr>
<tr>
<td>5/64&quot;</td>
<td>.312&quot;</td>
<td>7.92mm</td>
</tr>
<tr>
<td>3/32&quot;</td>
<td>.375&quot;</td>
<td>9.53mm</td>
</tr>
<tr>
<td>1/16&quot;</td>
<td>.500&quot;</td>
<td>12.7mm</td>
</tr>
</tbody>
</table>
FASTENER PULLOUT LOADS | DRILL SCREWS

Because the tensile strength of the substrate dramatically affects the pullout of the fastener, TFC provides published pullout results based on a calculation developed by AISI.

The following pullout loads were calculated per AISI S100 | Section 4 of the Supplement No. 2 to the American Specification for the Design of Cold-Form Steel Structural members (S100-07/S2-10).

Many tests were conducted with compressible fiberglass insulation placed between steel sheet samples. It was determined by the results that the equations are valid for steel connections including applications that use compressible insulation. Refer to AISI S100 for more details.

- The pullout calculation requires the use of the nominal diameter of the screw and the tensile strength of the substrate.
- Because substrate tensile and specific fastener details like point diameter affects pullout loads, these pullout loads are conservative.

For tested values, contact Triangle Fastener to conduct actual pullout tests based on a specific fastener style and the tensile strength requirement of the substrate.

| Screw Size | Nom Dia. (in.) | 26 Ga. (.018") | 25 Ga. (.021") | 24 Ga. (.024") | 22 Ga. (.029") | 20 Ga. (.030") | 18 Ga. (.048") | 16 Ga. (.060") | 14 Ga. (.075") | 12 Ga. (.105") | 1/8" (.125") | 10 ga (.135") | 1/4" (.250") | 3/8" (.375") | 1/2" (.500") |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| #8-18      | .164"          | 151            | 177            | 202            | 252            | 303            | 435            | 543            |                |                |                |                |                |                |                |                |
| #10-16     | .190"          | 174            | 203            | 233            | 291            | 349            | 504            | 627            | 786            | 1,101          | 1,311          |                |                |                |                |
| #10-24     | .190"          |                |                |                |                |                |                |                |                |                |                |                |                |                |                |
| #12-14     | .216"          | 198            | 231            | 264            | 330            | 397            | 573            | 716            | 895            | 1,253          | 1,492          | 1,611          |                |                |                |
| #12-24     | .216"          |                |                |                |                |                |                |                |                |                | 1,492          | 1,611          | 2,984          | *4,475         | *5,967         |
| 1/4-14     | .250"          | 230            | 268            | 306            | 383            | 459            | 633            | 829            | 1,036          | 1,450          | 1,727          | 1,865          | 3,453          |                |                |
| 1/4-20     | .250"          |                |                |                |                |                |                |                |                |                | 1,727          | 1,865          | 3,453          | *5,180         | *6,906         |
| 5/16-12    | .3125"         |                |                |                |                |                |                |                |                |                | 829            | 1,036          | 1,295          | 1,813          | 2,158          | 2,331          |

* Denotes load exceeds tensile strength of screw.

For allowable loads, please apply an appropriate Factor of Safety as required by local and national code requirements.

AISI S100 Section E4 recommends a Factor of Safety of 3 for allowable loads.

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You want ‘em... we got ‘em!

We stock the largest selection of carbon steel self-tapping “sheeting” screws in the USA!

- Select from carbon steel, zinc cap head or stainless steel cap head.
- Available with and without BOND-SEAL sealing washers.
- Available with TRI-SEAL® long life coating providing over 1,000 hours salt spray resistance (ASTM B117).
- Lengths up to 8” long!
- Can be painted with our KALIDA-KOTE™ paint process to match your specific color.

### Sizes (X = Available)

<table>
<thead>
<tr>
<th>Description</th>
<th>Point Type</th>
<th>Carbon Steel</th>
<th>Stainless Cap Head</th>
<th>Zinc Cap Head</th>
<th>Box Qty</th>
<th>Wgt. Per M</th>
</tr>
</thead>
<tbody>
<tr>
<td>#14-10 x 3/4&quot;</td>
<td>Type A</td>
<td>X</td>
<td></td>
<td></td>
<td>2,500</td>
<td>10.8</td>
</tr>
<tr>
<td>#14-10 x 1&quot;</td>
<td>Type A</td>
<td>X</td>
<td></td>
<td></td>
<td>2,500</td>
<td>14.2</td>
</tr>
<tr>
<td>#14-10 x 1-1/2&quot;</td>
<td>Type A</td>
<td>X</td>
<td></td>
<td></td>
<td>1,500</td>
<td>19.1</td>
</tr>
<tr>
<td>#14-10 x 2&quot;</td>
<td>Type A</td>
<td>X</td>
<td></td>
<td></td>
<td>1,000</td>
<td>23.4</td>
</tr>
<tr>
<td>#14-10 x 2-1/2&quot;</td>
<td>Type A</td>
<td>X</td>
<td></td>
<td></td>
<td>1,000</td>
<td>28.1</td>
</tr>
<tr>
<td>#14-10 x 3&quot;</td>
<td>Type A</td>
<td>X</td>
<td></td>
<td></td>
<td>500</td>
<td>34.1</td>
</tr>
<tr>
<td>#14-10 x 4&quot;</td>
<td>Type A</td>
<td>X</td>
<td></td>
<td></td>
<td>500</td>
<td>45.5</td>
</tr>
<tr>
<td>#14-10 x 5&quot;</td>
<td>Type A</td>
<td>X</td>
<td></td>
<td></td>
<td>300</td>
<td>52.8</td>
</tr>
<tr>
<td>#14-10 x 6&quot;</td>
<td>Type A</td>
<td>X</td>
<td></td>
<td></td>
<td>250</td>
<td>60.1</td>
</tr>
<tr>
<td>1/4-14 x 3/4&quot;</td>
<td>Type AB</td>
<td>X X</td>
<td></td>
<td></td>
<td>2,500</td>
<td>12.5</td>
</tr>
<tr>
<td>1/4-14 x 1&quot;</td>
<td>Type AB</td>
<td>X X</td>
<td></td>
<td></td>
<td>2,500</td>
<td>14.9</td>
</tr>
<tr>
<td>1/4-14 x 1-1/2&quot;</td>
<td>Type AB</td>
<td>X X</td>
<td></td>
<td></td>
<td>1,500</td>
<td>19.7</td>
</tr>
<tr>
<td>1/4-14 x 1-3/4&quot;</td>
<td>Type AB</td>
<td>X</td>
<td></td>
<td></td>
<td>2,000</td>
<td>23.4</td>
</tr>
<tr>
<td>1/4-14 x 1&quot;</td>
<td>Type B</td>
<td>X</td>
<td></td>
<td></td>
<td>2,500</td>
<td>14.1</td>
</tr>
<tr>
<td>1/4-14 x 1-1/2&quot;</td>
<td>Type B</td>
<td>X</td>
<td></td>
<td></td>
<td>1,500</td>
<td>19.5</td>
</tr>
<tr>
<td>1/4-14 x 2&quot;</td>
<td>Type B</td>
<td>X</td>
<td></td>
<td></td>
<td>1,000</td>
<td>23.1</td>
</tr>
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<td></td>
<td></td>
<td>500</td>
<td>33.3</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>500</td>
<td>43.4</td>
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<td></td>
<td></td>
<td>300</td>
<td>53.5</td>
</tr>
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<td></td>
<td></td>
<td>250</td>
<td>62.2</td>
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<td></td>
<td></td>
<td>200</td>
<td>81.0</td>
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<tr>
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<td>X X</td>
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<td></td>
<td>2,000</td>
<td>17.0</td>
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<tr>
<td>1/4-14 x 1-3/4&quot;</td>
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<td></td>
<td></td>
<td>2,000</td>
<td>23.4</td>
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<tr>
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<td></td>
<td></td>
<td>2,000</td>
<td>18.9</td>
</tr>
<tr>
<td>#17-14 x 1-1/2&quot;</td>
<td>Type AB</td>
<td>X X</td>
<td></td>
<td></td>
<td>1,500</td>
<td>28.4</td>
</tr>
</tbody>
</table>

Available with VRT® technology.
Refer to the back for technical information and drill bit size.
Screwgun Speed: 1,000 rpm maximum

Oversize or special sealing washers available!

### Available Head Styles

- 3/8” Hex Head (Standard)
- 3/8” Hex Washer Head (#17-14 VRT® Only)
- 3/8” Zinc Cap Head
- 5/16” Stainless Cap Head

Used for alignment into structure.

Need a Back-out Resistant Tapping Screw?
VRT® Technology produces 3-1/2 times more back-out resistance than a standard thread. Supplied with TRI-SEAL™ long life coating.
TRIANGLE FASTENER CORPORATION

Visit our website for the most up-to-date product and technical information!

304 STAINLESS STEEL SELF-TAPPING SCREWS
IN-STOCK NOW!

You want’em...we got’em!

Visit our website for the most up-to-date product and technical information!

800.486.1832 | www.trianglefastener.com

1/4-14 Type A
Tapping Range: <=14ga & Wood

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Wgt/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>#14-10 x 3/4&quot;</td>
<td>14075AW35</td>
<td>10.8</td>
</tr>
<tr>
<td>#14-10 x 1&quot;</td>
<td>14100AW34</td>
<td>14.2</td>
</tr>
<tr>
<td>#14-10 x 1-1/2&quot;</td>
<td>14150AW35</td>
<td>19.1</td>
</tr>
<tr>
<td>#14-10 x 2&quot;</td>
<td>14200AW35</td>
<td>23.4</td>
</tr>
<tr>
<td>#14-10 x 2-1/2&quot;</td>
<td>14250AW35</td>
<td>28.1</td>
</tr>
<tr>
<td>#14-10 x 3&quot;</td>
<td>14300AW35</td>
<td>34.1</td>
</tr>
<tr>
<td>#14-10 x 4&quot;</td>
<td>14400AW35</td>
<td>45.5</td>
</tr>
<tr>
<td>#14-10 x 5&quot;</td>
<td>14500AW34</td>
<td>52.8</td>
</tr>
</tbody>
</table>

#14-10 Type B
Tapping Range: 14ga - 1/2"

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Wgt/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1/4-14 x 1&quot;</td>
<td>14100BW34</td>
<td>14.1</td>
</tr>
<tr>
<td>#1/4-14 x 1-1/2&quot;</td>
<td>14150BW35</td>
<td>19.5</td>
</tr>
<tr>
<td>#1/4-14 x 2&quot;</td>
<td>14200BW35</td>
<td>23.1</td>
</tr>
<tr>
<td>#1/4-14 x 2-1/2&quot;</td>
<td>14250BW35</td>
<td>29.0</td>
</tr>
<tr>
<td>#1/4-14 x 3&quot;</td>
<td>14300BW35</td>
<td>33.3</td>
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<tr>
<td>#1/4-14 x 4&quot;</td>
<td>14400BW35</td>
<td>43.4</td>
</tr>
<tr>
<td>#1/4-14 x 5&quot;</td>
<td>14500BW35</td>
<td>53.5</td>
</tr>
<tr>
<td>#1/4-14 x 6&quot;</td>
<td>14600BW35</td>
<td>62.2</td>
</tr>
</tbody>
</table>

1/4-14 Type AB
Tapping Range: <=10ga & Wood

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Wgt/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1/4-14 x 1-1/2&quot;</td>
<td>14175XW35</td>
<td>12.5</td>
</tr>
<tr>
<td>#1/4-14 x 1-3/4&quot;</td>
<td>14175X35</td>
<td>14.9</td>
</tr>
<tr>
<td>#1/4-14 x 2&quot;</td>
<td>14250XW35</td>
<td>19.7</td>
</tr>
<tr>
<td>#1/4-14 x 2-1/2&quot;</td>
<td>14250HWABS3</td>
<td>23.4</td>
</tr>
</tbody>
</table>

#14-10 Type AB
Tapping Range: Up to 10ga

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Wgt/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1/4-14 x 1-3/4&quot;</td>
<td>14175P35</td>
<td>12.5</td>
</tr>
</tbody>
</table>

#17-14 Type AB
Tapping Range: Up to 10ga

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Wgt/M</th>
</tr>
</thead>
<tbody>
<tr>
<td>#17-14 x 1&quot;</td>
<td>17100XW35</td>
<td>18.9</td>
</tr>
</tbody>
</table>

DRILL BITS SIZES AND PULL-OUT LOADS (AVERAGE ULTIMATE POUNDS) / 304 STAINLESS STEEL

<table>
<thead>
<tr>
<th>THICKNESS OF STEEL</th>
<th>26ga</th>
<th>24ga</th>
<th>22ga</th>
<th>20ga</th>
<th>18ga</th>
<th>16ga</th>
<th>14ga</th>
<th>12ga</th>
<th>10ga</th>
<th>8ga</th>
<th>6ga</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/16&quot;</td>
<td>1/8&quot;</td>
<td>223</td>
<td>273</td>
<td>404</td>
<td>465</td>
<td>506</td>
<td>1,003</td>
<td>Not Recommended</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>3/32&quot;</td>
<td>208</td>
<td>269</td>
<td>383</td>
<td>475</td>
<td>496</td>
<td>954</td>
<td>1,323</td>
<td>1,756</td>
<td>1,551</td>
<td>1,747</td>
</tr>
</tbody>
</table>

Pullout results are from laboratory tests in a controlled environment (Test#AB101317). Actual job-site results will vary due to hardness of steel. Use appropriate safety factors.

Notes: 1. Hardness: Rb 80
**FASTENER DATA AND SUBMITTAL SHEET**

### Material Information

**Product:** TFC Tapping Screws  
**General Specification:** ANSI B18.6.4, AC 118**

**Material:** C 1018 / C 1022  
410 Stainless Steel  
Heat Treat: Case Hardened  
Finish: .0003" Zinc Plated - 24 hrs salt spray / No red rust  
Optional: TRI-SEAL Coated – 1,000 hrs salt spray / No red rust

**Material:** Type 304 Stainless Steel (18-8)  
Heat Treat: None  
Finish: Type B & BP: .0003" Min. Cad Plating (For lubricity)  
Type A & AB: .0003" Min. Zinc Plating (For lubricity)  
Salt Spray: >2,000 hrs / No red rust

**Pressure Treated or Fire Treated Wood Connections**  
Screw made of 410 or 300 series stainless steel are recommended. Carbon steel screws must be hot dipped galvanized or TRI-SEAL® coated. Do not use standard, zinc plated, carbon steel screws.

**Sealing Washer Information**  
Carbon Steel Screws: 15MM O.D. Galvanized Steel / EPDM.  
Stainless Steel Screws: 15MM O.D. Stainless Steel / EPDM.  
#17 with VRT® Screws: 3/4" O.D. Galvanized Steel / EPDM.  
Zinc Cap Head and Stainless Cap Head: 5/8" O.D. Head / EPDM.

**Hole Size and Pullout Values - Carbon Steel Tapping Screws**

**DRILL BITS SIZES**

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>26ga (.018&quot;)</th>
<th>24ga (.024&quot;)</th>
<th>22ga (.030&quot;)</th>
<th>20ga (.036&quot;)</th>
<th>18ga (.048&quot;)</th>
<th>16ga (.060&quot;)</th>
<th>14ga (.075&quot;)</th>
<th>12ga (.105&quot;)</th>
<th>10ga (.14&quot;)</th>
<th>9ga (.157&quot;)</th>
<th>8ga (.18&quot;)</th>
<th>7ga (.20&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#14-10 Type A</td>
<td>Not recommended</td>
<td>1/8&quot;</td>
<td>5/32&quot;</td>
<td>3/16&quot;</td>
<td>Not recommended</td>
<td>1/8&quot;</td>
<td>5/32&quot;</td>
<td>3/16&quot;</td>
<td>Not recommended</td>
<td>1/8&quot;</td>
<td>5/32&quot;</td>
<td>3/16&quot;</td>
</tr>
<tr>
<td>1/4-14 Type AB &amp; B</td>
<td>Not recommended</td>
<td>1/8&quot;</td>
<td>5/32&quot;</td>
<td>3/16&quot;</td>
<td>Not recommended</td>
<td>1/8&quot;</td>
<td>5/32&quot;</td>
<td>3/16&quot;</td>
<td>Not recommended</td>
<td>1/8&quot;</td>
<td>5/32&quot;</td>
<td>3/16&quot;</td>
</tr>
<tr>
<td>#17-14 Type AB</td>
<td>Not recommended</td>
<td>1/8&quot;</td>
<td>5/32&quot;</td>
<td>3/16&quot;</td>
<td>Not recommended</td>
<td>1/8&quot;</td>
<td>5/32&quot;</td>
<td>3/16&quot;</td>
<td>Not recommended</td>
<td>1/8&quot;</td>
<td>5/32&quot;</td>
<td>3/16&quot;</td>
</tr>
</tbody>
</table>

**PULLOUT Average Ultimate - Pounds**

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>MTL TYPE</th>
<th>26ga (.018&quot;)</th>
<th>24ga (.024&quot;)</th>
<th>22ga (.030&quot;)</th>
<th>20ga (.036&quot;)</th>
<th>18ga (.048&quot;)</th>
<th>16ga (.060&quot;)</th>
<th>14ga (.075&quot;)</th>
<th>12ga (.105&quot;)</th>
<th>10ga (.14&quot;)</th>
<th>9ga (.157&quot;)</th>
<th>8ga (.18&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#14-10 Type A</td>
<td>SS</td>
<td>270</td>
<td>363</td>
<td>363</td>
<td>459</td>
<td>657</td>
<td>1,194</td>
<td>1,368</td>
<td>1,780</td>
<td>1,812</td>
<td>2,242</td>
<td>2,855</td>
</tr>
<tr>
<td></td>
<td>CS</td>
<td>276</td>
<td>342</td>
<td>342</td>
<td>464</td>
<td>747</td>
<td>1,316</td>
<td>1,414</td>
<td>2,242</td>
<td>2,855</td>
<td>2,693</td>
<td>3,695</td>
</tr>
</tbody>
</table>

**Application and Description**

**Carbon Steel Screws**  
These general purpose screws are designed for normal atmospheric conditions. They should not be used in heavy industrial applications or close proximity to the ocean where corrosion can occur. They are case hardened and can tap up to 1/2" thick steel using the appropriate hole size listed on this sheet.

