



## UltraCon® Masonry Fasteners

### High Performance in a Wide Range of Applications

The UltraCon masonry fastening system from Elco Construction Products offers optimal performance in a wide range of masonry applications. Cold formed fasteners, precision-cut Elco carbide drill bits and high-quality installation tools all work together to provide excellent pull-out and shear values. All components of the system are manufactured to strict quality standards to ensure consistent, trouble-free installation and in-place performance.

UltraCon fasteners are the optimal solution for concrete, brick or hollow block to attach electrical boxes and clips; wood headers, plywood, or furring strips; exterior insulation systems and more.

#### Increased Size for Increased Strength

The new 5/16" diameter UltraCon fastener provides increased shear and tensile strength to meet the needs of more demanding applications.

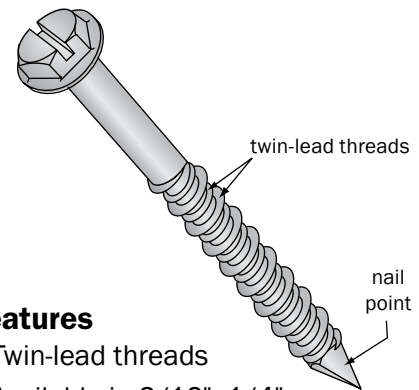
#### Superior Resistance to Corrosion

UltraCon fasteners from Elco Construction Products are coated with Stalgard finish to provide superior corrosion resistance. Fasteners coated with Stalgard® finish typically show no red rust or other base metal corrosion on significant surfaces even after 800 hours of 5% neutral salt spray exposure (ASTM B117).

#### Experience Matters

Elco Construction Products has been manufacturing fastening systems for concrete in the U.S.A. since 1980. Unlike competing masonry fasteners, only UltraCon fasteners are coated with Stalgard finish.

To assure quality on your next masonry application, choose the UltraCon masonry fastening system manufactured by the company known for quality – Elco Construction Products.



#### Features

- Twin-lead threads
- Available in 3/16", 1/4" and 5/16" diameters, in a variety of lengths
- Slotted hex head or phillips flat head standard; other styles including TrimFit® heads available
- Blue Stalgard corrosion-resistant finish standard; silver, white or bronze Stalgard finish also available on selected sizes
- Install quickly and easily with system drive tools and Elco® carbide-tipped drill bits

#### Benefits

- When all three elements of the system are used, 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

- For 3/16", 1/4" and 5/16" UltraCon fasteners: Miami-Dade, Florida Notice of Acceptance (NOA) No. 07-0425.01 Exp. 1/8/11



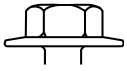


## Head Styles



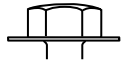
### Slotted Hex Washer Head

Washer head provides a bearing surface for fast, secure driving; slot permits removal or adjustment with standard screw driver.



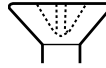
### Hex Flange Head

Larger 5/8" washer diameter provides larger bearing surface. Ideal for attaching track systems or other applications that require a washer.



### Hex Head with Oversized Washer (5/16" dia. only)

Larger washer diameter (.530/.540) provides larger bearing surface. Ideal for applications that require a washer.



### Phillips Flat Head

Used primarily in wood applications to countersink head for finished appearance.



### TrimFit® Flat Head

Undersized head permits use of 1/4" and 5/16" diameter fastener in applications with clearance constraints. Head O.D. .415" nom.



### TrimFit® Hex Head

Undersized heads permits use of 5/16" diameter fastener in applications with clearance constraints. Washer O.D. .435" nom.; hex drive 5/16" A.F.

## Installation

The UltraCon masonry fastening system consists of the UltraCon fastener and installation tool plus an Elco® carbide-tipped drill bit. Consistent performance and maximum pullout strength can be assured only when all three elements of the system are properly used.

### Fastener Length and Diameter

The length of the UltraCon fastener to be used is determined by combining the thickness of the attachment (A) with the desired depth of embedment in the masonry material (B). It is recommended that a minimum of 1" and a maximum of 1-3/4" embedment be used in determining fastener length.

