



# Innovative Fastening Technologies

The Industry Leader in Critical Fastening

**Stainless Steel Anchors  
for Concrete & Masonry**







# Stainless Steel Anchors for Concrete and Masonry Applications



To meet the needs of the wide range of concrete and masonry applications in corrosive environments, Elco Construction Products offers three different stainless steel anchors. All install quickly and easily with a standard ANSI masonry bit.

## UltraCon® SS4 Threaded Masonry Anchors

- Made of 410 stainless steel
- Familiar Tapcon® anchor design with a different name and Stalgard® coating
- Good pull-out values and high corrosion resistance

## Crete-Flex® SS4 Masonry Anchors

- Made of 410 stainless steel
- Oversized diameters and more robust 40° threads
- Larger cross-sectional area – 25% greater than other commonly-used masonry fasteners
- Provide higher shear and strength values than anchors with alternating threads
- Ideal for more demanding applications, including hurricane- and blast-resistant structures

## Aggre-gator® 300 Series Stainless Concrete Anchors

- Utilize bi-metal technology to combine 300 series (18-8) stainless steel heads and hi-lo threads with the installation ease of hardened steel lead threads and points
- Provide multi-level corrosion resistance with 18-8 stainless steel and Stalgard GB (Galvanic Barrier) coating
- Provide high strength and ductility for long service life
- Ideal for critical applications in aggressive environments

## Stalgard® Coatings For Maximum Corrosion Protection

All Elco stainless steel anchors receive standard Stalgard or Stalgard GB (Galvanic Barrier) coating.

- When used over 410 stainless steel, Stalgard coatings provide **1600 hours of salt spray resistance** per ASTM B117
- Chrome-free and more environmentally-friendly
- Eliminate the plating process, which can introduce hydrogen and lead to failures
- Eliminate the need for post-coating lubricants to ease installation

## Depend On Experience

When you have a concrete or masonry application in an exposed environment, rely on the fasteners from the industry leader in critical fastening: Elco Construction Products.





## UltraCon® SS4 Threaded Masonry Anchors

A proven fastener design now available in 410 stainless steel with Stalgard® coating

UltraCon anchors have years of proven performance in concrete and block applications. Now those features are available with the enhanced corrosion resistance of 410 stainless steel with Stalgard coating.



They are currently available only in 1/4" diameter in hex washer and phillips TrimFit flat heads.

UltraCon anchors are the same design as Tapcon anchors but feature Stalgard coating. Testing between UltraCon SS4 and Tapcon® SS4 anchors have confirmed the superior performance of UltraCon anchors. See results below.

### Pull-Out Comparison

#### Pull-Out Values

| 4.4 KSI concrete<br>Full embedment 2" |          |
|---------------------------------------|----------|
| Anchor                                | Pull-Out |
| UltraCon SS4                          | 3294 lbs |
| ITW 410 SS Tapcon®                    | 2666 lbs |

NOTE: These figures are offered only as a guide and are not guaranteed in any way by Elco Construction Products. A safety factor of 4:1, or 25% of ultimate pull-out value, is generally accepted as a safe working load; however, reference should always be made to applicable codes for the specific safe working ratio.

### Test Results

Samples of UltraCon SS4 anchors and ITW's 410 stainless steel Tapcon anchors were subjected to 1500 hours of salt spray testing (per ASTM B117). Typical results can be seen in the samples shown below.

After Testing



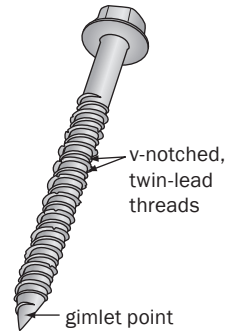
UltraCon SS4 anchor



ITW Tapcon 410 SS anchor

### Features

- 410 stainless steel
- 1/4" diameter
- Installs with standard ANSI 3/16" masonry drill bit
- 1-1/4" to 4" lengths
- Hex washer and phillips TrimFit® flat heads
- V-notched twin lead threads
- Gimlet point
- Silver Stalgard® coating provides 1600 hours of salt spray protection per ASTM B117



### Benefits

- 410 stainless steel with Stalgard coating provides enhanced corrosion resistance
- Easy installation – just drill and drive
- When used with Elco drill bits and drive tools, consistent performance and maximum pull-out strengths can be realized
- Eliminates need for inserts
- Eases installation of metal, wood and other components to concrete, brick or hollow block

### Approvals

- Miami-Dade Florida NOA pending



Made in the U.S.A.