**410 Stainless Steel Screws**  
These screws can be used in mild atmospheres, steam, and many mild chemical environments. They provide superior strength and are plated or coated to provide lubricity during tapping. 410 screws may show signs of red rust but will not rust as quickly as carbon steel screws. Not recommended for use in aluminum connection. Expansion of the aluminum may stress the screw to failure due to the screw’s hardness.

**304 Stainless Steel Screws**  
These screws are used in applications that require superior corrosion resistance or ductility. The chromium in the material reacts with oxygen forming a thin, invisible, non-reactive chromium oxide film. It is resistant to ordinary rusting in wastewater treatment, food-processing environments, and a wide variety of chemicals. 304 stainless steel screws are slightly magnetic caused during head and thread forming. They are not heat treated and are plated to provide lubricity that helps minimize thread roll-over caused during tapping.

**Mechanical Properties**

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>Major Dia.</th>
<th>Torsional Lb-in.</th>
<th>Material</th>
<th>Tensile Lbs.</th>
<th>Shear Lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>#14-10 Type A</td>
<td>.255&quot;</td>
<td>125</td>
<td>Carbon Steel</td>
<td>3,150</td>
<td>2,150</td>
</tr>
<tr>
<td></td>
<td>.264&quot;</td>
<td></td>
<td>304 SS</td>
<td>2,925</td>
<td>1,925</td>
</tr>
<tr>
<td>1/4-14 Type AB &amp; B</td>
<td>.257&quot;</td>
<td>250</td>
<td>Carbon Steel</td>
<td>3,850</td>
<td>2,575</td>
</tr>
<tr>
<td></td>
<td>.264&quot;</td>
<td></td>
<td>304 SS</td>
<td>3,700</td>
<td>2,800</td>
</tr>
<tr>
<td>#17-14 Type AB</td>
<td>.280&quot;</td>
<td>170</td>
<td>Carbon Steel</td>
<td>5,890</td>
<td>3,285</td>
</tr>
<tr>
<td></td>
<td>.290&quot;</td>
<td></td>
<td>304 SS</td>
<td>5,200</td>
<td>3,125</td>
</tr>
</tbody>
</table>

**Use 135° split point drill bits for optimal performance.**

**DISCLAIMER:** ALL TEST RESULTS AND FASTENER RECOMMENDATIONS ARE BASED ON LABORATORY CONDITIONS. BECAUSE ACTUAL JOB SITE CONDITIONS VARY AND ARE UNCONTROLLABLE BY TFC. WE ASSUME NO LIABILITY FOR THE USE OF THIS INFORMATION.

**TRIANGLE FASTENER CORPORATION**  
**Visit our website for the most up-to-date product and technical information!**
The largest selection of 304 stainless steel bi-metal self-drilling screws in-stock!

The head and threads are made of 304 stainless steel that provides exceptional corrosion protection and superior ductility. The drill point is made of hardened carbon steel that is welded to the body. This allows the fastener to drill and tap steel up to 1/2” thick!

**Sizes • Specifications • Part Numbers**

<table>
<thead>
<tr>
<th>Head Style</th>
<th>Description</th>
<th>Drilling Thickness</th>
<th>%Load Bearing Length W/W</th>
<th>Part Number</th>
<th>Box Qty</th>
<th>Box Wgt</th>
<th>N/W</th>
<th>W/W</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>#12-14 x 1” DP1</td>
<td>.090” max</td>
<td>.475”</td>
<td>12100HWT1S3BMW</td>
<td>100</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>#12-14 x 1 DP3</td>
<td>059” - .236”</td>
<td>.350”</td>
<td>12100HWT3S3BM</td>
<td>500</td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>#12-14 x 1 DP3</td>
<td>059” - .236”</td>
<td>.350”</td>
<td>12100HWT3S3BM</td>
<td>500</td>
<td>8</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>#12-14 x 1 DP3</td>
<td>157” - .472”</td>
<td>.500”</td>
<td>12150HWT5S3BM</td>
<td>500</td>
<td>9</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>#12-14 x 1 DP3</td>
<td>047” - .118”</td>
<td>.340”</td>
<td>12100TPCULT2S3BM</td>
<td>500</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>#12-14 x 1 DP1</td>
<td>.090” max</td>
<td>.475”</td>
<td>12100TBT1S3BMW</td>
<td>1000</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>#12-14 x 2 DP2</td>
<td>059” - .118”</td>
<td>1.475”</td>
<td>12200TBT2S3BM</td>
<td>500</td>
<td>9</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>#12-14 x 2 DP3</td>
<td>059” - .236”</td>
<td>.350”</td>
<td>12100HWT5S3BM</td>
<td>500</td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>#12-14 x 1 DP2</td>
<td>047” - .118”</td>
<td>.340”</td>
<td>12100TPCULT2S3BM</td>
<td>500</td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes**
1. Add .125” to bearing length for no washer.
2. TORX Recess: Must use a T25W Wedge Drive Bits.

**Installation Information**
Use a 2,000 rpm max screw-gun with torque control or depth sensing.

**Screw Length Selection**
Attachment thickness should not exceed the bearing length of the screw. Refer to fig.1 for example.

**Contact the TFC TECH CENTER for to discuss your specific application or product requirements.**

**DISCLAIMER:** ALL TEST RESULTS AND SPECIFICATIONS ARE A RESULT OF LABORATORY TESTS. APPROPRIATE SAFETY FACTORS SHOULD BE USED BY THE USER OR SPECIFIER. DETERMINING THE PROPER FASTENER IS THE RESPONSIBILITY OF THE USER OR SPECIFIER. SINCE APPLICATION CONDITIONS VARY AND ARE UNCONTROLLABLE BY TFC, WE ASSUME NO LIABILITY FOR THE USE OF THIS INFORMATION.

**Notes**
- Available with 304 stainless steel and EPDM bonded sealing washer.

**T-25W TORX Recess**
- Must use T-25W Wedge Drive Bits.

**Many More Sizes Available!**
Visit our website for the complete offering and technical information.
Choose from the largest selection in the industry!

Designed for fast installation and corrosion free performance. All fasteners can be painted with our Kalida-Kote™ paint finish to your exact color match. Polyurethane with UV protection provides a chip resistant finish without chalking and fading.

- Designed to provide ultimate pullout resistance.
- Available with TRI-SEAL® 1,000 hrs salt spray coating which is formulated for ACQ lumber applications.
- Designed for fast installation and corrosion free performance.
- Assembled with EPDM bonded washer for exceptional weatherability.
- Type 17 mill point eliminates splitting of wood.

Fastener Sizes and Specifications

**Sizes**

<table>
<thead>
<tr>
<th>Size</th>
<th>Part #</th>
<th>Box Qty.</th>
<th>Box Wt.</th>
<th>LIST PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>#10-12 x 1&quot;</td>
<td>10100HWGCSTSSC</td>
<td>2,500</td>
<td>30 lbs.</td>
</tr>
<tr>
<td>B</td>
<td>#10-12 x 1-1/2&quot;</td>
<td>10150HWGCSTSSC</td>
<td>2,000</td>
<td>25 lbs.</td>
</tr>
<tr>
<td>C</td>
<td>#10-12 x 2&quot;</td>
<td>10200HWGCSTSSC</td>
<td>2,000</td>
<td>33 lbs.</td>
</tr>
<tr>
<td>D</td>
<td>#10-12 x 2-1/2&quot;</td>
<td>10250HWGCSTSSC</td>
<td>1,000</td>
<td>29 lbs.</td>
</tr>
<tr>
<td>E</td>
<td>#10-12 x 3-1/2&quot;</td>
<td>14350HW17CSTSSC</td>
<td>1,000</td>
<td>38 lbs.</td>
</tr>
<tr>
<td>F</td>
<td>#12-14 x 3/4&quot;</td>
<td>12075HWBBSTSBW</td>
<td>2,500</td>
<td>27 lbs.</td>
</tr>
<tr>
<td>G</td>
<td>#12-8 x 1&quot;</td>
<td>12100HW17CSTABW</td>
<td>3,000</td>
<td>23 lbs.</td>
</tr>
<tr>
<td>H</td>
<td>#12-8 x 1-1/2&quot;</td>
<td>12150HW17CSTABW</td>
<td>2,500</td>
<td>34 lbs.</td>
</tr>
<tr>
<td>I</td>
<td>#12-8 x 2&quot;</td>
<td>12200HW17CSTABW</td>
<td>2,000</td>
<td>33 lbs.</td>
</tr>
<tr>
<td>J</td>
<td>#12-8 x 2-1/2&quot;</td>
<td>12250HW17CSTABW</td>
<td>1,500</td>
<td>32 lbs.</td>
</tr>
<tr>
<td>K</td>
<td>#14-10 x 1&quot;</td>
<td>14100HWMCSTABW</td>
<td>3,000</td>
<td>43 lbs.</td>
</tr>
<tr>
<td>L</td>
<td>#14-10 x 1-1/2&quot;</td>
<td>14150HWMCSTABW</td>
<td>2,000</td>
<td>38 lbs.</td>
</tr>
<tr>
<td>M</td>
<td>#14-10 x 1-1/2&quot;</td>
<td>14150HW17ZH</td>
<td>2,000</td>
<td>38 lbs.</td>
</tr>
<tr>
<td>N</td>
<td>#14-10 x 2&quot;</td>
<td>14200HWMCSTABW</td>
<td>1,500</td>
<td>34 lbs.</td>
</tr>
<tr>
<td>O</td>
<td>#14-10 x 3&quot;</td>
<td>14300HWMCSTABW</td>
<td>1,000</td>
<td>32 lbs.</td>
</tr>
</tbody>
</table>

Point Type: Type 17 | Drilling Thickness: 20ga. Max
Bagged 250 per bag

**Paint**

All fasteners can be painted with our Kalida-Kote™ paint finish to your exact color match.

Polyurethane with UV protection provides a chip resistant finish without chalking and fading.
Our PANEL-TITE® with the patent pending BURR-BUSTER® point is engineered to reduce burrs and provide more resistance to back-out!

REDUCE BURRS

Ordinary self-piercing screws produce burrs during installation that can damage the washer and corrode quickly!

The BURR-BUSTER® point is designed to extrude the metal as it penetrates, minimizing burrs.

Penetrates up to 20ga Steel

RESIST BACK-OUT

PANEL-TITE’s low-angle thread helps keep the screw from loosening

Ordinary metal-to-wood screws have steep angled threads that are easily overdriven and can back-out.

SIZES

Application: Steel to Wood Pierces up to 20ga steel.

CARBON STEEL | TRI-SEAL® Coated | Type 17 Mill Point
Hex Size: 1/4" HWH Washer: .500" Dia. / 26ga G-90 to EPDM

ZINC HEAD | TRI-SEAL® Coated | Type 17 Mill Point
Hex Size: 5/16" HWH Washer: .565" Dia. / Aluminum to EPDM

STAINLESS CAP HEAD | TRI-SEAL® Coated |
Type 17 Mill Point
Hex Size: 5/16" HWH Washer: .565" Dia. / Aluminum to EPDM

PERFORMANCE SPECIFICATION

Test Report # T279-17 & T299-17 | Farabaugh Engineering.
NOTE: * 1” embedment into face of 2x. Deeper embedment will increase pullout.

DISCLAIMER: RESULTS AND SPECIFICATIONS ARE A RESULT OF LABORATORY TESTS. APPROPRIATE SAFETY FACTORS SHOULD BE USED. DETERMINING THE PROPER FASTENER IS THE RESPONSIBILITY OF THE USER OR SPECIFIER. SINCE APPLICATION CONDITIONS VARY AND ARE UNCONTROLLABLE BY TFC, WE ASSUME NO LIABILITY FOR THE USE OF THIS INFORMATION.

METEAL-TO-WOOD
SELF-PIERCING SCREWS

STAINLESS CAP HEAD | TRI-SEAL® Coated |
Type 17 Mill Point
Hex Size: 5/16" HWH Washer: .565" Dia. / Aluminum to EPDM

Patent Pending BURR-BUSTER point

Low Angle Thread

Saw Cut Thread

Type 17 Mill Point

STAINLESS CAP HEAD

STAINLESS HEAD | TRI-SEAL® Coated |
Type 17 Mill Point
Hex Size: 5/16" HWH Washer: .565" Dia. / Aluminum to EPDM

TERMINOLOGY ABBREVIATIONS & TESTING

PANEL-TITE®

® Application: Steel to Wood Pierces up to 20ga steel.

#10-12 x 1" Burr-Buster | CS / TS
Washer: .500" Dia. / 26ga G-90 to EPDM

#10-12 x 2-1/2" Burr-Buster | CS / TS
Washer: .565" Dia. / Aluminum to EPDM

#10-12 x 2-1/2" Burr-Buster | SCH / TS
Washer: .565" Dia. / Aluminum to EPDM

#10-12 x 3" Burr-Buster | CS / TS
Washer: .565" Dia. / Aluminum to EPDM

#10-12 x 3" Burr-Buster | SCH / TS
Washer: .565" Dia. / Aluminum to EPDM

MEETS FLORIDA BUILDING CODE 1506.6 & R904.5.2 (TRI-SEAL® & SS ONLY)

PULLOVER / ULTIMATE IN POUNDS

PULLOUT / ULTIMATE IN POUNDS

<table>
<thead>
<tr>
<th>Fastener Dia. &amp; Point</th>
<th>1/2&quot; Ply</th>
<th>5/8&quot; Ply</th>
<th>3/4&quot; Ply</th>
<th>7/16&quot; OSB</th>
<th>19/32&quot; OSB</th>
<th>2 x 4 SYP</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-12 Burr Buster</td>
<td>349</td>
<td>450</td>
<td>706</td>
<td>258</td>
<td>381</td>
<td>648*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Washer Size</th>
<th>26ga (.019&quot;)</th>
<th>24ga (.023&quot;)</th>
<th>22ga (.031&quot;)</th>
<th>20ga (.035&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>.500&quot; O.D.</td>
<td>515</td>
<td>674</td>
<td>875</td>
<td>1100</td>
</tr>
<tr>
<td>.565&quot; O.D.</td>
<td>587</td>
<td>744</td>
<td>915</td>
<td>993</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Torsional (min. in-lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-12</td>
<td>65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CORROSION TESTING</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂ Test Per ASTM G87</td>
<td>20 Cycles</td>
</tr>
<tr>
<td>Salt Spray Per ASTM B117</td>
<td>1,000 hrs</td>
</tr>
</tbody>
</table>

Can be used in treated lumber.

TRIANGLE FASTENER CORPORATION

Visit our website for the most up-to-date product and technical information!

800.486.1832 | www.trianglefastener.com

MD315.0320
### PANEL-TITE® SCH
**Stainless Cap Head with Flange Sealer**
- Use on 20yr warranty roof systems.
- Carbon steel shank with TRI-SEAL® coating.
- Provides outstanding corrosion protection.

### PANEL-TITE® SS
**Stainless Steel with Stainless Steel Washer**
- 304 stainless steel.
- Used in aluminum applications.
- Preferred screw for treated lumber.
- Penetrates Steel up to 20 ga.