UltraCon fasteners come in three diameters: 1/4", 3/16", and 5/16". The diameter of the fastener and the depth of embedment affect pullout strengths. Application strength requirements and safety factors should be considered when determining the depth of embedment and fastener diameter. For assistance, contact your Elco distributor or Elco Construction Products.

### Hole Depth

An Elco® carbide-tipped drill bit is supplied with each box of UltraCon fasteners. The correct hole depth (B & C) can normally be obtained by drilling the full length of this bit. In all cases, the hole must be at least 1/4" deeper than the depth of the fastener embedment. Normal safety precautions should be observed when drilling the holes to avoid electrical installations, other utilities and reinforcement bars.

### Hole Diameter

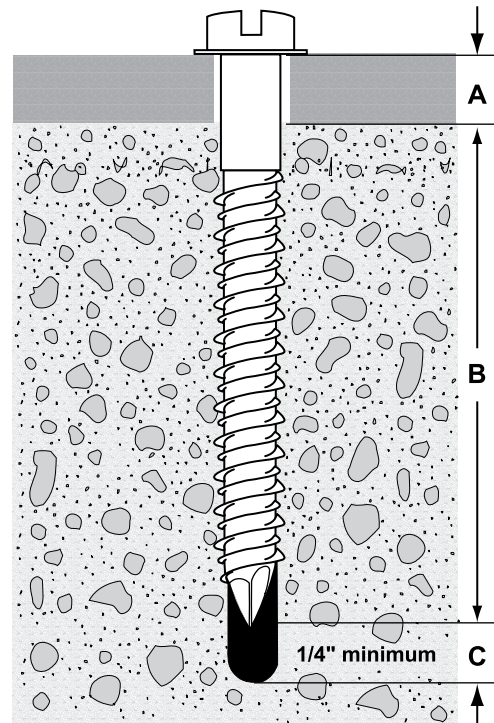
The diameter of the drilled hole is also important to the performance of the UltraCon masonry fastening system. To provide the proper hole diameters, Elco carbide-tipped drill bits are manufactured to closer standards than those called for in the American National Standard. Using Elco® carbide-tipped bits will help assure consistent fastener performance and maximum pull-out strength.

A = attachment thickness

B = UltraCon embedment (min. of 1", max. of 1-3/4")

A + B = UltraCon anchor length

B + C = Hole depth (must be at least 1/4" deeper than UltraCon embedment)



## Identification

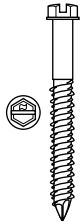
Fastener Dia.	Head Style	Head Mark	sample
all sizes	hex washer, flat hex flange, oversized washer	Elco logo only	
1/4"	TrimFit® flat	Elco logo and 1 dot opposite of logo	
5/16"	TrimFit® flat	Elco logo and 2 dots opposite of logo	

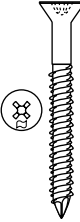


# UltraCon® Masonry Fastening System

## Boxed Anchors

100 anchors and 1 tanged drill bit per box; 6 boxes per carton.

	Elco Cat. No.		Size	Drive System	Quantity Per Shipper	Weight Per Shipper
	Blue Stalgard					
<b>Hex Washer Head</b>						
	ELE300-100		3/16 x 1-1/4"	5/16 hex with slot	600	5
	ELE310-100		3/16 x 1-3/4"	5/16 hex with slot	600	7
	ELE320-100		3/16 x 2-1/4"	5/16 hex with slot	600	8
	ELE330-100		3/16 x 2-3/4"	5/16 hex with slot	600	10
	ELE340-100		3/16 x 3-1/4"	5/16 hex with slot	600	11
	ELE350-100		3/16 x 3-3/4"	5/16 hex with slot	600	13
	ELE360-100		3/16 x 4"	5/16 hex with slot	600	13
	ELE400-100		1/4 x 1"	5/16 hex with slot	600	8
	ELE405-100		1/4 x 1-1/4"	5/16 hex with slot	600	9
	ELE415-100		1/4 x 1-3/4"	5/16 hex with slot	600	12
	ELE425-100		1/4 x 2-1/4"	5/16 hex with slot	600	14
	ELE435-100		1/4 x 2-3/4"	5/16 hex with slot	600	16
	ELE445-100		1/4 x 3-1/4"	5/16 hex with slot	600	19
	ELE455-100		1/4 x 3-3/4"	5/16 hex with slot	600	21
	ELE465-100		1/4 x 4"	5/16 hex with slot	600	22
	ELE475-100		1/4 x 5"	5/16 hex with slot	100	5
ELE485-100		1/4 x 6"	5/16 hex with slot	100	6	