## UltraCon® SS4 Threaded Masonry Anchors

### Selection Guide

#### Packaged Anchors

##### Hex Washer Head

| Cat No.    | Size        | Drive System | Quantity/ Shipper | Weight/ Shipper |
|------------|-------------|--------------|-------------------|-----------------|
| EUH310-100 | 1/4 x 1-1/4 | 5/16 HWH     | 600               | 9               |
| EUH315-100 | 1/4 x 1-3/4 | 5/16 HWH     | 600               | 12              |
| EUH325-100 | 1/4 x 2-1/4 | 5/16 HWH     | 600               | 14              |
| EUH335-100 | 1/4 x 2-3/4 | 5/16 HWH     | 600               | 16              |
| EUH345-100 | 1/4 x 3-1/4 | 5/16 HWH     | 600               | 19              |
| EUH355-100 | 1/4 x 3-3/4 | 5/16 HWH     | 600               | 21              |
| EUH365-100 | 1/4 x 4     | 5/16 HWH     | 600               | 22              |

##### Phillips TrimFit® Flat Head

| Cat No.    | Description | Drive System | Quantity / Shipper | Weight/ Shipper |
|------------|-------------|--------------|--------------------|-----------------|
| EUF310-100 | 1/4 x 1-1/4 | #3 phillips  | 600                | 8               |
| EUF315-100 | 1/4 x 1-3/4 | #3 phillips  | 600                | 10              |
| EUF325-100 | 1/4 x 2-1/4 | #3 phillips  | 600                | 12              |
| EUF335-100 | 1/4 x 2-3/4 | #3 phillips  | 600                | 14              |
| EUF345-100 | 1/4 x 3-1/4 | #3 phillips  | 600                | 16              |
| EUF355-100 | 1/4 x 3-3/4 | #3 phillips  | 600                | 18              |
| EUF365-100 | 1/4 x 4     | #3 phillips  | 600                | 20              |

#### Bulk Anchors

##### Hex Washer Head

| Cat No. | Description | Drive System | Quantity/ Shipper | Weight/ Shipper |
|---------|-------------|--------------|-------------------|-----------------|
| EUH310  | 1/4 x 1-1/4 | 5/16 HWH     | 3000              | 40              |
| EUH315  | 1/4 x 1-3/4 | 5/16 HWH     | 2000              | 38              |
| EUH325  | 1/4 x 2-1/4 | 5/16 HWH     | 1500              | 34              |
| EUH335  | 1/4 x 2-3/4 | 5/16 HWH     | 1000              | 27              |
| EUH345  | 1/4 x 3-1/4 | 5/16 HWH     | 1000              | 31              |
| EUH355  | 1/4 x 3-3/4 | 5/16 HWH     | 500               | 16              |
| EUH365  | 1/4 x 4     | 5/16 HWH     | 500               | 17              |

##### Phillips TrimFit Flat Head

| Cat No. | Description | Drive System | Quantity/ Shipper | Weight/ Shipper |
|---------|-------------|--------------|-------------------|-----------------|
| EUF310  | 1/4 x 1-1/4 | #3 phillips  | 3000              | 34              |
| EUF315  | 1/4 x 1-3/4 | #3 phillips  | 2000              | 32              |
| EUF325  | 1/4 x 2-1/4 | #3 phillips  | 1500              | 30              |
| EUF335  | 1/4 x 2-3/4 | #3 phillips  | 1000              | 24              |
| EUF345  | 1/4 x 3-1/4 | #3 phillips  | 1000              | 28              |
| EUF355  | 1/4 x 3-3/4 | #3 phillips  | 500               | 16              |
| EUF365  | 1/4 x 4     | #3 phillips  | 500               | 17              |

### Installation Tools

#### 1000 Tool Cat. No. ELP 100



The 1000 installation tool is a two-step, multi-purpose tool for installing UltraCon SS4 masonry fasteners.