#### SIZES

<table>
<thead>
<tr>
<th>Description</th>
<th>Drilling Thickness</th>
<th>Part No.</th>
<th>Carton Quantity</th>
<th>Box Wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>#10-12 x 1&quot; GP</td>
<td>20ga. max 10100HWGCSTSSC</td>
<td>2,500 pcs.</td>
<td>30 lbs.</td>
</tr>
<tr>
<td>B</td>
<td>#10-12 x 1-1/2&quot; GP</td>
<td>20ga. max 10150HWGCSTSSC</td>
<td>2,000 pcs.</td>
<td>25 lbs.</td>
</tr>
<tr>
<td>C</td>
<td>#10-12 x 2&quot; GP</td>
<td>20ga. max 10200HWGCSTSSC</td>
<td>2,000 pcs.</td>
<td>33 lbs.</td>
</tr>
<tr>
<td>D</td>
<td>#10-12 x 2-1/2&quot; GP</td>
<td>20ga. max 10250HWGCSTSSC</td>
<td>1,000 pcs.</td>
<td>29 lbs.</td>
</tr>
<tr>
<td>E</td>
<td>#14-10 x 3-1/2&quot;</td>
<td>20ga. max 14350HW17CSTSSC</td>
<td>1,000 Pcs</td>
<td>38 lbs.</td>
</tr>
</tbody>
</table>

Diameter & Point: #10-12 Gimlet Point
Material: Carbon Steel Shank, 304 Stainless Steel Cap Head
Plating: TRI-SEAL® Coating
Head Style: 1/4" HWH
Thread: #10-12 Double Lead
Salt Spray: 1,000 hrs.

### PANEL-TITE® SCH
**Stainless Cap Head w/Flange Sealer**

**Description**
- Use on 20yr warranty roof systems.
- Carbon steel shank with TRI-SEAL® coating.
- Provides outstanding corrosion protection.

**Description**
- 304 stainless steel.
- Used in aluminum applications.
- Preferred screw for treated lumber.
- Penetrates Steel up to 20 ga.

### PANEL-TITE® SS
**Stainless Steel with Stainless Steel Washer**

**Description**
- Preferred screw for treated lumber.

**Description**
- Penetrates Steel up to 20 ga.

**DISCLAIMER:** ALL DATA AND SPECIFICATIONS ARE BASED ON LABORATORY TESTS. APPROPRIATE SAFETY FACTORS SHOULD BE USED BY THE USER OR SPECIFIER. DETERMINING THE PROPER FASTENER IS THE RESPONSIBILITY OF THE USER OR SPECIFIER. BECAUSE APPLICATION CONDITIONS VARY, WE ASSUME NO LIABILITY FOR THE USE OF THIS INFORMATION.
### General Specifications

**Hex Sizes**
- #9, #10, #12 = 1/4" HWH
- #14 = 5/16" HWH

**Washer Diameters**
- #9, #10 = 12mm OD
- #12 = 14mm OD
- #14 = 15mm OD

**Washer Types**
- Stainless Steel Screws
  - 304SS vulcanized to non-conductive EPDM.

Carbon Steel Screws
- G90 20ga Galvanized Steel vulcanized to non-conductive EPDM.

### Performance Specifications

**Strengths** (Carbon Steel / CS and Stainless Steel / SS)

<table>
<thead>
<tr>
<th>Size</th>
<th>Tensile (lbs. min)</th>
<th>Shear (avg. lbs. ult.)</th>
<th>Torsional (min. in. lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#9-15 SS</td>
<td>1,500</td>
<td>980</td>
<td>45</td>
</tr>
<tr>
<td>#10-12 CS BB</td>
<td>1,850</td>
<td>1,216</td>
<td>65</td>
</tr>
<tr>
<td>#10-14 CS HL</td>
<td>1,850</td>
<td>1,216</td>
<td>65</td>
</tr>
<tr>
<td>#12-8 CS</td>
<td>2,183</td>
<td>1,946</td>
<td>80</td>
</tr>
<tr>
<td>#14-10 CS</td>
<td>3,150</td>
<td>2,150</td>
<td>125</td>
</tr>
</tbody>
</table>

**Washer Sizes**
- 26ga (.19")
- 24ga (.023")
- 22ga (.031")
- 20ga (.035")
- 18ga (.049")

<table>
<thead>
<tr>
<th>Size</th>
<th>1/2&quot; O.D.</th>
<th>9/16&quot; O.D.</th>
<th>15mm O.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>#9-15 SS</td>
<td>515</td>
<td>587</td>
<td>564</td>
</tr>
<tr>
<td>#10-12 CS BB</td>
<td>674</td>
<td>744</td>
<td>810</td>
</tr>
<tr>
<td>#10-14 CS HL</td>
<td>875</td>
<td>915</td>
<td>1097</td>
</tr>
<tr>
<td>#12-8 CS</td>
<td>1100</td>
<td>993</td>
<td>1166</td>
</tr>
<tr>
<td>#14-10 CS</td>
<td>1627</td>
<td>1246</td>
<td>1643</td>
</tr>
</tbody>
</table>

**Pullout Values in Wood** (Carbon Steel or Stainless Steel)

**Material Specifications**

**Material:** Carbon Steel

**Finish:** TRI-SEAL Long-life (ACQ Compatible)

**Material:** 304 Stainless Steel

**Finish:** Passivated. (ACQ Compatible)

**Material:** 304 Stainless Steel

**Plating:** Zinc Plated

**Paint:** Kalida-Kote Polyurethane with UV stabilizer

### Pullover Strength in Pounds

<table>
<thead>
<tr>
<th>Washer Size</th>
<th>26ga (.19&quot;)</th>
<th>24ga (.023&quot;)</th>
<th>22ga (.031&quot;)</th>
<th>20ga (.035&quot;)</th>
<th>18ga (.049&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-12 CS BB</td>
<td>515</td>
<td>587</td>
<td>564</td>
<td>100</td>
<td>1627</td>
</tr>
<tr>
<td>#10-14 CS HL</td>
<td>674</td>
<td>744</td>
<td>810</td>
<td>993</td>
<td>1246</td>
</tr>
<tr>
<td>#10-12 CS BB</td>
<td>1100</td>
<td>1097</td>
<td>1166</td>
<td>1643</td>
<td></td>
</tr>
</tbody>
</table>

**Corrosion Test Results**

**TRI-SEAL® COATING**

**Test Results**

- **SO₂ Test Per ASTM G87:**
  - 20 Cycles (2 liters)

- **Salt Spray Per ASTM B117:**
  - 1,000 hours

**Exceeds ASTM B633 Salt Spray requirements.**

DISCLAIMER: ALL TEST RESULTS AND FASTENER RECOMMENDATIONS ARE BASED ON LABORATORY CONDITIONS. BECAUSE ACTUAL JOB SITE CONDITIONS VARY AND ARE UNCONTROLLABLE BY TFC, WE ASSUME NO LIABILITY FOR THE USE OF THIS INFORMATION.
#12 DRILL POINT
CARBON STEEL
Sentry Plus Five roofing screws are use for a variety of connections providing superior performance and easy installation. They are compatible for most roof systems to attach rigid insulation to steel or wood deck.

Contact your TFC product professional for approval details.

APPLICATIONS
Attach to wood or steel
Up to 16ga max (.060" | 1.52mm)

DIMENSIONAL AND PHYSICAL PROPERTIES

Thread Dimensions
Major Dia.: .222"  
Minor Dia.: .130"

Truss Head
Drive: #3 Cross Recess  
Head Height: .112"  
Head Diameter: .437"

Hex Washer Head (HWH)
Across Flats: 1/4"  
Head Height: .162"  
Washer Diameter:

MATERIAL: Carbon Steel  
FINISH: Epoxy coating (black)

INSTALLATION TIPS

Screwgun: Use 2,000 RPM max screw gun with torque control
Metal Deck: Fastener must penetrate the deck by a minimum of 3/4".
Concrete and Wood: Fastener embedment of at least 1" or a minimum of 1" penetration through wood decking.

PERFORMANCE SPECIFICATIONS

PULLOUT
WOOD: Pullout values in wood are average ultimate in pounds. A minimum safety factor of four (4) should be used for design.

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Plywood Fire Rated</th>
<th>2x Dimensional Lumber</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>462</td>
<td>575</td>
</tr>
</tbody>
</table>

STRENGTHS  ULTIMATE LOAD

Tensile 3,100 lb min.
Shear 1,800 lb min.

Torsional 60 lb-in min.

STEEL: Pullout values in steel are calculated per S100 specification and are the minimum value. A minimum safety factor of three (3) should be used for design.

<table>
<thead>
<tr>
<th>Grade</th>
<th>ASTM A653 Grade 33</th>
<th>ASTM A563 Grade 40</th>
<th>ASTM A653/A1008 Grade 50</th>
<th>ASTM A653/A1008 Grade 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>45 ksi</td>
<td>55 ksi</td>
<td>65 ksi</td>
<td>82 ksi</td>
</tr>
<tr>
<td>Thickness</td>
<td>22 ga.</td>
<td>20 ga.</td>
<td>18 ga.</td>
<td>16 ga.</td>
</tr>
<tr>
<td>Pull-out (lb.)</td>
<td>255</td>
<td>306</td>
<td>408</td>
<td>509</td>
</tr>
</tbody>
</table>

DISCLAIMER
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#14 DRILL POINT
CARBON STEEL

Sentry Plus Five roofing screws are use for a variety of connections providing superior performance and easy installation. They are compatible for most roof systems to attach rigid insulation to steel or wood deck.

APPLICATIONS
Carbon Steel: Attach to wood, concrete, or steel <=16ga (.060" | 1.52mm)

#14 DRILL POINT
316 STAINLESS STEEL

This all purpose fastener is engineered to provide superior corrosion resistance in the most server environments. The self-drilling point penetrates steel quickly and can also be used in treated wood.

APPLICATIONS
316 SS: Attach to wood or steel <=16ga (.048" | 1.22mm)

DIMENSIONAL AND PHYSICAL PROPERTIES

Thread Dimensions
Major Dia.: .242"
Minor Dia.: .151"

Truss Head
Drive: #3 Cross Recess
Head Height: .116"
Head Diameter: .437"

MATERIAL AND FINISH
Carbon Steel....................... Epoxy Coated
316 Stainless Steel............. Zinc Plated

CORROSION PROTECTION
Meets or exceeds FM4470 corrosion standards per Kesternich DIN 50018 SFW 2.0 test of 15 cycles

INSTALLATION TIPS
Screwgun: Use 2,000 RPM max screw gun with torque control
Metal Deck: Fastener must penetrate the deck by a minimum of 3/4". Concrete and Wood: Fastener embedment of at least 1" or a minimum of 3/4" penetration beyond the wood decking.

PERFORMANCE SPECIFICATIONS

Pullout for #14 Carbon Steel and Stainless Steel SENTRY PLUS FIVE®

WOOD: Pullout values in wood are average ultimate in pounds. A minimum safety factor of four (4) should be used for design.

CONCRETE: Pullout values are ultimate. A minimum safety factor of four (4) should be used for design.

<table>
<thead>
<tr>
<th>Thickness (in)</th>
<th>Embedment (in)</th>
<th>Drill Bit Size - Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>1&quot;</td>
<td>3/16&quot; Carbide Tip</td>
</tr>
<tr>
<td>*Pullout (lb.)</td>
<td></td>
<td>NOTE: Drill hole at least 1/2&quot; deeper than screen embedment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drill Bit Size - Concrete</th>
<th>3/16&quot; Carbide Tip</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOTE: Drill hole at least 1/2&quot; deeper than screen embedment</td>
<td></td>
</tr>
</tbody>
</table>

STRENGTHS | ULTIMATE LOAD
---|---
Tensile | 3,300 lb min.
Shear | 2,100 lb min.
Torsional | 110 lb-in min.

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<table>
<thead>
<tr>
<th>Grade</th>
<th>ASTM A653 Grade 33</th>
<th>ASTM A563 Grade 40</th>
<th>ASTM A653/A1008 Grade 50</th>
<th>ASTM A653/A1008 Grade 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>45 ksi</td>
<td>55 ksi</td>
<td>65 ksi</td>
<td>82 ksi</td>
</tr>
<tr>
<td>Thickness (ga)</td>
<td>22 ga</td>
<td>20 ga</td>
<td>18 ga</td>
<td>16 ga</td>
</tr>
<tr>
<td>Pull-out (lb.)</td>
<td>278</td>
<td>333</td>
<td>444</td>
<td>555</td>
</tr>
</tbody>
</table>

*Carbon Steel Only

Approvals

THE LARGEST SELECTION OF ROOFING SCREWS IN THE INDUSTRY!

TRIANGLE FASTENER CORPORATION
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MD56.0320
THE LARGEST SELECTION OF ROOFING SCREWS IN THE INDUSTRY!

#15-13 DP1 DRILL POINT TRUSS HEAD
CARBON STEEL

Uses: Wood, concrete or steel (16 ga. - 22 ga.).
Material: Carbon Steel

Corrosion Protection: Epoxy coating (black) meets or exceeds FM4470 corrosion standards and withstands 15 cycles of the Kesternich DIN 50018 SFW 2.0 test.

Head Height: .095" - .105"
Head Diameter: .425" - .440"

INSTALLATION TIPS
Screwgun: Use 2,000 RPM max screw gun with torque control
Metal Deck: Fastener must penetrate the deck by a minimum of 3/4".
Concrete and Wood: Fastener embedment of at least 1" or a minimum of 3/4" penetration beyond the wood decking.

Pullout for #15 DP1 Carbon Steel SENTRY PLUS FIVE®
(Loads are average ultimate)
WOOD: Pullout values in wood are average ultimate in pounds. A minimum safety factor of four (4) should be used for design.

<table>
<thead>
<tr>
<th>APA Rated OSB</th>
<th>APA Rated Plywood</th>
<th>SPF #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/16&quot;</td>
<td>15/32&quot;</td>
<td>19/32&quot;</td>
</tr>
<tr>
<td>19/32&quot;</td>
<td>23/32&quot;</td>
<td>15/32&quot;</td>
</tr>
<tr>
<td>19/32&quot;</td>
<td>23/32&quot;</td>
<td>15/32&quot;</td>
</tr>
<tr>
<td>19/32&quot;</td>
<td>23/32&quot;</td>
<td>15/32&quot;</td>
</tr>
<tr>
<td>Pullout (lb.)</td>
<td>295</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>310</td>
<td>515</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>525</td>
</tr>
<tr>
<td></td>
<td>685</td>
<td>1165*</td>
</tr>
</tbody>
</table>

STEEL: Pullout values in steel are calculated per S100 specification and are the minimum value.
A minimum safety factor of three (3) should be used for design.

*Pre-drilling required for steel thicker than 14 Ga.

<table>
<thead>
<tr>
<th>Grade</th>
<th>ASTM A653 Grade 33</th>
<th>ASTM A563 Grade 40</th>
<th>ASTM A653/A1008 Grade 50</th>
<th>ASTM A653/A1008 Grade 80</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tensile Strength</td>
<td>Shear</td>
<td>Torsional</td>
<td>Ultimate Load</td>
</tr>
<tr>
<td></td>
<td>45 ksi</td>
<td>55 ksi</td>
<td>65 ksi</td>
<td>82 ksi</td>
</tr>
<tr>
<td>Thickness</td>
<td>22 ga.</td>
<td>20 ga.</td>
<td>18 ga.</td>
<td>16 ga.</td>
</tr>
<tr>
<td>Pullout (lb.)</td>
<td>298</td>
<td>358</td>
<td>477</td>
<td>597</td>
</tr>
</tbody>
</table>

3" METAL STRESS PLATE
Testing: Meets or exceeds Factory Mutual I-60 or I-90 wind up lift specifications when properly installed on most insulation boards.
Feature: Plate is formed from 26 gauge Galvalume® steel.
Uses: They are used with virtually all types of insulation board used for roofing systems.
Galvalume is a trademark of BIEC International, Inc.

Square, Hex, Round, Steel or Plastic...We have what you need!
3" x 3" Square Recessed Galvalume Metal
3" x 3" Square Flat Bottom Galvalume Metal
3" Across Flats Hex Galvalume Metal
3" Across Flats Hex Plastic
2" Round Galvalume Metal (Standard)
3" Round Galvalume Metal (Standard)
3" Round Plastic

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TRI-SEAL® LONG-LIFE COATING

TRI-SEAL® Long-Life Coating is a high performance dip spin finish, developed to minimize corrosion when used in exterior building applications. It consists of three layers; the first layer is a metallic zinc layer, the second layer is a high-grade anti-corrosion chemical conversion film and the third, outer layer, is a baked ceramic surface coating.

The distinguishing feature of TRI-SEAL® is the tight joining of the baked ceramic surface coating and the chemical conversion film. These two layers are bonded together through chemical reactions, and this unique method of combining layers results in a rigid combination of the coating films.