<b>Phillips Flat Head</b>						
	ELF305-100		3/16 x 1-1/4"	#2 phillips	600	4
	ELF315-100		3/16 x 1-3/4"	#2 phillips	600	6
	ELF325-100		3/16 x 2-1/4"	#2 phillips	600	7
	ELF335-100		3/16 x 2-3/4"	#2 phillips	600	9
	ELF345-100		3/16 x 3-1/4"	#2 phillips	600	10
	ELF355-100		3/16 x 3-3/4"	#2 phillips	600	12
	ELF365-100		3/16 x 4"	#2 phillips	600	13
	ELF400-100		1/4 x 1-1/4"	#3 phillips	600	8
	ELF410-100		1/4 x 1-3/4"	#3 phillips	600	10
	ELF420-100		1/4 x 2-1/4"	#3 phillips	600	12
	ELF430-100		1/4 x 2-3/4"	#3 phillips	600	14
	ELF440-100		1/4 x 3-1/4"	#3 phillips	600	16
	ELF450-100		1/4 x 3-3/4"	#3 phillips	600	18
	ELF460-100		1/4 x 4"	#3 phillips	600	19
	ELF470-100		1/4 x 5"	#3 phillips	100	4
	ELF480-100		1/4 x 6"	#3 phillips	100	5

## Bulk Anchors

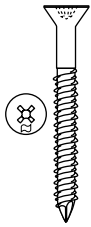
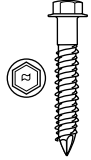
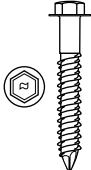
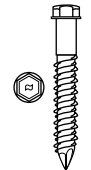
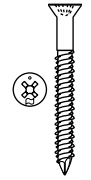
	Elco Cat. No.			Size	Drive Size	Quantity Per Case	Weight Per Case
	Silver Stalgard	White Stalgard	Bronze Stalgard				
<b>Hex Washer Head</b>							
	ELG341	ELD195	-	1/4 x 1-3/4"	5/16 hex with slot	2,000	38
	ELG371	ELD205	-	1/4 x 2-1/4"	5/16 hex with slot	1,500	34
	ELG401	ELD215	-	1/4 x 2-3/4"	5/16 hex with slot	1,000	27
	ELG431	ELD225	-	1/4 x 3-1/4"	5/16 hex with slot	1,000	31
	-	ELD235	-	1/4 x 3-3/4"	5/16 hex with slot	500	16
	-	ELD255	-	1/4 x 5"	5/16 hex with slot	500	22
	-	ELD265	-	1/4 x 6"	5/16 hex with slot	500	26