#### Tool Kit Includes:

| Elco Cat. No. | Description                            | Qty. |
|---------------|--|------|
| ELY100        | Drill Adapter                          | 1    |
| ELY110        | Drive Sleeve Assembly                  | 1    |
| ELY120        | 5/16" Hex Socket                       | 1    |
| ELY125        | 1/4" Hex Drive Socket for 1/4" Anchor  | 1    |
| ELY130        | 1/4" Hex Drive Socket for 3/16" Anchor | 1    |
| ELY140        | #2 Phillips Bit                        | 1    |
| ELY150        | #3 Phillips Bit                        | 1    |
| ELY160        | Phillips Bit Holder                    | 1    |
| ELY210        | Set Screw                              | 1    |
| ELY220        | 1/8" Hex Key                           | 1    |

### Elco® Drill Bits

#### Hex-collared SDS Carbide-tipped Drill Bits\*\*



| Elco Cat No. | Description  | Anchor Size | Qty./ Tube |
|--------------|--------------|-------------|------------|
| ELT630-010   | 3/16 x 5 x 2 | 1/4"        | 1          |
| ELT650-010   | 3/16 x 7 x 4 | 1/4"        | 1          |

\*\*For use with rotary hammer drills and 1000 installation tools.

#### Carbide-Tipped Tanged Drill Bits\*



| Elco Cat No. | Description  | Anchor Size | Qty. / Tube |
|--------------|--------------|-------------|-------------|
| ELT405-010   | 3/16 x 3-1/2 | 1/4"        | 10          |
| ELT415-010   | 3/16 x 4-1/2 | 1/4"        | 10          |
| ELT425-010   | 3/16 x 5-1/2 | 1/4"        | 10          |
| ELT435-010   | 3/16 x 6-1/2 | 1/4"        | 10          |
| ELT445-010   | 3/16 x 7-1/2 | 1/4"        | 10          |



## Crete-Flex® SS4 Masonry Fastening System

Oversized threads and shank provide higher shear and strength values

Crete-Flex SS4 fastening system delivers corrosion resistance plus high shear and strength values when connecting materials to concrete or hollow block.



### Engineering Technology

**Oversized threads:** #14 diameter Crete-Flex anchors have a .268" O.D. and .201" I.D. These larger-than-normal root diameters (54 – 56% higher than standard concrete anchors with alternating threads) allow them to deliver exceptional performance, including higher shear values.

**Unique thread design:** Crete-Flex anchors utilize more robust 40° threads for enhanced thread engagement and “V” notches for efficient tapping. These features provide exceptionally high mechanical strengths.

These attributes make Crete-Flex fasteners an excellent solution for hurricane- and blast/impact-resistant applications.

### Superior Corrosion Resistance

**Special heat treat:** Heat treatment is required for added corrosion resistance and successful tapping into concrete. Typical 410 stainless fasteners are case hardened. However, case hardening can adversely affect a fastener’s ductility and corrosion resistance.

Crete-Flex anchors undergo a special heat treatment that allows the 410 stainless material to retain more of its natural corrosion resistance and ductility.

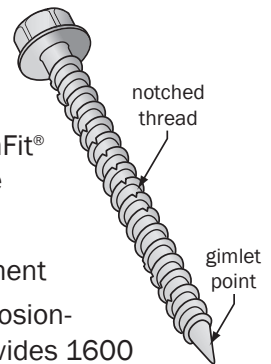
**Unique Finish:** Crete-Flex fasteners then receive Elco’s unequaled Stalgard® coating. The combination of this unique heat treatment and silver Stalgard coating results in superior corrosion resistance. Even after 1600 hours in a salt spray cabinet (per ASTM B117), Crete-Flex fasteners showed no signs of red rust.



Made in the U.S.A.

### Features

- 410 stainless steel
- Oversized #14 diameter
  - Shank (unthreaded section): .214"
  - Major thread diameter (O.D.): .268"
  - Minor thread diameter (I.D.): .201"
- Heavy-duty, V-notched thread with larger cross-sectional area (25% greater than other commonly-used masonry fasteners)
- Hex washer, flat, hex flange and TrimFit® flat heads available
- Gimlet point
- Special heat treatment
- Silver Stalgard corrosion-resistant finish provides 1600 hours of salt spray resistance
- Made in the U.S.A.
- Installs with a standard ANSI 7/32" carbide-tipped masonry drill bit



### Benefits

- Exceptionally high shear values and pull-out values
- Excellent solution for hurricane- and impact-resistant applications
- Enhanced corrosion resistance
- Easy and consistent installation

### Inspection

In-place inspection of Crete-Flex anchors is easy. The head marking consists of an Elco logo and a “4” as shown.



Hex Washer Head



Flat Head

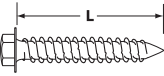


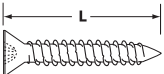
## Crete-Flex® SS4 Masonry Fastening System

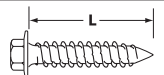
### Selection Guide

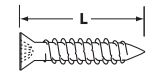
**Standard Packaging:** 100 fasteners and one tanged masonry drill bit per box.