- Excellent resistance against gas, weather, and other kinds of corrosion factors, including salt water.
- Compatible for use in ACQ and Fire Treated Lumber.
- Composite layers minimize the effect of scratches on the protection coating.
- Compatible for use in aluminum applications.
- UV resistant. Does not chalk or fade

Salt Spray Test Results
1,000hrs Per ASTM B117 - No Red Rust


SEM IMAGING

Layer 1 - Baked Ceramic Surface Coating Layer
Corrosive elements are intercepted by the strong paint film made of ceramic materials.

Layer 2 - Chemical Conversion Coating Layer
Rust proof performance is improved as the chemical conversion inactivates the zinc plated surface and creates a tight adhesion between the chemically converted layer and the paint layer.

Layer 3 - Metallic Zinc Layer
The steel / iron substrate is protected from corrosion by the self-sacrificial galvanic effect of the zinc coating.

Layer 4 - Fastener

MATERIAL PROPERTIES

<table>
<thead>
<tr>
<th>Test Items</th>
<th>Test Methods</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness</td>
<td>Peeling test by pencil hardness</td>
<td>Over 4H</td>
</tr>
<tr>
<td>Adhesion</td>
<td>Peeling test by adhesive tape on cross scribed test piece in 1 mm width</td>
<td>Nothing abnormal</td>
</tr>
<tr>
<td>Acid Resistance</td>
<td>Immersion in 5% sulfuric acid solution for 24 hours</td>
<td>Nothing abnormal</td>
</tr>
<tr>
<td>Alkali Resistance</td>
<td>Immersion in 5% sodium hydroxide solution for 72 hours</td>
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<tr>
<td>Heat Resistance</td>
<td>Exposure to 250 C (482 F) heat for an hour</td>
<td>Nothing abnormal</td>
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<tr>
<td>Accelerated Weathering</td>
<td>Sunshine weather-0-meter test for 1,000 hours</td>
<td>Free from red rust</td>
</tr>
<tr>
<td>Contact Corrosion w/other Metals</td>
<td>Corrosive investigation after Salt Spray Test (JIS Z2371) done comparatively on surface treated steel bolts/nuts tightened on a stainless steel plate</td>
<td>Clearly superior to zinc electroplated (colored chromate) and hot dip galvanizing</td>
</tr>
</tbody>
</table>

Corrosion Testing
Salt Spray: 1,000hrs. Per ASTM B117. No red rust

Kesternich:
30 cycles | 1.0 L
15 cycles | 2.0 L
ASTM G87 No Red Rust

UV Resistant
Exceeds salt spray requirements specified in ASTM B633, B695, & F1941 (zinc plating).

DISCLAIMER: ALL TEST RESULTS AND SPECIFICATIONS ARE A RESULT OF LABORATORY TESTS. APPROPRIATE SAFETY FACTORS SHOULD BE USED BY THE USER OR SPECIFIER. DETERMINING THE PROPER FASTENER IS THE RESPONSIBILITY OF THE USER OR SPECIFIER. SINCE APPLICATION CONDITIONS VARY AND ARE UNCONTROLLABLE BY TFC, WE ASSUME NO LIABILITY FOR THE USE OF THIS INFORMATION.
Specifically Formulated for Fasteners, Rivets, & Metal Closures

Triangle Fastener offers Kalida-Kote painting process, producing perfect color matched fasteners, rivets, and metal closure. We start by using a special formula polyurethane enamel with UV protection that is expertly color matched.

After spraying, we cure the finish by baking to produce a tough chip resistant finish assuring long-life. Kalida-Kote is compatible with Kynar paint finishes.

KALIDA-KOTE™ is compatible with Kynar® paint finishes.

- Polyurethane enamel can be matched to any color and is UV resistant!
- Baked on finish provides a tough, chip resistant finish.
- Customized painting of metal closure and gutter straps.
- Special colors in 3 days or less!!

Our 4-step process assures a perfect color match and durable finish!

**Step 1**

Color Matching

We color match using a spectrophotometer that provides consistent color matching.

**Step 2**

Priming

Special etching primer provides a superior base for the application of the paint.

**Step 3**

Spraying

Polyurethane enamel is applied uniformly to provide superior coverage.

**Step 4**

Curing

We cure the paint to produce a tough chip resistant finish.

---

**Specifications**

Finish: Gloss Enamel 85 units minimum at 60 degrees
Exterior Catalyst

Thickness: 1.6 - 2.0 mils

Adhesion: ASTM D 3359 - Excellent
No peeling or removal

Impact Resistance: ASTM D 2794 Good: > 10 in.lbs.

Abrasion Resistance: ASTM D 4060 Good

Corrosion Resistance: Salt Spray - 1,000 hrs
(< 5% red rust) Kesternich - 30 cycles

<table>
<thead>
<tr>
<th>Abrasion &amp; ME Abuse</th>
<th>Acids</th>
<th>Alkalis</th>
<th>Color &amp; Glass Retention</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Excellent</td>
<td>Excellent</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Humidity</th>
<th>Solvents</th>
<th>Weather</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>Very Good</td>
<td>Excellent</td>
</tr>
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</table>

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</thead>
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**Polyurethane enamel can be matched to any color and is UV resistant!**
**Baked on finish provides a tough, chip resistant finish.**
**Customized painting of metal closure and gutter straps.**
**Special colors in 3 days or less!!**
<table>
<thead>
<tr>
<th>MFG COLOR</th>
<th>MFG</th>
<th>TFC RIVET COLOR</th>
<th>TFC RIVET SIZE / P.N.</th>
<th>TFC SEALANT COLOR</th>
<th>BLAZER® COLOR</th>
<th>PANEL-TITE® COLOR</th>
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<td>ALMOND</td>
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</table>
**Fastener selection guide for exposed metal building and roofing applications**

**Environments**

Select a fastener based on the environment and the panel type. To minimize galvanic corrosion, it is important that the fastener material is compatible with the roofing material. The following list of fasteners were selected based on specifications from various panel producers throughout the world. Harsh environments can corrode metals quickly. Contact the panel manufacturer for their specific recommendations.

NOTE: Electroplated zinc plated screws are not for use in exterior applications and will corrode quickly.

**Use With Warranted Roof Systems**

For detailed product information, please view our product page located on our website or our PRODUCT QUICK FACTS sheet.

**Panel Types**

- **Urban/Rural**
- **Coastal/Marine**
- **Industrial**

**Panel Material Fasteners**

<table>
<thead>
<tr>
<th>Panel Material</th>
<th>Fasteners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coated Steel</td>
<td>*Coated or Zinc Plated</td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>*Coated or Zinc Plated</td>
</tr>
<tr>
<td>Zinc Head</td>
<td>*Coated or Zinc Plated</td>
</tr>
<tr>
<td>304 Stainless Steel</td>
<td>*Coated or Zinc Plated</td>
</tr>
</tbody>
</table>

*Note: 300 series stainless may corrode the base metal in severe marine environments. Consult the panel manufacturer for specific conditions*

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<table>
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<th>Fasteners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
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</tr>
<tr>
<td>Stainless Steel</td>
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</tr>
<tr>
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<td>*Coated or Zinc Plated</td>
</tr>
<tr>
<td>Zinc Head</td>
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**For detailed product information, please view our product page located on our website or our PRODUCT QUICK FACTS sheet.**

**Blazer Self-Drilling Screws**

- TRI-SEAL® Coated | Carbon Steel
- Stainless Cap or Zinc Head
- 410 Stainless Steel

**Panel-Tite Metal-to-Wood Screws**

- TRI-SEAL® Coated | Carbon Steel
- Stainless Steel Cap Head Screws
- 304 Stainless Steel

**TFC Tappers Self-Tapping Screws**

- TRI-SEAL® Coated | Carbon Steel
- Stainless Steel Cap Head
- 304 Stainless Steel

**SD300 304 Stainless Steel Drill Screws**

- 304 Stainless Steel Bi-Metal Drill Screws

---

**TRIANGLE FASTENER CORPORATION**

Visit our website for the most up-to-date product and technical information!
The following information is provided to help you specify and install tapping screws correctly. Care should be used when selecting and installing screws to assure optimal performance.

**TERMINOLOGY**
To eliminate confusion and assure the proper screw is used, specifications for tapping screws should be written to include;
1. Thread diameter
2. Threads per inch
3. Point type
4. Description of screw
5. Drive size
6. Head Style
7. Material
8. Finish / plating

**DETERMINE DRILL POINT TYPE**
Drilling Thickness (Drill Point Type)
Add up the total thickness that will be drilled by the screw and select a drill point type that meets the required drilling thickness range. (Do not include pre-punched materials that will not be drilled by the screw.)

Select the desired drill point type located on the size chart of the BLAZER® / CONCEALOR® sell sheet (i.e. BLAZER-5).

**INSTALLATION TECHNIQUES**
Recommended Screw-Gun Speed
Using the proper tooling is important for producing consistent installation. It also minimizes potential screw or application failure caused by over-driven and under-driven fasteners.

<table>
<thead>
<tr>
<th>Screw Size</th>
<th>Max RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>#6, #8, #10</td>
<td>2,500</td>
</tr>
<tr>
<td>All wood screws</td>
<td>2,500</td>
</tr>
<tr>
<td>#12, 1/4&quot;, 5/16&quot;</td>
<td>2,000</td>
</tr>
<tr>
<td>All DP5</td>
<td>2,000</td>
</tr>
<tr>
<td>304 Stainless Screws</td>
<td>1,200</td>
</tr>
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</table>

**WARNING! DO NOT USE IMPACT TOOLS FOR INSTALLATION!**
Using impact tools to install pancake head screws can cause the head to separate from the body due to the high torque and impulse generate by the tool. HWH screws can also be easily overtighten which can lead to connection failure.

TFC is not responsible for failures caused by the use of improper tooling or improper installation.

**ACCESSORY TIPS**
Look familiar?
Worn out drive bits and sockets produces poor drilling, can strip the recess, and damage painted fasteners.

SET THE MAGNET!
Be sure screw head engages into the socket completely. This will eliminate screw wobble, improve the drilling performance, and reduce damage to painted screw heads.

**DETERMINE FASTENER LENGTH**
Attachment Thickness | METAL
Measure from the top surface of the material being fastened to the underside of the metal. Be sure to allow for any void or insulation.

Select a screw length listed in the BLAZER® or CONCEALOR® sell sheet (Load Bearing Length).

**SEALING WASHERS**
To assure a proper seal, tighten the screw until the EPDM sealant extrudes just to the outer edge of the backing material. This also is a great way to visually inspect the screw to assure it is properly sealed.

Disclaimer: Hardware should always be installed by a competent professional with a good understanding of interior wall types and mounting fasteners. Please do not attempt to install any hardware unless you know how to safely operate the necessary tools, and have a good understanding of what you are doing. The following instructions are basic guidelines for qualified installers, and should be read through completely before starting your job.
**FASTENING TIPS**

**Using the Proper Tools for Installing**
**BLAZER®, CONCEALOR® and PANEL-TITE® Screws**

**WARNING!**
Using impact tools to install self-drilling and self-tapping screws can cause failure to screw, paint, and sealing washer!

Impact tools are designed to provide extremely high rotational force (torque) during installation. This force is similar to using a hammer on the end of a wrench when tightening the screw.

*This is an example of how an impact tool works. It “hammers” the screw in a rotating fashion during installation.*

### How can an impact tool break self-drilling and tapping fasteners?

A typical impact tool can generate up to 1,800 in-lb of torsional force! This amount greatly exceeds the amount of force it takes to drill, tap, and tighten a tapping screw; and also exceeds the torsional strength of the screw.

### Over-driving a tapping screw can also cause the following problems:

**STRIP-OUT**
This condition can cause failure of the joint by reducing clamping load, pullout, and causing loosening.

(For example, a #12-14 BLAZER-3 self-drilling screw when installed in 14ga will strip-out at approximately 75 in-lb)

**BROKEN SCREWS**
Impact tools generate much greater torsional force than a tapping screw is designed to handle.

For example, a #10-13 CONCEALOR has a minimum torsional strength of 60 in-lb. An impact tool can generate 1,800 in-lb and fracture the screw.

**DAMAGE WASHER OR PAINT**
Torque generated by impact tools can over-drive screws with sealing washers causing leaks. It can also damage paint on the head of the screw leading to premature corrosion.

### SCREW-GUN SELECTION

*For the best performance, we recommend the following RPM and DeWalt screw-guns.*

#### Corded Tools
DeWalt Versa-clutch Screwgun  
DW267  
DW268  
DW269

<table>
<thead>
<tr>
<th>Screw Size</th>
<th>Max RPM</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>#6, #8, #10, #12, #14</td>
<td>2,500</td>
<td>DW268</td>
</tr>
<tr>
<td>1/4&quot;, 5/16&quot;, all BLAZER-5</td>
<td>2,000</td>
<td>DW267</td>
</tr>
<tr>
<td>304SS Tapping Screws</td>
<td>1,000</td>
<td>DW269</td>
</tr>
</tbody>
</table>

#### Cordless Tools
DeWalt 20V Versaclutch  
DCF622M2

<table>
<thead>
<tr>
<th>Screw Size</th>
<th>Max RPM</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Screws</td>
<td>0 - 2,000</td>
<td>DC668KA</td>
</tr>
</tbody>
</table>

Using the proper tooling is important for producing consistent installation. It also reduces the chance for screw or application failure caused by over-driven and under-driven fasteners.

**WARNING! DO NOT USE IMPACT TOOLS FOR INSTALLATION!**

Disclaimer: Hardware should always be installed by a competent professional with a good understanding of interior wall types and mounting fasteners. Please do not attempt to install any hardware unless you know how to safely operate the necessary tools, and have a good understanding of what you are doing. The following instructions are basic guidelines for qualified installers, and should be read through completely before starting your job.

Visit our website for the most up-to-date product and technical information!
**MASTER SEAL™ Washers**

Provide An Air, Vapor Or Liquid-Tight Seal

AZTEC MasterSeal washers are a practical and simple, yet sturdy and reliable. They are engineered to prevent delamination of metal and sealant.

**Features and Benefits**

- Vulcanized for optimal strength.
- Aluminum, stainless steel or galvanized steel backing standard; Monel backing also available.
- EPDM sealer standard; neoprene and silicone also available.
- Deflectable sealer standard; neoprene and silicone also available.
- Sealant evenly compresses to create a uniform seal.
- Resists shearing and tearing during application.
- Retains positive seal regardless of position on flat surfaces and many curved surfaces.
- Allows visual confirmation of proper seating.

**SIZES**

Sealant: EPDM

<table>
<thead>
<tr>
<th>20 Gage Galvanized Steel Backing</th>
<th>Outside Diameter</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot; (9mm)</td>
<td>#10, #12, 1/4&quot;, #14</td>
<td></td>
</tr>
<tr>
<td>9/16&quot;</td>
<td>#12</td>
<td></td>
</tr>
<tr>
<td>5/8&quot; (15mm)</td>
<td>#10, #12, 1/4&quot;, #14, #17, 5/16&quot;</td>
<td></td>
</tr>
<tr>
<td>7/16&quot;</td>
<td>#12, 5/16&quot;, #14</td>
<td></td>
</tr>
<tr>
<td>1&quot;</td>
<td>#12, 5/16&quot;, 1/2&quot;</td>
<td></td>
</tr>
<tr>
<td>1-1/8&quot;</td>
<td>1/4&quot;, #14</td>
<td></td>
</tr>
<tr>
<td>1-3/16&quot;</td>
<td>5/16&quot;</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>1/4&quot;, #14, 5/16&quot;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>20 Gage 304 Stainless Steel Backing</th>
<th>Outside Diameter</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot; (9mm)</td>
<td>#10, #12, 1/4&quot;, #14</td>
<td></td>
</tr>
<tr>
<td>9/16&quot;</td>
<td>#12</td>
<td></td>
</tr>
<tr>
<td>5/8&quot; (15mm)</td>
<td>#10, #12, 1/4&quot;, #14, #17, 5/16&quot;</td>
<td></td>
</tr>
<tr>
<td>7/16&quot;</td>
<td>#12, 5/16&quot;, #14</td>
<td></td>
</tr>
<tr>
<td>1&quot;</td>
<td>#12, 5/16&quot;, 1/2&quot;</td>
<td></td>
</tr>
<tr>
<td>1-1/8&quot;</td>
<td>1/4&quot;, #14</td>
<td></td>
</tr>
<tr>
<td>1-3/16&quot;</td>
<td>5/16&quot;</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>1/4&quot;, #14, 5/16&quot;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>.040 Aluminum 5052 Backing</th>
<th>Outside Diameter</th>
<th>Screw Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/16&quot;</td>
<td>#10, #12, 1/4&quot;, #14</td>
<td></td>
</tr>
<tr>
<td>5/8&quot; (15mm)</td>
<td>#10, #12, 1/4&quot;, #14</td>
<td></td>
</tr>
<tr>
<td>7/16&quot;</td>
<td>#12, 5/16&quot;, 3/8</td>
<td></td>
</tr>
<tr>
<td>1&quot;</td>
<td>#12, 5/16&quot;</td>
<td></td>
</tr>
<tr>
<td>1-3/16&quot;</td>
<td>5/16&quot;</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>5/16&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**Installation**

Extrusion of sealant at outer edge of properly seated washer provides easy confirmation of proper fastener seal.