continued on next page



# UltraCon® Masonry Fastening System

## Bulk Anchors. continued

	Elco Cat. No.			Size	Drive Size	Quantity Per Case	Weight Per Case
	Silver Stalgard	White Stalgard	Bronze Stalgard				
<b>Phillips Flat Head</b>							
	ELG521	ELD320	-	3/16 x 1-1/4"	#2 phillips	5,000	35
	ELG551	ELD330	-	3/16 x 1-3/4"	#2 phillips	3,000	28
	ELG581	ELD340	-	3/16 x 2-1/4"	#2 phillips	2,500	29
	ELG611	ELD350	-	3/16 x 2-3/4"	#2 phillips	1,500	21
	ELG641	ELD360	-	3/16 x 3-1/4"	#2 phillips	1,000	16
	ELG671	ELD370	-	3/16 x 3-3/4"	#2 phillips	1,000	19
	-	ELD380	-	3/16 x 4"	#2 phillips	600	12
	ELG941	-	-	5/16 x 2-1/4"	#3 phillips	1,000	34
	ELG948	-	-	5/16 x 2-3/4"	#3 phillips	1,000	41
	ELG960	-	-	5/16 x 3-1/4"	#3 phillips	500	24
	ELG979	-	-	5/16 x 4"	#3 phillips	500	29
	ELG992	-	-	5/16 x 5"	#3 phillips	250	16
	ELG998	-	-	5/16 x 6"	#3 phillips	250	21
<b>Hex Flange Head (5/8" O.D.)</b>							
	ELC145	ELD275	-	1/4 x 1-3/4"	5/16 hex	1,500	36
	ELC151	ELD285	-	1/4 x 2-1/4"	5/16 hex	1,000	28
	ELC160	ELD295	-	1/4 x 2-3/4"	5/16 hex	1,000	32
	ELC170	ELD305	-	1/4 x 3-1/4"	5/16 hex	500	18
<b>Hex Head with Oversized Washer (.540" O.D.)</b>							
	ELG481	-	-	5/16 x 1-3/4"	5/16 hex	1,000	30
	ELG486	-	-	5/16 x 2-1/4"	5/16 hex	1,000	37
	ELG491	-	-	5/16 x 2-3/4"	5/16 hex	500	22
	ELG496	-	-	5/16 x 3-1/4"	5/16 hex	500	25
	ELG501	-	-	5/16 x 3-3/4"	5/16 hex	500	29
	ELG506	-	-	5/16 x 4"	5/16 hex	500	30
	ELG511	-	-	5/16 x 5"	5/16 hex	250	18
	ELG516	-	-	5/16 x 6"	5/16 hex	250	22
<b>TrimFit Hex Head (.415 nom. washer O.D.)</b>							
	ELG482	-	-	5/16 x 1-3/4"	5/16 hex	1,500	44
	ELG487	-	-	5/16 x 2-1/4"	5/16 hex	1,000	36
	ELG492	-	-	5/16 x 2-3/4"	5/16 hex	1,000	43
	ELG497	-	-	5/16 x 3-1/4"	5/16 hex	500	25
	ELG502	-	-	5/16 x 3-3/4"	5/16 hex	500	28
<b>TrimFit Flat (.415" nom. O.D.)</b>							
	-	-	ELG612	3/16 x 2-3/4"	#3 phillips	1,500	21
	ELG771	ELD400	-	1/4 x 1-3/4"	#3 phillips	2,000	32
	ELG801	ELD410	-	1/4 x 2-1/4"	#3 phillips	1,500	30
	ELG831	ELD420	ELG832	1/4 x 2-3/4"	#3 phillips	1,000	24
	ELG861	ELD430	ELG862	1/4 x 3-1/4"	#3 phillips	1,000	28
	ELG891	ELD440	ELG892	1/4 x 3-3/4"	#3 phillips	500	16
	ELG921	ELD450	-	1/4 x 4"	#3 phillips	500	17
	ELG945	-	-	5/16 x 2-1/4"	#3 phillips	1,500	47
	ELG955	-	-	5/16 x 2-3/4"	#3 phillips	1,000	38
	ELG965	-	-	5/16 x 3-1/4"	#3 phillips	500	22
	ELG972	-	-	5/16 x 3-3/4"	#3 phillips	500	26
	ELG976	-	-	5/16 x 4"	#3 phillips	500	27
	ELG991	-	-	5/16 x 5"	#3 phillips	250	17



**Mechanical Properties**

Nom. Dia.	Thread O.D. Nom.	Thread I.D. Nom.	Unthreaded Shank Nom.	Material	Heat Treatment	fy <sup>†</sup> (Tensile Yield)	fu <sup>†</sup> (Tensile Ultimate)
3/16	.210	.123	.146	1022 carbon steel	Case hardened (HRC 52 min. with core hardness of HRC 32 – 40 max.)	155 K.S.I.	177 K.S.I.
1/4	.255	.161	.189				
5/16	.315	.210	.236				

† Values listed are based on numerous tests with all three diameters of UltraCon® fasteners. Testing was done per ASTM E8-96 standards. The yield and ultimate tensile values shown are indicative of the hardness levels obtained.