**Bulk Quantities:** Available upon request.

| Catalog No.   | L Length | Drive System | Shipper Qty. | Shipper Weight | Drill Bit Length |        |
|---|----------|--------------|--------------|----------------|------------------|--------|
| <b>#14 Diameter, Hex Washer Head (.425" washer O.D.)</b>                          |          |              |              |                |                  |        |
|  | EMF310   | 1-1/4"       | 5/16" hex    | 500            | 9                | 4-1/2" |
|   | EMF330   | 1-3/4"       | 5/16" hex    | 500            | 11               |        |
|   | EMF350   | 2-1/4"       | 5/16" hex    | 500            | 14               |        |
|   | EMF370   | 2-3/4"       | 5/16" hex    | 500            | 16               |        |
|   | EMF390   | 3-1/4"       | 5/16" hex    | 500            | 21               | 5-1/2" |
|   | EMF410   | 3-3/4"       | 5/16" hex    | 500            | 22               |        |
|   | EMF430   | 4"           | 5/16" hex    | 500            | 23               |        |
|   | EMF450   | 5"           | 5/16" hex    | 100            | 6                | 7-1/2" |
| EMF470  | 6"       | 5/16" hex    | 100          | 7              |                  |        |

| Catalog No.   | L Length | Drive System | Shipper Qty. | Shipper Weight | Drill Bit Length |        |
|---|----------|--------------|--------------|----------------|------------------|--------|
| <b>#14 Diameter, Phillips Flat Head</b>   |          |              |              |                |                  |        |
|  | EMF690   | 1-1/4"       | #3 phillips  | 500            | 8                | 4-1/2" |
|   | EMF710   | 1-3/4"       | #3 phillips  | 500            | 10               |        |
|   | EMF730   | 2-1/4"       | #3 phillips  | 500            | 13               |        |
|   | EMF750   | 2-3/4"       | #3 phillips  | 500            | 14               |        |
|   | EMF770   | 3-1/4"       | #3 phillips  | 500            | 19               | 5-1/2" |
|   | EMF790   | 3-3/4"       | #3 phillips  | 500            | 21               |        |
|   | EMF810   | 4"           | #3 phillips  | 500            | 22               |        |
|   | EMF830   | 5"           | #3 phillips  | 100            | 6                | 7-1/2" |
| EMF850  | 6"       | #3 phillips  | 100          | 7              |                  |        |

| Catalog No.   | L Length | Drive System | Shipper Qty. | Shipper Weight | Drill Bit Length |        |
|---|----------|--------------|--------------|----------------|------------------|--------|
| <b>#14 Diameter, Hex Flange Head (5/8" washer O.D.)</b>                             |          |              |              |                |                  |        |
|  | EMF340   | 1-3/4"       | 5/16" hex    | 500            | 13               | 4-1/2" |
|   | EMF360   | 2-1/4"       | 5/16" hex    | 500            | 16               |        |

| Catalog No.   | L Length | Drive System | Shipper Qty. | Shipper Weight | Drill Bit Length |        |
|---|----------|--------------|--------------|----------------|------------------|--------|
| <b>#14 Diameter TrimFit® Flat Head (O.D. .415" nom.)</b>                            |          |              |              |                |                  |        |
|  | EMF510   | 1-3/4"       | #3 phillips  | 500            | 10               | 4-1/2" |
|   | EMF530   | 2-1/4"       | #3 phillips  | 500            | 13               |        |
|   | EMF550   | 2-3/4"       | #3 phillips  | 500            | 14               |        |

### Performance and Technical Data

#### Allowable Loads

Testing in Concrete (3350 PSI min.)

| Embedment | Edge Distance | Spacing     | Tension (lbs) | Shear(lbs) |     |
|-----------|---------------|-------------|---------------|------------|-----|
| 1"        | 1"            | 6" O.C.     | 150           | 125        |     |
|           | 1-3/4"        | 6" O.C.     | 165           | 215        |     |
|           | 2-1/2"        | 6" O.C.     | 190           | 265        |     |
| 1-3/4"    | 1"            | 1-1/2" O.C. | 320           | -          |     |
|           |               | 3" O.C.     | 388           | 178        |     |
|           |               | 6" O.C.     | 390           | 310        |     |
|           | 1-3/4"        | 6" O.C.     | 525           | 450        |     |
|           |               | 2-1/2"      | 3" O.C.       | 314        | 467 |
|           |               |             | 6" O.C.       | 625        | 645 |
| 2"        | 1"            | 6" O.C.     | 390           | 310        |     |
|           | 1-3/4"        | 6" O.C.     | 525           | 450        |     |
|           | 2-1/2"        | 6" O.C.     | 680           | 645        |     |