Correct

Slight circle of sealant extrusion.

Too Tight

Metal backing begins to turn up.

Too Loose

Sealant is not compressed and can not form seal.

### Typical properties of Bonded EPDM Sealing Washer Material

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Material</td>
<td>Cross-Linked EPDM (Ethylene propylene diene terpolymer)</td>
<td>N/A</td>
</tr>
<tr>
<td>Color</td>
<td>Black</td>
<td>N/A</td>
</tr>
<tr>
<td>Test Level</td>
<td>3</td>
<td>Grade</td>
</tr>
<tr>
<td>Test Temperature</td>
<td>B 100 degrees C</td>
<td>Type</td>
</tr>
<tr>
<td>Volume Swell</td>
<td>A No Requirement</td>
<td>Class</td>
</tr>
<tr>
<td>Durometer Hardness</td>
<td>70 +/- SASTM</td>
<td>D2240</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>10 MPa (1450 PSI) Minimum</td>
<td>ASTM D412</td>
</tr>
<tr>
<td>Ultimate Elongation</td>
<td>250% Minimum</td>
<td>ASTM 412 A/C</td>
</tr>
<tr>
<td>Heat Resistance</td>
<td>Heat aging 70 hrs @ 100 degrees C</td>
<td>ASTM D573</td>
</tr>
<tr>
<td>Compression Set</td>
<td>Maximum 25%</td>
<td>ASTM D395B</td>
</tr>
<tr>
<td>Ozone Resistance</td>
<td>No observed effect (70 hrs. @ 50 ppm)</td>
<td>ASTM D1171</td>
</tr>
<tr>
<td>Low Temperature Britteness</td>
<td>Non-brittle 3 minutes@ -55 degrees C</td>
<td>ASTM D2137</td>
</tr>
<tr>
<td>UV Resistance</td>
<td>Excellent</td>
<td></td>
</tr>
<tr>
<td>Resistance To Aging</td>
<td>Excellent</td>
<td></td>
</tr>
<tr>
<td>Non-standing</td>
<td>Pass</td>
<td></td>
</tr>
</tbody>
</table>

**SADDLE WASHERS**

We can provide saddle washers for a variety of panel types. Contact TFC for sizes.
GET-A-GRIP PAINTED RIVETS | #43 & #44

Largest Selection of Painted Rivets...**IN STOCK!**

- #43 and #44 Stainless Steel
- Over 50 colors in-stock for same day ship!
- Chip resistant paint is formulated to resist fading caused by UV rays.
- 250 pieces per bag for easy handling.

**WE’LL SHIP ONE BAG!**

**Sizes and Technical Information**

<table>
<thead>
<tr>
<th>BODY DIA.</th>
<th>PART NUMBER</th>
<th>GRIP RANGE</th>
<th>RIVET LENGTH</th>
<th>HEAD DIA.</th>
<th>HEAD HEIGHT</th>
<th>MANDREL DIA.</th>
<th>WEIGHT LBS. / M PCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8”</td>
<td>FBF - 43</td>
<td>.126 -.187</td>
<td>.337</td>
<td>.250</td>
<td>.040</td>
<td>.076</td>
<td>3.0 LBS.</td>
</tr>
<tr>
<td></td>
<td>FBF - 44</td>
<td>.186 -.250</td>
<td>.400</td>
<td></td>
<td></td>
<td></td>
<td>3.1 LBS.</td>
</tr>
</tbody>
</table>

**Packaging**
- Carton Quantity: 10,000 pieces
- Bagged Quantity: 250 piece

**Country of Origin:** USA

**Installation**

Use the correct hole size to assure the rivet performs properly.

Drill Bit Type: High Speed / 135° Split Point

**TFC stocks a full line of high quality drill bits.**

**Tools**

**12 Volt Cordless**

The Milwaukee M12™ 12 volt Rivet Tool delivers fast, easy riveting while maintaining performance, durability, and consistency.

Model: M12 - 2550-22 Tool Kit
- Capability | One full Charge
- 3/16” stainless steel rivets (250 rivets)
- 1/8” steel rivets (450 rivets)

**Manual**

The Rivet King model RK-65 hand rivet tool can set blind rivets up to 3/16” in diameter.

**Milwaukee® M12™**

Tool Kit includes battery, charger, bag.
# Find Your Color...and Select the Rivet!

<table>
<thead>
<tr>
<th>Color</th>
<th>MFG</th>
<th>Size / P.N.</th>
<th>TFC Color</th>
<th>Swatch</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Almond</strong></td>
<td>MBCI</td>
<td>FBF43AL / FBF44AL</td>
<td>ALMOND</td>
<td>S0330</td>
</tr>
<tr>
<td><strong>Ascot White</strong></td>
<td>ATAS</td>
<td>FBF44SWH</td>
<td>STONE WHITE</td>
<td>S0348</td>
</tr>
<tr>
<td><strong>Ash Gray</strong></td>
<td>MBCI</td>
<td>FBF43AGY</td>
<td>ASH GRAY</td>
<td>S0850</td>
</tr>
<tr>
<td><strong>Bone White</strong></td>
<td>MBCI</td>
<td>FBF43BNWH / FBF44BWH</td>
<td>BONE WHITE</td>
<td></td>
</tr>
<tr>
<td><strong>Brite Red</strong></td>
<td>MBCI</td>
<td>FBF43CRD</td>
<td>CRIMSON RED</td>
<td>S1232</td>
</tr>
<tr>
<td><strong>Brownstone</strong></td>
<td>MBCI</td>
<td>FBF43BST</td>
<td>BROWNSTONE</td>
<td>S0360</td>
</tr>
<tr>
<td><strong>Burnished Slate</strong></td>
<td>MBCI</td>
<td>FBF43BSL</td>
<td>BURNISHED SLATE</td>
<td>S0742</td>
</tr>
<tr>
<td><strong>Champagne</strong></td>
<td>DMI</td>
<td>FBF43CPGE</td>
<td>CHAMPAGNE</td>
<td>S1160</td>
</tr>
<tr>
<td><strong>Charcoal</strong></td>
<td>METAL SALES</td>
<td>FBF43CGY / FBF44CGY</td>
<td>CHARCOAL GRAY</td>
<td>S1151</td>
</tr>
<tr>
<td><strong>Cityscape</strong></td>
<td>PAC CLAD</td>
<td>FBF43CS</td>
<td>CITYSCAPE</td>
<td>S0302</td>
</tr>
<tr>
<td><strong>Classic Green</strong></td>
<td>MBCI</td>
<td>FBF43CGR / FBF44CGR</td>
<td>CLASSIC GREEN</td>
<td>S0925</td>
</tr>
<tr>
<td><strong>Coal Black</strong></td>
<td>MBCI</td>
<td>FBF43CLBLK</td>
<td>COAL BLACK</td>
<td>S0423</td>
</tr>
<tr>
<td><strong>Cobalt Blue</strong></td>
<td>MBCI</td>
<td>FBF43GBL</td>
<td>GALLERY BLUE</td>
<td>S0545</td>
</tr>
<tr>
<td><strong>Colonial Red</strong></td>
<td>MBCI</td>
<td>FBF43CLRD / FBF44CRD</td>
<td>COLONIAL RED</td>
<td>S0847</td>
</tr>
<tr>
<td><strong>Colony Green</strong></td>
<td>MBCI</td>
<td>FBF43CGR</td>
<td>COLONY GREEN</td>
<td>S1047</td>
</tr>
<tr>
<td><strong>Dark Bronze</strong></td>
<td>METAL SALES / MBCI</td>
<td>FBF43DBZ / FBF44DBZ</td>
<td>DARK BRONZE</td>
<td>S0324</td>
</tr>
<tr>
<td><strong>Desert Sand/Stone</strong></td>
<td>MBCI / DMI</td>
<td>FBF43DS</td>
<td>DESERT SAND</td>
<td>S0109</td>
</tr>
<tr>
<td><strong>Evergreen</strong></td>
<td>DMI</td>
<td>FBF43EVGR</td>
<td>EVERGREEN</td>
<td>S0487</td>
</tr>
<tr>
<td><strong>Fern Green</strong></td>
<td>MBCI</td>
<td>FBF43FGR / FBF44HGR</td>
<td>FERN GREEN HARTFORD / GREEN</td>
<td>S0798</td>
</tr>
<tr>
<td><strong>Harbor Blue</strong></td>
<td>MBCI</td>
<td>FBF43HRBL / FBF44RBL</td>
<td>HARBOR BLUE ROYAL BLUE</td>
<td>S0843</td>
</tr>
<tr>
<td><strong>Hawaiian Blue</strong></td>
<td>MBCI</td>
<td>FBF43HBL</td>
<td>HAWAIIAN BLUE</td>
<td>S0112</td>
</tr>
<tr>
<td><strong>Koko Brown</strong></td>
<td>MBCI</td>
<td>FBF43KBRN / FBF44MBRN</td>
<td>KOKO BROWN MANSARD BROWN</td>
<td>S0110</td>
</tr>
<tr>
<td><strong>Light Stone</strong></td>
<td>MBCI</td>
<td>FBF43LST</td>
<td>LIGHT STONE</td>
<td>S0248</td>
</tr>
<tr>
<td><strong>Matte Black</strong></td>
<td>METAL SALES</td>
<td>FBF44MBLK</td>
<td>MATTE BLACK</td>
<td>S0507</td>
</tr>
<tr>
<td><strong>Medium Bronze</strong></td>
<td>MBCI</td>
<td>FBF43MBZ / FBF44MBZ</td>
<td>MEDIUM BRONZE</td>
<td>S0526</td>
</tr>
<tr>
<td><strong>Silver Metallic</strong></td>
<td>MBCI</td>
<td>FBF43MSL / FBF44MS</td>
<td>METALLIC SILVER</td>
<td>S1161</td>
</tr>
<tr>
<td><strong>Polar White</strong></td>
<td>MBCI</td>
<td>FBF43PWH</td>
<td>POLAR WHITE</td>
<td>S0501</td>
</tr>
<tr>
<td><strong>Rustic Red</strong></td>
<td>MBCI</td>
<td>FBF43RRD</td>
<td>RUSTIC RED</td>
<td>S0890</td>
</tr>
<tr>
<td><strong>Saddle Tan</strong></td>
<td>MBCI</td>
<td>FBF43STN</td>
<td>SAHARA / SADDLE</td>
<td>S0320</td>
</tr>
<tr>
<td><strong>Sandstone</strong></td>
<td>DMI METAL SALES</td>
<td>FBF43SDST / FBF44SST</td>
<td>SANDSTONE</td>
<td>S0330</td>
</tr>
<tr>
<td><strong>Sierra Tan</strong></td>
<td>PAC CLAD METAL SALES</td>
<td>FBF43SITN / FBF44STN</td>
<td>SIERRA TAN</td>
<td>S0629</td>
</tr>
<tr>
<td><strong>Slate Gray</strong></td>
<td>MBCI</td>
<td>FBF43S6Y / FBF44SGY</td>
<td>SLATE GRAY</td>
<td>S0275</td>
</tr>
<tr>
<td><strong>Snow White</strong></td>
<td>MBCI</td>
<td>FBF43SWH / FBF44SDWH</td>
<td>SNOW WHITE SNOW DRIFT WHITE</td>
<td>S0348</td>
</tr>
<tr>
<td><strong>Terra Cotta</strong></td>
<td>DMI</td>
<td>FBF44TC</td>
<td>TERRA COTTA</td>
<td>S1389</td>
</tr>
<tr>
<td><strong>Tundra</strong></td>
<td>MBCI</td>
<td>FBF44DGY</td>
<td>DOVE GRAY</td>
<td>S0902</td>
</tr>
<tr>
<td><strong>Weathered Zinc</strong></td>
<td>PAC CLAD</td>
<td>FBF43WZ</td>
<td>WEATHERED ZINC</td>
<td>S1483</td>
</tr>
<tr>
<td><strong>White</strong></td>
<td>DMI</td>
<td>FBF44WH</td>
<td>WHITE</td>
<td>S0214</td>
</tr>
</tbody>
</table>

Can’t find your color? Contact us! We may have what you need...or we can paint it in-house!

**Note:** Colors swatches do not match the actual rivet due to printing variation. Contact TFC for samples.
**FAB-LOK®**

FAB-LOK® fasteners were designed to maintain panel integrity in high-stress environments such as: high wind areas, expansion and contraction, severe vibration, racking and the repair of oversized holes.

**Sizes**

<table>
<thead>
<tr>
<th>Material</th>
<th>Size</th>
<th>Penetrating Length</th>
<th>Grip Range</th>
<th>Wt. / M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Steel</td>
<td>FAS 10-4</td>
<td>1.373”</td>
<td>.062”-.250”</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>FAS 10-8</td>
<td>1.612”</td>
<td>.250”-.500”</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>FAS 10-12</td>
<td>1.807”</td>
<td>.500”-.750”</td>
<td>28</td>
</tr>
<tr>
<td>H-3 (300 series)</td>
<td>FAC 10-4</td>
<td>1.373”</td>
<td>.062”-.250”</td>
<td>23</td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>FAC 10-8</td>
<td>1.612”</td>
<td>.250”-.500”</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>FAC 10-12</td>
<td>1.807”</td>
<td>.500”-.750”</td>
<td>28</td>
</tr>
</tbody>
</table>

**Technical Information**

Pull-out tests were performed on a Model L Dillon Dynamometer. FAB-LOK® fasteners were installed in single sheet and two sheets of metal and pulled over the tines of the FAB-LOK® to determined holding values.

**Comparison: FAB-LOK® & Sheet Metal SC**

<table>
<thead>
<tr>
<th>Sheet Material</th>
<th>FAB-LOK® Type</th>
<th>FAC</th>
<th>FAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strip test in .032” Aluminum</td>
<td>FAS-10-4</td>
<td>75 in-lb.*</td>
<td>65 in-lb.*</td>
</tr>
<tr>
<td>Strip test in 26 ga. Steel</td>
<td>FAS-10-8</td>
<td>75 in-lb.*</td>
<td>45 in-lb.*</td>
</tr>
<tr>
<td>Strip test in 24 ga. Steel</td>
<td>FAS-10-12</td>
<td>75 in-lb.*</td>
<td>55 in-lb.*</td>
</tr>
</tbody>
</table>

**Fatigue Tests**

Two thicknesses of 26 gauge metal fastened with FAB-LOK® and tested on 5000 lb. capacity machine at 1500 cycles per minute, sustained 1,775,500 cycles when failure of sheets occurred. Fastener did not fail.

FAB-LOK® fastening 1/8” aluminum plate to 3/16” steel of a railroad freight car, held without failure when the car was subjected to jarring vibration by a Hewitt-Robins Car Shaker at 900 cycles for ten minutes.

**Installation**

1. Predrill with a 5/16” diameter drill bit
2. Insert FABLOK into hole. Use the FABLOK holding sleeve with a DEWALT screw-gun (DW268 or DW267)

**Hydrostatic Test**

- **FAB-LOK® Type**
  - FAC - 10-4: 100 psi, 5 days, No leaks

**INFORMATION PROVIDED HERE IS BASED UPON TESTS BELIEVED TO BE RELIABLE. IN AS MUCH AS ELCO FASTENING SYSTEMS HAS NO CONTROL OVER THE EXACT MANNER IN WHICH OTHERS MAY USE THIS INFORMATION, IT DOES NOT GUARANTEE THE RESULTS TO BE OBTAINED NOR DOES THE COMPANY MAKE ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE CONCERNING THE EFFECTS OR RESULTS OF SUCH USE.**
Grommet Seal Fasteners are compression fasteners used in side-lap applications which utilize fiberglass, plastic or composite sheeting.

**Installation**

The grommet is installed by placing it into a pre-drilled 1/4” or 3/8” hole and tightened using a screw gun with a standard 1/4” or 5/16” socket. The machine screw engages the nut insert, forcing the sleeve to expand against the inner wall of the materials. Grommets become an excellent sealant against air, moisture and vibration.