Testing in Concrete Block (C90)

| Embedment | Edge Distance | Spacing     | Tension (lbs) | Shear(lbs) |
|-----------|---------------|-------------|---------------|------------|
| 1-1/4"    | 1"            | 6" O.C.     | 195           | 105        |
|           |               | 6" O.C.     | 290           | 330        |
|           | 2-1/2"        | 1-1/2" O.C. | 126           | 266        |
|           |               | 3" O.C.     | 126           | 309        |
|           |               | 6" O.C.     | 305           | 330        |
| 1-5/8"    | 1"            | 6" O.C.     | 310           | 135        |

### Masonry Drill Bits

#### Tanged Bits

- For use with hammer drill
- Bit slides into drill bit adaptor and set screw tightens onto the tang of the bit

| Cat. No.                            | Description   | Max. Anchor Length |
|-------------------------------------|---------------|--------------------|
| <b>For 14-10 Crete-Flex Anchors</b> |               |                    |
| EMC100                              | 7/32 x 4-1/2" | 2-3/4"             |
| EMC110                              | 7/32 x 5-1/2" | 4"                 |
| EMC115                              | 7/32 x 7-1/2" | 6"                 |

#### Hex-collared SDS Bits

- For use with rotary hammer drills†
- Hex collared bit locks into the drive sleeve assembly of 1000 installation tool

| Cat. No.                            | Description   | Max. Anchor Length |
|-------------------------------------|---------------|--------------------|
| <b>For 14-10 Crete-Flex Anchors</b> |               |                    |
| EMC120                              | 7/32 x 5-1/2" | 6"                 |
| EMC130                              | 7/32 x 7"     | 4"                 |
| EMC140††                            | 7/32 x 8-1/4" | 5"                 |
| EMC150††                            | 7/32 x 11"    | 6"                 |

† Note: Elco strongly discourages the use of rotary hammer drills in hollow block applications, due to the excessive spalling likely to occur.

††EMC140 and EMC150 drill bits are NOT shanked

**NOTE:** Note: The allowable values listed have been generated based on testing conducted at HETI/ Miami, FL. Ultimate test values have had a safety factor of 4:1 applied and then the values were rounded down.

Final determination of the appropriate safety factor and use of these fasteners is the sole responsibility of the user, specifying Engineer, Architect or other responsible person designing the connection. Due to a wide variety of application conditions or intervening factors not under our control, we assume no liability for the use of the information provided in this document. For additional product information and technical assistance, **please contact Elco directly at 1-800-435-7213.**

### Mechanical Strengths

Tensile Yield (Fy): 127.4 KSI

Tensile Ultimate (Fu): 189.7 KSI

Testing done by HETI/Miami, FL Test Report No. 08-T147 (tested to ASTM E8-01e1)



## Aggre-gator® 300 Series Stainless Steel Concrete Anchors

Bi-metal technology offers **multi-level corrosion protection plus strength**

Each Aggre-gator anchor features 300 series (18-8) stainless steel alloy in the head and threads, which are fused to hardened steel tapping threads and point. The entire fastener is coated with silver Stalgard® GB finish.



**18-8 stainless steel does not produce red rust.** Stalgard GB coating provides 1000 hours corrosion resistance (per ASTM B117) for the hardened steel lead threads and point, which will be embedded in the concrete or masonry. Therefore, **the potential for any rust is virtually eliminated.**

The 300 series stainless steel is also more ductile than 400 series stainless steel. This **prevents delayed “embrittlement” fastener failures**, such as Hydrogen Assisted Stress Corrosion Cracking (HASCC), which can occur with 400 series stainless steel fasteners.

The Stalgard GB (Galvanic Barrier) coating **protects aluminum components and other dissimilar materials from accelerated corrosion** when in contact with 300 series stainless steel.

This combination of features allow Aggre-Gator anchors to deliver **multi-level corrosion protection over an extended service life** in aggressive environments.

You won't find a **better, easier-to-install** or **more reliable** stainless steel anchor for your toughest concrete and masonry applications than Aggre-Gator bi-metal anchors.

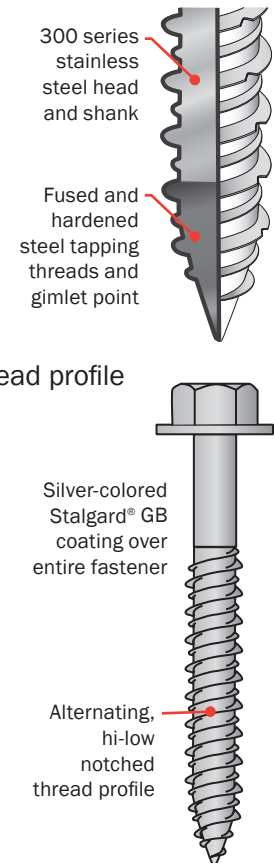
### Applications

Aggre-Gator anchors hold tight in block, poured concrete and wood, making them an ideal choice for a wide variety of applications.

- Exposed anchoring/coastal/wet areas
- Aluminum enclosures
- Hurricane shutters/windows/awnings/thresholds
- Curtain wall & window wall support anchors
- Stone facade support anchors
- ACQ-treated wood

### Features

- Bi-metal technology:
  - 300 (18-8) stainless steel head and shank
  - Fused and hardened steel tapping threads and gimlet point
- Alternating, hi-low notched thread profile
- Silver-colored Stalgard® GB coating – 1000 hours salt spray resistance per ASTM B117
- Hex washer head and TrimFit® flat head designs
- Install with standard 3/16" ANSI masonry bit



### Benefits

- Outstanding corrosion resistance – head and full-sized threads **do not produce red rust**
- High strength and ductility
- Hardened gimlet point and lead threads provide quick starts, easing installation – just drill and drive
- Offers greater galvanic compatibility in dissimilar metal applications, such as those involving aluminum
- Thread profile provides quick cutting and stability during installations
- Helps extend life of structure
- High in-place value over life of structures





## Aggre-gator® 300 Series Stainless Steel Concrete Anchors

### Selection Guide.

|                                     | Dia. | L Length | Length Code† | Drive System   | Head Style            | Drill Bit Size* (Carbide) | S<br>300 Series (18-8)<br>Stainless Steel<br>Length | ECP<br>Catalog<br>Number* | Pieces<br>Per<br>Box | Pieces<br>Per<br>¼ Keg* |
|-------------------------------------|------|----------|--------------|----------------|-----------------------|---------------------------|---|---------------------------|----------------------|-------------------------|
| <b>Hex Washer Head</b>              |      |          |              |                |                       |                           |   |                           |                      |                         |
|                                     | 1/4" | 1-3/4"   | A            | 5/16"<br>hex   | hex<br>washer         | 3/16" X 3-1/2"            | 1-1/4"  | EML315                    | 50                   | 2000                    |
|                                     |      | 2-1/4"   | B            |                |                       | 3/16" X 4-1/2"            | 1-3/4"  | EML325                    | 50                   | 1500                    |
|                                     |      | 2-3/4"   | C            |                |                       | 3/16" X 4-1/2"            | 2-1/4"  | EML335                    | 50                   | 1000                    |
|                                     |      | 3-1/4"   | D            |                |                       | 3/16" X 5-1/2"            | 2-3/4"  | EML345                    | 50                   | 1000                    |
|                                     |      | 4"       | F            |                |                       | 3/16" X 5-1/2"            | 3-1/2"  | EML365                    | 50                   | 500                     |
| <b>TrimFit® Flat Head Fasteners</b> |      |          |              |                |                       |                           |   |                           |                      |                         |
|                                     | 1/4" | 1-3/4"   | A            | #3<br>Phillips | TrimFit®<br>flat head | 3/16" X 3-1/2"            | 1-1/4"  | EMM310                    | 50                   | 2500                    |
|                                     |      | 2-1/4"   | B            |                |                       | 3/16" X 4-1/2"            | 1-3/4"  | EMM320                    | 50                   | 1500                    |
|                                     |      | 2-3/4"   | C            |                |                       | 3/16" X 4-1/2"            | 2-1/4"  | EMM330                    | 50                   | 1000                    |
|                                     |      | 3-1/4"   | D            |                |                       | 3/16" X 5-1/2"            | 2-3/4"  | EMM340                    | 50                   | 1000                    |
|                                     |      | 4"       | F            |                |                       | 3/16" X 5-1/2"            | 3-1/2"  | EMM360                    | 50                   | 500                     |

† Length code is marked on top of fastener head (see Identification section).