<table>
<thead>
<tr>
<th>Grommet Size</th>
<th>Body Length</th>
<th>Nut Insert</th>
<th>Durometer (sleeve)</th>
<th>Ultimate Tensile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4” x 1”</td>
<td>.948</td>
<td>6-32</td>
<td>70</td>
<td>50 lbs.</td>
</tr>
<tr>
<td>3/8” x 1”</td>
<td>.812</td>
<td>10-32</td>
<td>60</td>
<td>80 lbs.</td>
</tr>
</tbody>
</table>

*Also available in 316 stainless steel.*

<table>
<thead>
<tr>
<th>Machine Screw Size</th>
<th>Hex Size</th>
<th>Material</th>
<th>Bonded Washer</th>
<th>Sleeve</th>
<th>Nut Insert</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-32 x 1”</td>
<td>1/4”</td>
<td>302 HQ</td>
<td>304 SS/EPDM</td>
<td>EPDM</td>
<td>Brass</td>
<td>Brass</td>
</tr>
<tr>
<td>10-32 x 1”</td>
<td>5/16”</td>
<td>302 HQ</td>
<td>304 SS/EPDM</td>
<td>EPDM</td>
<td>Brass</td>
<td>Brass</td>
</tr>
</tbody>
</table>

**Sizes**

<table>
<thead>
<tr>
<th>Sizes</th>
<th>TFC Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>RV6604-6-4W</td>
</tr>
<tr>
<td>B</td>
<td>RV6604-8-6W</td>
</tr>
<tr>
<td>C</td>
<td>RV6603-9-6W</td>
</tr>
<tr>
<td>D</td>
<td>RV6805-9-6W</td>
</tr>
</tbody>
</table>

*Available with washer

More than forty years ago, the first Bulb-Tite® was developed to solve application requirements in the Pre-Engineered Metal Building industry. Since that time the Bulb-Tite® product line has been expanded to meet application requirements in a wide range of industries.

The Bulb-Tite® rivet body folds into three separate legs forming a large blind-side head. This large bearing head evenly distributes the Bulb-Tite® high clamp force in soft, thin or brittle materials while providing high pull through resistance. The Bulb-Tite® wide grip range enables a single Bulb-Tite® to work in a greater variation of thickness. Some versions of the Bulb-Tite® feature a special flush break mandrel that effectively seals the rivet bore and adds greater shear strength.

**Bulb-Tite® Rivets handle your attaching problems with ease.**

The standard Bulb-Tite® rivets are made of aluminum alloy, providing a durable non-rusting fastener that can withstand weather-related corrosion.

**Tools**

Tools designed to install Bulb-Tite® Rivets in metal clad building application.

**Contact TFC for availability!**
**The BRACER® with slip resistant knurls was designed to increase the load capacity of your bracing system by over three times more than a standard hillside washer.**

Our patented slip resistance knurls minimizes slippage of the rod, keeping the bracing tight. It has been tested by an independent laboratory confirming that BRACER® achieves complete loading of the web and rod, eliminating backup plates and welding! This research provides the only certified load data by any supplier of hillside style washers.

**The elliptical Shape of the #1 BRACER® distributes stress into web for better load distribution!**

**WHY BRACER®?**

Patented design provides optimal load transfer and easy installation.
- Patented knurls on the surface minimizes slippage of the rod.
- Eliminates back-up plates and welding.
- Special nipple is designed to engage the web slot deeper, producing higher load capacity and easy installation!
- Made from high strength ductile iron to assure quality performance.
- Certified independent test data confirms load capacities.

**SIZES AND ROD CAPABILITY**

<table>
<thead>
<tr>
<th>#1 BRACER® Oval With Knurls (1/2&quot; - 5/8&quot; Rod)</th>
<th>#2 BRACER® With Knurls (3/4&quot; - 7/8&quot; Rod)</th>
<th>#3 BRACER® (1&quot; - 1-1/4&quot; Rod)</th>
<th>#4 BRACER® (1-3/8&quot; - 1-1/2&quot; Rod)</th>
</tr>
</thead>
</table>

Shown in standard red paint and optional HDG finish.

**MATERIAL PROPERTIES**

**STANDARD MATERIAL (Import & Domestic)**
- Ductile Iron
  - ASTM 536-84 Grade 65-45-12
  - Ultimate Tensile Strength: 65,000 PSI

**FINISH**
- Red Enamel: BRACER #1,2,3
- Gray Enamel: BRACER #4
  - Type: gloss enamel, 85 units minimum at 60°.
  - Thickness: 1.6-2.0 mils
  - Adhesion: ASTM 2794 Excellent. No Peeling or removal
  - Impact Resistance: ASTM D 2794 Good > 10 in. lbs.
  - Abrasion Resistance: ASTM D 4060 Good
  - Corrosion Resistance: Salt Spray: 250 hrs. (<5% red rust)
    - Kesternich: 5 cycles (<10% red rust)

**OPTIONAL FINISH**
- Hot Dip Galvanized Per ASTM 153 Class A

For load data, please refer to page 208.

**Statement of certification by Dr. Ralph Sinno Ph.D. Professor of Civil Engineering Mississippi State University.**

"The #1 BRACER® ductile iron oval hillside washers for 1/2 - 5/8" rods surpass the design capacity of the rods and beam / column sections."

"Procedures and calculations in the literature for the design of x-bracing anchorage can be used with confidence when specifying and selecting ductile iron oval BRACER® hillside washers."

"The oval shape is better than rectangular mainly because of two reasons: The base area is almost the same and the oval shape eliminated stress concentrations at the 90-degree corners and reduces the cantilever distance (from the corner of the base to the center of the rod). In addition, your oval shape is properly stiffened on it's back. This latest oval shape is a winner with STRESS-LOK!"

**MADE IN USA AVAILABLE**

**BRACER® Base Dimensions**

<table>
<thead>
<tr>
<th>BRACER®</th>
<th>Rod Description</th>
<th>Base Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 (Oval)</td>
<td>1/2&quot; &amp; 5/8&quot;</td>
<td>4.000&quot; x 3.000&quot;</td>
</tr>
<tr>
<td>#2</td>
<td>3/4&quot; &amp; 7/8&quot;</td>
<td>4.000&quot; x 3.000&quot;</td>
</tr>
<tr>
<td>#3</td>
<td>1&quot; &amp; 1-1/4&quot;</td>
<td>4.000&quot; x 3.000&quot;</td>
</tr>
<tr>
<td>#4</td>
<td>1-3/8&quot; &amp; 1-1/2&quot;</td>
<td>4.250&quot; x 3.000&quot;</td>
</tr>
</tbody>
</table>

**SLOT SIZES AND ROD ANGLES**

**Slot Requirements - Minimum**

Slots in the web must be sized to allow a rod angle of up to 52° and to allow the tab on the bottom of the BRACER® to engage the web.

"Static load tests were conducted using the these dimensions.

- 1/2" Rod (36 BRACER®)
- 5/8" Rod (42 BRACER®)
- 3/4" Rod (24 BRACER®)
- 7/8" Rod (24 BRACER®)
- 1" Rod (42 BRACER®)
- 1-1/4" Rod (36 BRACER®)
- 1-3/8" Rod (42 BRACER®)
- 1-1/2" Rod (42 BRACER®)

**For load data, please refer to page 208.**

**FOR LOAD DATA, PLEASE REFER TO PAGE 208.**
CONCRETE ANCHORS
ATTACH TO CONCRETE, BRICK, OR BLOCK

THREADED SCREWS
Most popular for a variety of applications.
Carbon Steel or Stainless Steel

Lengths: Up to 6"

HAMMER-IN ANCHORS
ZAMAC or SPIKES
Zinc Alloy, Carbon Steel or Stainless Steel

Diameters
ZAMAC: 1/4"
SPIKES: 1/4", 3/8", 1/2"
Lengths: Up to 14"

EXPANSION ANCHORS
Sleeve, Wedge, or Drop-in
Carbon Steel or Stainless Steel

Lengths: Up to 12"

CHEMICAL / EPOXY ANCHORS
RED HEAD EPCON Brand
Use in a variety of applications

PINS, LOADS, TOOLS
RAMSET® Brand pins and loads
Variety of powder actuated and gas charged pins, loads and tools

POWDER AND GAS CHARGED CONCRETE PINS AND TOOLS
ZAMAC™
Drive Pin Anchor

The TFC ZAMAC™ is a tamper-proof nail drive anchor which has a body formed from Zamac alloy. Nails are available in carbon or stainless steel. The anchor can be used in concrete, block, brick or stone. This anchor is not recommended for applications overhead.

Base Material: Concrete, Block, Brick, Stone
Size Range: 3/16" x 7/8" to 1/4" x 2"
Anchor Material: Zamac Alloy with Carbon or Stainless Steel Drive Pin

Performance Data
The following ultimate load capacities are based on tests conducted according to ASTM Standard E 488.

Ultimate Load Capacities - C-90 Hollow Block and Red Solid Block

<table>
<thead>
<tr>
<th>Anchor Size</th>
<th>Embed. Depth</th>
<th>2,000 PSI Concrete Tension (lbs)</th>
<th>Shear (lbs.)</th>
<th>4,000 PSI Concrete Tension (lbs)</th>
<th>Shear (lbs.)</th>
<th>6,000 PSI Concrete Tension (lbs)</th>
<th>Shear (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/16&quot;</td>
<td>3/4&quot;</td>
<td>270</td>
<td>860</td>
<td>460</td>
<td>920</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>5/8&quot;</td>
<td>360</td>
<td>1040</td>
<td>570</td>
<td>1250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>3/4&quot;</td>
<td>480</td>
<td>1160</td>
<td>790</td>
<td>1400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>1&quot;</td>
<td>590</td>
<td>1320</td>
<td>820</td>
<td>1400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>1 3/8&quot;</td>
<td>800</td>
<td>1320</td>
<td>950</td>
<td>1400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>1 1/2&quot;</td>
<td>965</td>
<td>1320</td>
<td>1015</td>
<td>1400</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mushroom Head Zamac Nailin® Carbon Steel Nail

<table>
<thead>
<tr>
<th>Size</th>
<th>Drill Dia.</th>
<th>Std. Box</th>
<th>Std. Ctn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot; x 3/4&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>1/4&quot; x 1&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>1/4&quot; x 1-1/4&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>1/4&quot; x 1-1/2&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>1/4&quot; x 2&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
</tbody>
</table>

Flat Head Zamac Nailin® Carbon Steel Nail

<table>
<thead>
<tr>
<th>Size</th>
<th>Drill Dia.</th>
<th>Std. Box</th>
<th>Std. Ctn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot; x 1-1/2&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>1/4&quot; x 2&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
</tbody>
</table>

Mushroom Head Zamac Nailin® Type 304 Stainless Steel Nail

<table>
<thead>
<tr>
<th>Size</th>
<th>Drill Dia.</th>
<th>Std. Box</th>
<th>Std. Ctn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot; x 1&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>1/4&quot; x 1-1/4&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>1/4&quot; x 1-1/2&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>1/4&quot; x 2&quot;</td>
<td>1/4&quot;</td>
<td>100</td>
<td>500</td>
</tr>
</tbody>
</table>
Trubolt® Wedge Anchors
Dependable, Heavy-Duty, Inspectable, Wedge Type Expansion Anchor

Technical Data

**Trubolt Wedge Anchors Performance Table**
Ultimate Tension and Shear Values (Lbs/kN) In Concrete*

<table>
<thead>
<tr>
<th>Anchor Dia.</th>
<th>Installation Torque</th>
<th>Embedment Depth</th>
<th>Anchor Type</th>
<th>Tc = 2000 PSI (13.8 MPa)</th>
<th>Tc = 4000 PSI (27.6 MPa)</th>
<th>Tc = 6000 PSI (41.4 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In (mm)</td>
<td>Ft. lbs. (Nm)</td>
<td>In (mm)</td>
<td></td>
<td>Tension Lbs. (kN)</td>
<td>Shear Lbs. (kN)</td>
<td>Tension Lbs. (kN)</td>
</tr>
<tr>
<td>1/4 (6.4)</td>
<td>8 (10.8)</td>
<td>1-1/8 (28.6)</td>
<td>Carbon Steel With Zinc Plating or Carbon Steel With Hot-Dipped Galvanizing or Type 304 Stainless Steel or Type 316 Stainless Steel</td>
<td>1,180 (5.2)</td>
<td>2,200 (10.1)</td>
<td>1,180 (5.2)</td>
</tr>
<tr>
<td>5/8 (9.5)</td>
<td>25 (33.9)</td>
<td>1-1/2 (38.1)</td>
<td>Carbon Steel With Zinc Plating or Carbon Steel With Hot-Dipped Galvanizing or Type 304 Stainless Steel or Type 316 Stainless Steel</td>
<td>1,680 (7.5)</td>
<td>3,480 (15.5)</td>
<td>4,800 (21.4)</td>
</tr>
<tr>
<td>3/4 (19.1)</td>
<td>175 (237.3)</td>
<td>2-3/4 (49.9)</td>
<td>Type 304 Stainless Steel or Type 316 Stainless Steel</td>
<td>7,120 (31.7)</td>
<td>10,980 (48.8)</td>
<td>10,980 (48.8)</td>
</tr>
</tbody>
</table>

* Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

---

**Trubolt Wedge Anchors Performance Table**
Ultimate Tension and Shear Values (Lbs/kN) In Lightweight Concrete*

<table>
<thead>
<tr>
<th>Anchor Dia.</th>
<th>Installation Torque</th>
<th>Embedment Depth</th>
<th>Anchor Type</th>
<th>Lightweight Concrete Fc = 3000 PSI (20.7 MPa)</th>
<th>Lower Flute Of Steel Deck With Lightweight Concrete Fill Fc = 3000 PSI (20.7 MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In (mm)</td>
<td>Ft. lbs. (Nm)</td>
<td>In (mm)</td>
<td></td>
<td>Tension Lbs. (kN)</td>
<td>Shear Lbs. (kN)</td>
</tr>
<tr>
<td>3/8 (9.5)</td>
<td>25 (33.9)</td>
<td>1-1/2 (38.1)</td>
<td>Carbon Steel With Zinc Plating or Carbon Steel With Hot-Dipped Galvanizing or Type 304 Stainless Steel or Type 316 Stainless Steel</td>
<td>2,120 (9.4)</td>
<td>3,720 (16.5)</td>
</tr>
<tr>
<td>1/2 (12.7)</td>
<td>55 (74.6)</td>
<td>2-1/4 (57.2)</td>
<td>Carbon Steel With Zinc Plating or Carbon Steel With Hot-Dipped Galvanizing or Type 316 Stainless Steel</td>
<td>3,600 (16.0)</td>
<td>7,040 (31.3)</td>
</tr>
<tr>
<td>5/8 (15.9)</td>
<td>90 (122.0)</td>
<td>3-7/8 (99.3)</td>
<td>Type 304 Stainless Steel or Type 316 Stainless Steel</td>
<td>6,000 (26.7)</td>
<td>9,240 (41.1)</td>
</tr>
<tr>
<td>3/4 (19.1)</td>
<td>175 (237.3)</td>
<td>3-1/4 (82.6)</td>
<td>Type 316 Stainless Steel</td>
<td>7,160 (31.9)</td>
<td>12,600 (56.0)</td>
</tr>
</tbody>
</table>

* Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

---

TRIANGLE FASTENER CORPORATION
Visit our website for the most up-to-date product and technical information!
Flexible, weather resistant EPDM rubber or silicone.
- Aluminum base is flexible to conform to any panel profile
- Grey EPDM is ozone and ultraviolet resistant

Fastening Recommendation
Corrosion resistant fasteners should be used around the base one every 1-1/2 inches as per the United Plumbing Code (UPC) recommendations. Refer to size chart for the quantity to use.

**Fastener**
1/4-14 x 1-1/8” DP1 BLAZER Stainless Cap Head with VRT Technology

Sealant Recommendation
Ultra 1000® or APS 500 sealant should be used under the base to assure a proper seal. If you prefer, additional sealant can be applied around base after installation.