\* Standard packaging: 50 anchors and 1 tanged masonry bit per box/six boxes per shipper.

Bulk Quantities: Packed in ¼ kegs as shown. Available upon request. Indicate Bulk Packaging by placing a "B" at the end of the Elco Catalog Number. Bulk packaging does not include masonry bits.

### Identification

The head markings consists of the number "3", the length code, and the Elco® logo as shown to the right.



TrimFit® head



hex washer head



## Aggre-gator® 300 Series Stainless Steel Concrete Anchors

Miami-Dade County Product Control Approved-NOA No. 08-0813.06  
High Velocity Hurricane Zone

### Performance Data

#### Substrate: 2220 PSI Concrete

| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Tension (lbs) |
|-------------|-----------------|--------------|----------------|-------------------------|
| 1/4"        | 1.25"           | 3.0"         | 1.000"         | 118                     |
|             | 2.50"           | 1.5"         | 1.000"         | 195                     |
|             | 1.25"           | 3.0"         | 1.375"         | 289                     |
|             | 2.50"           | 1.5"         | 1.375"         | 343                     |
|             | 1.25"           | 3.0"         | 1.750"         | 517                     |
|             | 2.50"           | 1.5"         | 1.750"         | 465                     |
| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Shear (lbs)   |
| 1/4"        | 1.50"           | 3.0"         | 1.000"         | 204                     |
|             | 3.00"           | 1.5"         | 1.000"         | 259                     |
|             | 1.50"           | 3.0"         | 1.375"         | 259                     |
|             | 3.00"           | 1.5"         | 1.375"         | 413                     |
|             | 1.50"           | 3.0"         | 1.750"         | 318                     |
|             | 3.00"           | 1.5"         | 1.750"         | 488                     |

#### Substrate: 3275 PSI Concrete

| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Tension (lbs) |
|-------------|-----------------|--------------|----------------|-------------------------|
| 1/4"        | 1.25"           | 3.0"         | 1.000"         | 248                     |
|             | 2.50"           | 1.5"         | 1.000"         | 263                     |
|             | 1.25"           | 3.0"         | 1.375"         | 389                     |
|             | 2.50"           | 1.5"         | 1.375"         | 251                     |
|             | 1.25"           | 3.0"         | 1.750"         | 295                     |
|             | 2.50"           | 1.5"         | 1.750"         | 319                     |
| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Shear (lbs)   |
| 1/4"        | 1.50"           | 3.0"         | 1.000"         | 255                     |
|             | 3.00"           | 1.5"         | 1.000"         | 226                     |
|             | 1.50"           | 3.0"         | 1.375"         | 319                     |
|             | 3.00"           | 1.5"         | 1.375"         | 511                     |
|             | 1.50"           | 3.0"         | 1.750"         | 306                     |
|             | 3.00"           | 1.5"         | 1.750"         | 515                     |

#### Substrate: 1x4 (3/4" Thick) Treated No. 2 SYP attached to 2220 PSI Concrete

| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Shear (lbs) |
|-------------|-----------------|--------------|----------------|-----------------------|
| 1/4"        | 2.50"           | 3.0"         | 1.5"           | 200                   |

#### Substrate: 2x4 (1-1/2" Thick) Treated No. 2 SYP attached to 2220 PSI Concrete

| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Shear (lbs) |
|-------------|-----------------|--------------|----------------|-----------------------|
| 1/4"        | 2.50"           | 3.0"         | 1.75"          | 199                   |

#### Substrate: Concrete Masonry Hollow Block

| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Tension (lbs) |
|-------------|-----------------|--------------|----------------|-------------------------|
| 1/4"        | 2.00"           | 3.0"         | 1.250"         | 195                     |
|             | 4.00"           | 3.0"         | 1.250"         | 221                     |
| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Shear (lbs)   |
| 1/4"        | 2.00"           | 3.0"         | 1.250"         | 234                     |
|             | 4.00"           | 3.0"         | 1.250"         | 264                     |