---

### PIPE-MASTER PIPE FLASHING

#### Standard Applications

<table>
<thead>
<tr>
<th>Pipe Size Outside Diameter</th>
<th>Flash Number</th>
<th>Flashing Details</th>
<th>TFC Part Number</th>
<th>Number of Fasteners</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4” - 2 1/2” EPDM</td>
<td>#1</td>
<td>Top Opening Diameter: Closed Overall Height: 2.77” Base Diameter: 4.75”</td>
<td>001DEKR</td>
<td>10</td>
</tr>
<tr>
<td>1 3/4” - 3” EPDM</td>
<td>#2</td>
<td>Top Opening Diameter: 1.44” Overall Height: 3.53” Base Diameter: 4.21”</td>
<td>002DEKR</td>
<td>13</td>
</tr>
<tr>
<td>1/4” - 5” EPDM *Silicone</td>
<td>#3</td>
<td>Top Opening Diameter: Closed Overall Height: 3.64” Base Diameter: 7.74”</td>
<td>003DEKR 003DEKS</td>
<td>16 16</td>
</tr>
<tr>
<td>3” - 6 1/4” EPDM</td>
<td>#4</td>
<td>Top Opening Diameter: 2.38” Overall Height: 5.05” Base Diameter: 9.26”</td>
<td>004DEKR</td>
<td>19</td>
</tr>
<tr>
<td>4 1/4” - 7 3/4” EPDM *Silicone</td>
<td>#5</td>
<td>Top Opening Diameter: 3.50” Overall Height: 4.43” Base Diameter: 10.75”</td>
<td>005DEKR 005DEKS</td>
<td>22 22</td>
</tr>
<tr>
<td>5” - 9” EPDM</td>
<td>#6</td>
<td>Top Opening Diameter: 4.25” Overall Height: 5.60” Base Diameter: 12.50”</td>
<td>006DEKR</td>
<td>26</td>
</tr>
<tr>
<td>6” - 11” EPDM</td>
<td>#7</td>
<td>Top Opening Diameter: 4.90” Overall Height: 5.84” Base Diameter: 14.60”</td>
<td>007DEKR</td>
<td>30</td>
</tr>
<tr>
<td>7” - 13” EPDM *Silicone</td>
<td>#8</td>
<td>Top Opening Diameter: 5.80” Overall Height: 7.53” Base Diameter: 16.5”</td>
<td>008DEKR 008DEKS</td>
<td>35 35</td>
</tr>
<tr>
<td>9” - 19” EPDM *Silicone</td>
<td>#9</td>
<td>Top Opening Diameter: 7.45” Overall Height: 8.09” Base Diameter: 25.25”</td>
<td>009DEKR 009DEKS</td>
<td>54 54</td>
</tr>
<tr>
<td>15” - 24” EPDM *Silicone</td>
<td>#10</td>
<td>Pipe Size: 15”-24” Diameter (Square Base only)</td>
<td>010DEKR0Q 010DEKS</td>
<td>148</td>
</tr>
</tbody>
</table>

Note: #1 and #3 are closed top. When flashing a steep pitch roof greater than 20° or a profile with a rib height of 1-1/2” or more, use the next larger flashing for increased flexibility.

---

### PIPE-MASTER™ RETRO

Use in retrofit applications
Gray or Black EPDM and Silicone

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>US PART NUM</th>
<th>FLASHING DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>3/4”- 2-3/4”</td>
<td>Black RF 101 BS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gray RF 101 GS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Silicone RF 102 RD Pipe size 3/4”- 2-3/4” Base dimensions 6 - 3/10”</td>
</tr>
<tr>
<td>#2</td>
<td>2”- 7-1/4”</td>
<td>Black RF 201 BS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gray RF 201 GS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Silicone RF 202 RD Pipe size 2” - 7 -1/4” Base dimensions 10 -3/4”</td>
</tr>
<tr>
<td>#3</td>
<td>3-1/4”-10”</td>
<td>Black RF 301 BS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gray RF 301 GS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Silicone RF 302 RD Pipe size 3 -1/4” - 10” Base dimensions 14 -1/2”</td>
</tr>
</tbody>
</table>

---

### Material Specifications

<table>
<thead>
<tr>
<th>EPDM</th>
<th>Silicone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Ozone Resistance</td>
<td>70 hours @ 500 ppm</td>
</tr>
<tr>
<td>High Temperature Resistance</td>
<td></td>
</tr>
<tr>
<td>Intermittent</td>
<td>+135°C (275°F)</td>
</tr>
<tr>
<td>Continuous</td>
<td>+100°C (212°F)</td>
</tr>
<tr>
<td>Low Temperature Resistance</td>
<td></td>
</tr>
<tr>
<td>-55°C (65°F)</td>
<td>-74°C (-100°F)</td>
</tr>
<tr>
<td>Tensile Strength (min)</td>
<td>10 MPa (1450 psi)</td>
</tr>
<tr>
<td>Compression Set (max)</td>
<td>25%</td>
</tr>
</tbody>
</table>

---

**Available COLORS**

Available in 11 colors to match your roof!

**Sizes**
- #3 - Pipe diameter 1/4” to 4”
- #5 - Pipe diameter 4 1/4” to 7 3/4”

**Material:** EPDM

---

**Pipe Size and Flashing Details**

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>US Part Number</th>
<th>Flashing Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2”- 7-1/4”</td>
<td>Black RF 201 BS</td>
<td>Opening diameter 2” Pipe size 2” - 7 -1/4” Base dimensions 10 -3/4”</td>
</tr>
<tr>
<td>3-1/4”-10”</td>
<td>Black RF 301 BS</td>
<td>Opening diameter 3 -1/4” Pipe size 3 -1/4” - 10” Base dimensions 14 -1/2”</td>
</tr>
</tbody>
</table>
35 Year Master Flash®
The only ICC listed flashing for the Metal Building Industry with a 35 Year Warranty

ISO Quality, Price & Availability / Compound / 11 sizes

<table>
<thead>
<tr>
<th>Specification</th>
<th>EPDM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Ozone Resistance Tested to...</td>
<td>70 Hour @ 500 ppmm</td>
</tr>
</tbody>
</table>
| High Temperature Resistance Tested to... | Intermittent: +135° C (+275° F)  
Continuous: +100° C (+212° F)  
Low Temperature Resistance Tested to... | -55° C (-67° F)  
Compression Set Minimum... | 25% |

*Complete specification data and testing methods are available upon request.

- **Made of EPDM**, this flashing is designed for maximum resistance to all weather conditions.
- **Modification Made Simple**  
  Pipe diameters can be seen clearly for proper pipe fitting.
  - Designed for 1/8” to 28-1/2” (1.6 to 724mm) diameter pipes.
- **Adaptable Base**  
  The base is designed to fit virtually all panel configurations and roof pitches regardless of pipe location. Flexibility absorbs vibration and pipe movement.

---

**35 Year Master Flash®**

**Compliance with the following codes:**

- **2006 International Building Code® (IBC)**  
  - **2006 International Residential Code® (IRC)**

**ICC-ES** is the United States’ leading source of technical information on building products and building technology for code compliance. ICC-ES performs technical evaluations of building products, components, methods and materials.

The evaluation process culminates with the issuance of reports on compliance with the major U.S. building codes, which are available at www.icc-es.org.

**ICC-ES** is a subsidiary of the International Code Council, a membership association dedicated to building safety and fire prevention that develops the codes used to construct residential and commercial buildings, including homes and schools. Most U.S. cities, counties and states that adopt codes choose the International Codes developed by the International Code Council.

**Master Flash®** used to be a new engineering standard for profiled roofing by the International Association of Plumbing and Mechanical Officials (for the Uniform Plumbing Code) and remains the first product listed. These products are also listed for use with Type B vents.

---

*A Registered Trademark of Aztech Washer Company*
LOW PROFILE FLASHING

Designed for Sidewall or Low Profile Applications

Applications

Seals on a variety of substrates

- Wall and Roof Penetrations
- Drywall
- Stucco Wall
- Corrugated Metal Siding

Sizes

<table>
<thead>
<tr>
<th>SIZE PIPE RANGE</th>
<th>COMPOUND</th>
<th>PART#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Profile</td>
<td>Black EPDM</td>
<td>LP101BA</td>
</tr>
<tr>
<td></td>
<td>LT Grey EPDM</td>
<td>LP101GA</td>
</tr>
<tr>
<td></td>
<td>DRK Grey EPDM</td>
<td>LP101NG</td>
</tr>
<tr>
<td></td>
<td>FDA White Silicone</td>
<td>LP102WT</td>
</tr>
</tbody>
</table>

FLASHER DETAILS

A- Top opening diameter
B- Overall Height
C- Base dimensions

Standard Materials

- EPDM Black
- EPDM Light Grey
- EPDM Dark Grey
- Silicone / White High Temp FDA Approved

Colors Available

- Black
- Bright Red
- Brown
- Copper
- Dark Blue
- Dark Green
- Dark Grey
- Light Blue
- Light Green
- Light Grey
- Tan
- Terra Cotta
- White

*Call TFC for your specific needs.

Material Properties | EPDM and Silicone

<table>
<thead>
<tr>
<th>ADVANCED OZONE RESISTANCE tested to...</th>
<th>EPDM 70 hour @ 500 pphm</th>
<th>FDA WHITE SILICONE 70 hour @ 500 pphm</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH TEMPERATURE RESISTANCE Tested to</td>
<td>+138°C (+275°F)</td>
<td>+260°C (+500°F)</td>
</tr>
<tr>
<td>Intermittent</td>
<td>+100°C (+212°F)</td>
<td>+225°C (+437°F)</td>
</tr>
<tr>
<td>Continuous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW TEMPERATURE RESISTANCE tested to...</td>
<td>-55°C (-67°F)</td>
<td>-74°C (-101°F)</td>
</tr>
<tr>
<td>COMPRESSION SET Maximum...</td>
<td>25%</td>
<td>50%</td>
</tr>
</tbody>
</table>

EPDM and Silicone provide exceptional weathering protection even in harsh environments.
TFC PRODUCT QUICK FACTS

**APS 500™**
**Advanced Polymer Sealant**
- Weathering ability of silicone combined with paintability of polyurethane.
- Sticks to a variety of materials including: painted metal, Kynar & siliconized polyester.
- Available in smooth or textured finish.
- Supplied in plastic tubes.

**ULTRA 1000™**
**Premium Silicone Sealant**
Sticks to a variety of materials including: painted metal & Kynar & siliconized polyester.
- Use when long life performance is required.
- Supplied in plastic tubes.

**TFC BUTYL™**
**Non-Skinning Butyl**
- Use in panel laps and joints for superior adhesion and long life flexibility.
- Available in gray.

**Firestop Sealant**
- Seal around various penetrations to meet code requirements.
- Firestop fire prevention systems are designed to contain a fire to the smallest area without a secondary system.

APC 500™ | Advanced Polymer Sealant

ULTRA 1000™ | Premium Silicone Sealant

TFC BUTYL™ | Non-skinning

Elastomeric Firestop Sealant | ES100 & LCI300

12 Volt Caulk Gun with 10 oz. Carriage

12 Volt Caulk Gun with 20 Oz. Sausage Carriage

COX Model 21001 (Wexford III)
Concerned about sealant failure caused by joint movement? Specify ULTRA1000™ Class 50 Silicone Sealant. It is formulated to withstand 2x more joint movement than ordinary Class 25 sealants.

**Formulated for Superior Performance**
- Silicone sealant provides exceptional weatherability
- Class 50 for superior movement capability
- Adheres to Kynar® and Galvalume® coated metals
- VOC compliant
- Mildew resistant
- "Guns" down to 0°F
- Service temperature -40°F to +400°F
- Tack free in 10 minutes
- 100% Silicone

Class 50 sealant provides 50% extension and 50% compression of the width of the joint.

**Bonds To**
- Steel
- Aluminum
- Concrete
- Brick
- PVC
- Glass
- Concrete

**Applications**
- Flashing
- Trim
- Metal Sheeting
- Downspouts
- Gutters
- Roof Tile
- Flashings
- Adheres to Copper

**Packaging**

*Never misplace another nozzle! Tubes are now packaged with nozzle!*

We've redesigned the packaging so that the plastic screw-on nozzles come pre-assembled on the tubes.

**20 Colors! Call for availability.** *Denotes in stock colors*

- *Translucent* TR99
- *White* WH100
- *Antique White* WH102
- *Off White* WH104
- *Black* BLK110
- *Brown* BR121
- *Dark Bronze* BZ131
- *Red* RD141
- Regal Red RD143
- *Almond* BG151
- *Sandstone* BG152
- *Sierra Tan* BG154
- *Hartford Green* GR160
- *Green* GR164
- Hemlock Green GR161
- *Regal Blue* BL181
- *Electric Blue* BL182
- *Light Gray* GY190
- *Slate Gray* GY192
- *Charcoal Gray* GY195
- Gutter Gray GY196

**NOTE:** Colors listed do not represent actual colors. Contact your local distributor for the ULTRA1000® color selector swatches for accurate color match.
APS 500® is formulated to provide superior adhesion, excellent resistance to weathering and is compatible for use with a variety of substrates. Supplied in plastic tubes with screw-on nozzles. Available in smooth or textured finish.

**Over 24 Colors Available!**

*Denotes standard colors.

Physical Property | Test Method | Typical Value |
--- | --- | --- |
Tensile Strength | ASTM D412 | 205 psi |
Elongation | ASTM D412 | 650% |
Shore Hardness | ASTM D 2240 | 25 & 55 |
Service Temperature | -75°F to 300°F |
Join Sealant Designation | ASTM C920 | Type S, Grade NS, Class 50, use T, NT, G, M |
Adhesion and Cohesion | ASTM C719 | Pass on glass, Aluminum and concrete for ± 50% movement |

Adhesion-in-Peel, 2 inches/minute @ 25°, N (lbf) | ASTM C794 | Aluminum 37 pli, Glass 35 pli, Concrete 34 pli |

Staining | ASTM D2203 | None |
Lap Shear | ASTM 961-06 | 190 psi |
Density | Industrial Method | 1678 g/L |
VOC | EPA Method 18 | 9 g/L (0.14) |
HAP | EPA Method 311 | 0.08 g/L (0.005% by weight) |
Low Temp. Flexibility | ASTM C 711 | Pass -10° F. 1 inch mandrel |
High Temp. Flexibility | Industrial Method | Up to 425° F for short periods |
Cure Rate | Industrial Method | 1/4 inch bead per 24 hrs. |
Skin Time Cure Time | Industrial Method | 40°F at 40% humidity 40 minute 2-3 days, 75°F at 50% humidity 10 minute < 24 hours, 95°F at 95% humidity 5 minute |

Bonds To

Steel | Brick | Aluminum | PVC | Concrete | Glass | Stucco | Wood |

*The values outlines reflect testing that was conducted on laboratory prepared specimens, actual results may vary. The information provided in the above table is not intended for use in preparing specifications. Please consult manufacturer for additional information.

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TRIANGLE FASTENER CORPORATION

Visit our website for the most up-to-date product and technical information!

800.486.1832 | www.trianglefastener.com

limited Warranty: Satisfaction guaranteed when handled and applied according to label.
TFC BUTYL™ is a single component, non-skinning butyl-based solvent release sealant. It is designed to deliver excellent adhesion to metal panels while remaining permanently pliable.

The product is the ideal choice in applications where the combination of moisture and cold temperatures would cause the break-down of other sealants.

**PERFORMANCE**
- Non-Skinning
- Non-Staining
- Permanently Pliable
- Moisture Resistant
- Non-Paintable

**APPLICATIONS**
- Metal Roofing
- Insulated Metal Panels
- Use on Painted Metal, Kynar®, Galvalume® & Galvanized Steel, Aluminum

**SPECIFICATIONS**: Meets or exceeds AAMA 809.2

**COLORS**:  
- Gray (Item Number TFCNSBGY)  
- White (Item Number TFCNSBWH)

**SURFACE PREPARATIONS**: For best results, the substrate should be clean, dry, frost free, sound and free of any oils, greases or incompatible sealers, paints or coatings that may interfere with adhesion. Do not apply if surface is contaminated. It is recommended to test all substrates prior to applications.

**INSTALLATION**: Cut nozzle to desired bead size. Apply with caulking gun, forcing sealant onto the substrate, then tool if needed. Clean excess material with mineral spirits or similar solvent.

**STORAGE**: Material is to be stored under controlled dry environment (below 75° F). Use within 12 months from date of manufacture.

**PACKAGING**: 10.3 fl. oz. per tube | 24 tubes per carton

**PROPERTIES**
- Total Solids (ASTM C 681) .............85%
- Volume Shrinkage (ASTM D 2453) .....<20%
- Wt/U.S. Gallon (ASTM D 1475) ....10.5 +/- 0.40lbs
- Staining (ASTM D 2202) ..............None
- Blistering or Bleeding ..................None
- UV Resistance ..........................Excellent
- Sag ......................................0.15” Max Full Button
- Service Temperature ............-40deg F to 250deg F
- Application Temp Range ..........40deg F to 95deg F
- Extrudability (ASTM D 2452) ......40 seconds max
- Flexibility (ASTM C 711) ..............No loss of adhesion at -60degF
- Fungus/Mildew ......................Resistant to growth
- Heat Aging ..........................No loss of surface tack or adhesion
- Weatherability (ASTM G 154) ......No cracking, bleeding, or loss of rubbery characteristics

**Chemical Resistance** .................Excellent to water, ozone, water vapor, alcohols. Fair to weak for acids and bases. Poor to organic solvents.

**Static Water Pressure Head Test** ..........Passes 6” of static water pressure head, no water leakage

**Air Leakage (ASTM E 1680)** ..........Infiltration @1.57psf 0.0510 cfm/sq ft and 0.0680 cfm/sq ft & Infiltration @ 6.24 psf 0.1024 cfm/sq ft and 0.1365 cfm/ft

**Water Penetration (ASTM E 1646)** ....Passed, no leakage

**Wet Flammability (ASTM D 56)** ......110deg F flash point

**Vehicle Bleedout (ASTM C 772)** ....No visible exudation of vehicle from sealant after three weeks at 158deg F on painted or unpainted metal surface.