#### Substrate: Grout-Filled Concrete Block

| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Tension (lbs) |
|-------------|-----------------|--------------|----------------|-------------------------|
| 1/4"        | 2.00"           | 3.0"         | 1.250"         | 208                     |
|             | 4.00"           | 1.5"         | 1.250"         | 186                     |
|             | 2.00"           | 3.0"         | 2.00"          | 407                     |
|             | 4.00"           | 1.5"         | 2.00"          | 504                     |
| Anchor Dia. | Min. Edge Dist. | Min. Spacing | Min. Embedment | Allowable Shear (lbs)   |
| 1/4"        | 2.00"           | 3.0"         | 1.250"         | 259                     |
|             | 4.00"           | 1.5"         | 1.250"         | 352                     |
|             | 2.00"           | 3.0"         | 2.00"          | 591                     |
|             | 4.00"           | 1.5"         | 2.00"          | 597                     |

### NOTES

- Edge distances denoted herein shall be measured from the center of the anchor to the edge of the substrate in the direction of, as well as perpendicular to, the direction of the load. Spacing between anchors denoted herein shall be measured center-to-center of anchors.
- Allowable loads suggested herein are only valid when both the minimum anchor center-to-center spacing and the minimum edge distances are complied with.
- Allowable loads suggested herein equal 25% of the average ultimate laboratory test values obtained during testing performed as part of the requirements to obtain this NOA. Final determination of the appropriate working/design loads to be used in a specific project are the sole responsibility of the engineer of record or of the architect of record specifying the use of the product.
- No increase in allowable stress has been incorporated into the values provided in the tables contained herein.
- Anchors approved under this product approval document have not been tested for use under combined loading.
- The concrete substrate into which these anchors will be attached shall conform to ACI 301 specifications with strength properties as specified herein.
- The hollow and grout-filled concrete block substrate into which these anchors will be attached shall be medium weight or normal weight concrete block conforming to ASTM C-90.
- Combination wood and concrete substrate shall consist of 1 x 4 nominal (3/4" thick) treated No. 2 Southern Yellow Pine attached to concrete substrate conforming to ACI 301 specifications with strength properties as specified herein, or 2 x 4 nominal (1-1/2" thick) treated No. 2 Southern Yellow Pine attached to concrete substrate conforming to ACI 301 specifications with strength properties as specified herein.

Due to a wide variety of application conditions or intervening factors not under our control, we assume no liability for the use of the information provided in this document. For additional product information and technical assistance, please contact Elco directly at 1-800-435-7213.



## Stalgard® High-Performance Protective Coatings

Stalgard® durable, multi-layer, corrosion-resistant coatings are engineered to provide optimal performance in demanding construction applications. These environmentally-friendly finishes are free of chromates and silicates and any process, like electroplating, that might induce hydrogen embrittlement, preventing structural failures.



- Maximizes fastener performance
- Salt spray corrosion resistance at 1000+ hours with no red rust per ASTM B117
- Uniform thickness
- Low coefficient of friction – eliminates the need for post-coating lubricants to ease installation
- Does not use processes that introduce hydrogen – will not cause brittle failures like those caused by electroplating
- Durable tough finish – doesn't come off during handling or repeated installations
- Eliminates the plating process, resulting in a more environmentally-friendly product than those with plated zinc or other finishes
- Blue, grey, and white Stalgard are ACQ-compatible



**RoHS compliant** (chrome-free)



### Stalgard Coating for Induction Heat-Treated Fasteners

- When used over 410 stainless steel, has a salt spray corrosion resistance of 1600 hours per ASTM B117
- Available Pantone® colors: silver, black, blue, white, yellow, red, and brown
- Pantone gray available for ACQ-treated lumber
- Maintains tapping performance



### Stalgard GB (Galvanic Barrier) Coating

- Standard on all Elco 300 series stainless steel fasteners
- Prevents a galvanic reaction between the stainless steel and dissimilar application materials, which could lead to fastener and/or joint failure
- Salt spray corrosion resistance: 1000 hours per ASTM B117
- Available Pantone color: Silver
- Maintains tapping performance

Distributed By: \_\_\_\_\_



**Elco Construction Products**

1304 Kerr Drive • Decorah, IA 52101

**1.800.435.7213** • fax: 563.387.3540

**www.elcoconstruction.com**



Elco®, Stalgard®, UltraCon®, Crete-Flex®, Aggre-gator®, TrimFit®, UltraCon® and Infastech® are registered trademarks of Infastech Intellectual Properties Pte Ltd. Tapcon® is a registered trademark of Illinois Tool Works Inc.

©2011 Infastech Intellectual Properties Pte Ltd. All rights reserved. Rev. 12/11