**Aged Tack (ASTM D 2377)** ..........Permanently Tacky

**Hardness (Shore OO Durometer)** .....30 - 40
BUTYL TAPE-SEAL™ was designed specifically for the metal building industry to provide optimal sealing in the harshest environments.

It adheres to most clean, dry metal surfaces and does not harden, bleed or stain. With pressure, it fills minor irregularities in the surface and seals the joints providing an effective barrier against water, moisture, dust, and dirt.

BUTYL TAPE-SEAL™ is an excellent choice for use around windows, doors, roof vents, stacks, access doors, and other penetration points.

---

**SIZES**

Stocked sizes - Others available upon request

<table>
<thead>
<tr>
<th>Size (T x W x L)</th>
<th>TFC P.N.</th>
<th>Rolls/ Ctns</th>
<th>Ctns/ Pallet</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/32&quot; x 3/8&quot; x 45'</td>
<td>0937BCT</td>
<td>48</td>
<td>30</td>
</tr>
<tr>
<td>3/32&quot; x 1/2&quot; x 50'</td>
<td>0950BCT</td>
<td>22</td>
<td>50</td>
</tr>
<tr>
<td>3/32&quot; x 1&quot; x 45'</td>
<td>0910BCT</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>1/8&quot; x 1/2&quot; x 50'</td>
<td>1250BCT50</td>
<td>13</td>
<td>48</td>
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<tr>
<td>1/8&quot; x 1&quot; x 50'</td>
<td>1210BCT50</td>
<td>8</td>
<td>48</td>
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<tr>
<td>3/16&quot; x 1/4&quot; x 40'</td>
<td>1825BCT</td>
<td>20</td>
<td>48</td>
</tr>
<tr>
<td>3/16&quot; x 7/8&quot; x 40'</td>
<td>1887BCT</td>
<td>10</td>
<td>48</td>
</tr>
<tr>
<td>3/16&quot; x 7/8&quot; x 25'</td>
<td>1887BCT25TRI</td>
<td>8</td>
<td>64</td>
</tr>
<tr>
<td>3/16&quot; x 2-1/2&quot; x 20'</td>
<td>TC826W</td>
<td>6</td>
<td>60</td>
</tr>
</tbody>
</table>

*DB denotes double bead
*TB denotes triple bead

---

**PACKAGING**

BUTYL TAPE-SEAL™ is extruded butyl material with a silicone backed release paper that is rolled and cut to specific lengths.

Our master cartons are constructed of 200 pound test material and the rolls are separated by silicone divider pads and protected by upright stacking cores.

---

**CLEAN UP**

Mineral spirits will readily facilitate the cleaning of tools and equipment.

---

**Easy to install!**

---

**Adheres to:**
- Painted Metal
- Galvalume®
- Kynar®
- Aluminized Metal
Specially formulated closed-cell polyethylene foam. The unique fusing process results in a plywood-like lamination that offers exceptional strength and uniform compressibility. Many of the closure shapes shown here are available with a dovetail interlocking joint that speeds up the installation and eliminates gapping often found with flat end-to-end joints.

Beveled Closure

With today’s emphasis on the architectural aesthetics of metal roofing, unusual cut back angles and valleys result in challenging closure applications. Standard 90 degree closure will not provide an acceptable fit and seal. We can custom produce closure in bevel configurations which take into account the cut back angles and roof slope of each individual application. These parts are custom cut to your panel and specific order needs.

Adhesive

Adhesive is a bead of glue that can be applied to either side of your closure configuration. It allows for secured placement of the closure strip prior to installation of the panel.

Typical Outside Closure

Typical Inside Closure

### Chemical Resistance

<table>
<thead>
<tr>
<th></th>
<th>Concentration</th>
<th>Dimensional Change* (% Volume)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>30%</td>
<td>+0.4</td>
</tr>
<tr>
<td>Nitric Acid</td>
<td>10%</td>
<td>-0.7</td>
</tr>
<tr>
<td>Hydrochloric Acid</td>
<td>10%</td>
<td>+5.4</td>
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<tr>
<td>Carbolic Acid</td>
<td>5%</td>
<td>+5.0</td>
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<tr>
<td>Acetic Acid</td>
<td>5%</td>
<td>-0.6</td>
</tr>
<tr>
<td>Oleic Acid</td>
<td>--</td>
<td>-0.7</td>
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<tr>
<td>Citric Acid</td>
<td>10%</td>
<td>+6.5</td>
</tr>
<tr>
<td>Ethyl Alcohol</td>
<td>95%</td>
<td>+0.4</td>
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<tr>
<td>Carbon Tetrachloride</td>
<td>--</td>
<td>+18.0</td>
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<tr>
<td>Heptane</td>
<td>--</td>
<td>18.5</td>
</tr>
<tr>
<td>Ethylene Diamine</td>
<td>--</td>
<td>+3.0</td>
</tr>
<tr>
<td>Toluene</td>
<td>--</td>
<td>+15.0</td>
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<tr>
<td>Distilled Water</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>Hydrogen Peroxide</td>
<td>3%</td>
<td>+1.7</td>
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<tr>
<td>Caustic Soda</td>
<td>10%</td>
<td>+0.9</td>
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<tr>
<td>Ammonia</td>
<td>10%</td>
<td>-5.8</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>2%</td>
<td>+7.4</td>
</tr>
<tr>
<td>Saline</td>
<td>10%</td>
<td>+4.0</td>
</tr>
</tbody>
</table>

* Immersion for 7 days at 68˚F.

### Performance

<table>
<thead>
<tr>
<th>Units</th>
<th>Properties*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk Density</td>
<td>pcf</td>
</tr>
<tr>
<td>Average Cell Size</td>
<td>mils</td>
</tr>
<tr>
<td>Tensile Strength (ASTM D-1564)</td>
<td>psi</td>
</tr>
<tr>
<td>Elongation, 20˚ C (ASTM D-624)</td>
<td>% to break</td>
</tr>
<tr>
<td>Tear Resistance, 20˚ C (ASTM D-1564)</td>
<td>lb./in.</td>
</tr>
<tr>
<td>Compression Set, 24 hrs. 50% Compression, 24 hr. recovery (ASTM D-1056)</td>
<td>% of original thickness</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>°F</td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>BTU-in.hr.-Ft²-°F</td>
</tr>
<tr>
<td>Water Absorption (ASTM D-1667)</td>
<td>lbs./sq. ft. cut surface</td>
</tr>
<tr>
<td>Buoyancy</td>
<td>lbs./cu. ft.</td>
</tr>
<tr>
<td>Compression Strength</td>
<td>psi</td>
</tr>
<tr>
<td>Shore Hardness (ASTM D-2240)</td>
<td>AA Scale</td>
</tr>
</tbody>
</table>

* M= Machine Direction
* C= Cross-Machine Direction
* Ozone & UV Test Results Available On Request.
Elk River Roofer's Kits
Roofer's Kits are available in several combinations with each kit containing specific items. The combinations listed below are our most popular kits.

• Roofer's Kits: CP+™ 48103
• 1 D-ring Harness (S-XL)
• 50’x 5/8” CP+™ Lifeline
• 13102 snaphook/thimble
• 5/8” x 3’ trailing rope grab with attached nylon web lanyard and Zsnaphook 3.6M Gate
• Reusable Roof Anchor with fasteners
• Bucket

• CP+™ 48103 one D-ring Harness
• 30’ x 5/8” CP+™ Lifeline with attached rope grab and attached ZORBER® web lanyard with Zsnaphook 3.6M Gate
• Reusable Roof Anchor with fasteners
• Bucket
• One Size Fits Most

Guardian Fall Protection
Bucket of Safety | Roofer Kit

<table>
<thead>
<tr>
<th>Part #</th>
<th>Product Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>00800</td>
<td>HUV (01700) 5 Snappy Anchors (00710) &amp; VLA-25’ (01310)</td>
<td>13.20</td>
</tr>
<tr>
<td>00803</td>
<td>HUV (01700) 1 SP-Anchor (00460) &amp; VLA-25’ (01310)</td>
<td>13.50</td>
</tr>
<tr>
<td>00805</td>
<td>HUV (01700) 1 Temper Reusable (00455) &amp; VLA-25’ (01310)</td>
<td>12.60</td>
</tr>
<tr>
<td>00810</td>
<td>HUV (01700) 5 Snappy Anchors (00710) &amp; VLA-50’ (01320)</td>
<td>15.30</td>
</tr>
<tr>
<td>00813</td>
<td>HUV (01700) 1 SP-Anchor (00460) &amp; VLA-50’ (01320)</td>
<td>15.15</td>
</tr>
<tr>
<td>00815</td>
<td>HUV (01700) 1 Temper Reusable (00455) &amp; VLA-50’ (01320)</td>
<td>17.30</td>
</tr>
<tr>
<td>00830</td>
<td>HUV (01700) 2 Stainless Steel Reusable (00470) &amp; VLA-25’ (01310)</td>
<td>10.70</td>
</tr>
<tr>
<td>00840</td>
<td>HUV (01700) 2 Stainless Steel Reusable (00470) &amp; VLA-50’ (01320)</td>
<td>12.95</td>
</tr>
</tbody>
</table>

Available in an easy to carry back-pack bag!

Contact TFC to choose from a wide selection of safety equipment to meet your needs!
We have a full line of safety products to meet your needs!

Hard Hats

Safety Glasses and Shields

Ear Protection

First Aid Kits

Gloves

Respirators

Job-site Coolers

Job-Site Storage

Tarps | Contractor Garbage Bags | Job Site Rags

Call TFC for all of your miscellaneous contractor supplies!
1" Bit Tips

- Phillips Bit Tip #1
- Phillips Bit Tip #2
- Phillips Bit Tip #3
- Slotted Bit Tip #8
- Slotted Bit Tip #10
- Slotted Bit Tip #12
- Square Recess Bit Tip #1
- Square Recess Bit Tip #2
- Square Recess Bit Tip #3
- Pozi-driv® Bit Tip #1
- Pozi-driv® Bit Tip #2
- Pozi-driv® Bit Tip #3
- Torx® Bit Tip T10
- Torx® Bit Tip T15
- Torx® Bit Tip T20
- Torx® Bit Tip T25
- Torx® Bit Tip T27
- Torx® Bit Tip T30
- Torx® Bit Tip T40

Double Ended Bits

- Phillips #2 / Slotted #8
- Phillips #2 / Phillips #2
- Phillips #2 / Square Recess #2

Magnetic Socket Drivers

<table>
<thead>
<tr>
<th>Description</th>
<th>Size</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetic hex socket</td>
<td>1/4&quot;</td>
<td>1-7/16&quot;</td>
</tr>
<tr>
<td>Magnetic hex socket</td>
<td>5/16&quot;</td>
<td>1-7/16&quot;</td>
</tr>
<tr>
<td>Magnetic hex socket</td>
<td>3/8&quot;</td>
<td>1-1/2&quot;</td>
</tr>
<tr>
<td>Magnetic hex socket</td>
<td>1/4&quot;</td>
<td>2-9/16&quot;</td>
</tr>
<tr>
<td>Magnetic hex socket</td>
<td>5/16&quot;</td>
<td>2-9/16&quot;</td>
</tr>
<tr>
<td>Magnetic hex socket</td>
<td>3/8&quot;</td>
<td>2-9/16&quot;</td>
</tr>
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Screw-driving Set

- 1" Phillips Bit Tips: (1) #1, (10) #2, (1) #3
- 1" Slotted Bit Tips: (1) #6, (2) #8, (1) #10
- 1" Square Recess Bit Tips: (1) #1, (6) #2, (1) #3
- 2" Phillips Power Bit: (1) #2
- 2" Square Recess Power Bit: (1) #2
- Nutdrivers: (1) 1/4", (1) 5/16"
- Compact magnetic drive guide (1)

TOOL ACCESSORIES

Bit Holders

- Magnetic Quick Change

Power Bits

- 2" Phillips Power Bit #1
- 2" Phillips Power Bit #2
- 2" Phillips Power Bit #3
- Deck Power Bit #2
- 2" Square Recess Power Bit #1
- 2" Square Recess Power Bit #2
- 2" Square Recess Power Bit #3
- 3-1/2" Phillips Power Bit #1
- 3-1/2" Phillips Power Bit #2
- 3-1/2" Phillips Power Bit #3
- 3-1/2" Slotted Power Bit #6
- 3-1/2" Slotted Power Bit #8
- 3-1/2" Slotted Power Bit #10
- 3-1/2" Slotted Power Bit #12
- 3-1/2" Square Recess Power Bit #1
- 3-1/2" Square Recess Power Bit #2
- 3-1/2" Square Recess Power Bit #3
- 6" Phillips Power Bit #1
- 6" Phillips Power Bit #2
- 6" Phillips Power Bit #3
- 6" Slotted Power Bit #6
- 6" Slotted Power Bit #8
- 6" Slotted Power Bit #10
- 2" Square Recess Power Bit #6
- 2" Square Recess Power Bit #8
- 2" Square Recess Power Bit #10

Magnetic Drive Guides

- Compact
- Standard
- Clear

Screw-driving Set

- 29 Piece Set

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Blades for cutting, metal, wood, plastic and masonry.

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For hand saws and chop saws. Cut metal, wood, concrete, plastic.
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Cut holes in metal, wood, plastic or concrete.
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CORING BITS | HOLE SAWS

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- #12-24 x 1-1/4” DP4.5 Bonded washer or No washer
- #12-24 x 1-1/4” DP5 Bonded washer or No washer

- 1/4-14 x 7/8” DP1 Flange head or No washer
- 1/4-14 x 1-1/2” DP3 No washer

- #10 x 1” DP Pancake Head
- #12 x 1” DP Pancake Head

- SENTRY PLUS FIVE® Roofing Screws

SELF-TAPPING SCREWS

- 304SS With Bonded Washer
- All Sizes

- SCRUBOLTS®

CONCRETE ANCHORS

- TAPCON®
- All Sizes

- Wedge Anchors
- All Sizes

- EPCON® Epoxy Anchors
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- #1 BRACER® - 1/2” to 5/8” Rod
- #2 BRACER® - 3/4” to 7/8” Rod
- #3 BRACER® - 1” to 1-1/4” Rod
- #4 BRACER® - 1-3/8” to 1-1/2”

RIVETS

- #43 SS Rivet Plain or painted

- FABLOKS®

- BULB-TITE® RIVETS

BOLTS - A307 & A325

- Diameters: 1/2, 5/8”, 3/4”
- Lengths: 1-1/2", 1-3/4", 2”

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- Certificates of compliance
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- Tooling

We can provide many products that meet the MADE IN THE USA requirements!

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• Sealants
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Premium wood screw now available for the commercial construction industry.

TFC offers SPAX® screws with it’s patented thread form that eliminates the need for pre-drilling wood!

- Patented thread reduces driving torque up to 40%.
- Installs with ordinary battery tools.
- Six Lobbed recess for superior driving stability.
- Heat treated to grade 5 specifications for superior strength
- HCR coated for exterior use.

### SIZES

<table>
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<tr>
<th>Diameter and Length</th>
<th>Thread Length</th>
<th>Drive Type</th>
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<td>.776”</td>
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SPAX® screws are available in a wide array of sizes for most wood connections, including Hex Washer Head. Provides maximum driver engagement, especially when using larger diameter/longer length parts in harder wood species.

### PERFORMANCE

Per ICC-ES Report Number ESR-1782

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Contact TFC for your specific needs.
We offer the following services at no charge to you!

Do you need technical assistance?
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---

**PRODUCT AND APPLICATION TRAINING**

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Our TECH CENTER is equipped to train you on fastener installation using a hands-on approach.

We can help you learn about the best product for your application, provide the best installation techniques and keep you informed on the latest tool technology.

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**TFC TECH CENTER LOCATION**
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P: 216.351.9933 • www.trianglefastener.com
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- Technical Support
- Product Development
- Job-site Assistance

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Ohio - Cleveland
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Cleveland, OH 44109
P: 216.351.9933 | F: 216.351.5008

Virginia - Richmond
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Richmond, VA 23230
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Delaware - New Castle
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P: 302.322.0600 | F: 302.322.5012

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Kent, WA 98031
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Ft. Lauderdale, FL 33309
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Jacksonville, FL 32254
P: 904.695.0404 | F: 904.695.0662

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Richland, MS 39218
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P: 412.321.5021 | F: 412.321.7838

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Maitland, FL 32751
P: 407.660.0167 | F: 407.660.1256

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3317 Pelton Street
Charlotte, NC 28217
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Tennessee - Madison
213 Nesbitt Lane
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MARKETS

• Flat Roofing
• Metal Building and Roofing
• Post Frame
• Sheathing | Curtain Wall
• Drywall | Interior
• HVAC / Electrical / Mechanical