**Performance Data**

Dia.	Hollow Block 1,924 PSI				Concrete 2,730 PSI				Wood				
	Depth of Embed.	Edge Dist.	Pull-out	Shear	Depth of Embed.	Edge Dist.	Pull-out	Shear	Depth of Embed.	Edge Dist.	Pull-out	Shear	
3/16"	1-1/4"	1"	421	546	1"	1"	422	692	-	-	-	-	
					1-3/8"		884	782	-	-	-	-	
					1-3/4"		1,096	856	-	-	-	-	
		2-1/2"	427	575	1"	2-1/2"	444	639	-	-	-	-	-
					1-3/8"		750	866	-	-	-	-	
					1-3/4"		1,271	781	-	-	-	-	

Dia.	Hollow Block 1,872 PSI				Concrete 3,513 PSI				Wood #2 SYP Specific Gravity .55				
	Depth of Embed.	Edge Dist.	Pull-out	Shear	Depth of Embed.	Edge Dist.	Pull-out	Shear	Depth of Embed.	Edge Dist.	Pull-out	Shear	
5/16"	1-1/4"	1-9/16"	1,049	708	1"	1-1/4"	737	879	1"	5d	1,423	1,095	
					1-3/4"		2,105	1,324	1-1/2"		2,471	1,617	
					1"		2-3/16"	836	1,500		2"	2,912	2,367
		3-1/8"	1,149	1,454	1-3/4"	2-3/16"	2,413	3,158	-	-	-	-	-
					1"		3-1/8"	851	1,801	1"	10d	1,454	1,188
					1-3/4"			2,643	3,404	1-1/2"		2,472	1,677
					2"			3,347	-	2"		3,233	2,407

NOTE: Indicated pull-out and shear failure values were obtained in tests witnessed by independent test labs (see below). 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 report cross-reference information**

Concrete		Block		Wood	
UltraCon® Dia.	Test report no.*	UltraCon® Dia.	Test report no.*	UltraCon® Dia.	Test report no.*
3/16"	HETI 03-1127	3/16"	HETI 05-1501	3/16"	-
1/4"	HETI 03-1136	1/4"	HETI 03-1159	1/4"	-
5/16"	HETI 01-5013	5/16"	HETI 01-5069	5/16"	HETI 01-5063

\* Testing by Hurricane Engineering & Testing, Inc. (HETI).

Additional testing has been done in other materials and conditions and is available upon request.



## Installation Tools

### 1000 Tool Cat. No. ELP 100



The 1000 installation tool is a two-step, multi-purpose tool for installing all styles of 1/4" and 3/16" diameter UltraCon 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 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

also available:

	ELY170	8" Drive Sleeve Assembly for 5" and 6" UltraCon Anchors	1
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### Elco® Drill Bits

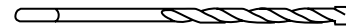
#### Hex-collared SDS Carbide-tipped Drill Bits\*\*



Elco Cat No.	Description	For Anchor Size	Qty. Per Shipper
ELT535-010	5/32 x 5 x 2	3/16"	10
ELT555-010	5/32 x 7 x 4	3/16"	10
ELT630-010	3/16 x 5 x 2	1/4"	10
ELT650-010	3/16 x 7 x 4	1/4"	10

\*\*For use with with rotary hammer drills and 1000 installation tools. One drill bit per tube.

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



Elco Cat No.	Description	For Anchor Size	Qty. Per Tube
ELT300-010	5/32 x 3-1/2	3/16"	10
ELT310-010	5/32 x 4-1/2	3/16"	10
ELT320-010	5/32 x 5-1/2	3/16"	10
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
ELT460-005	1/4 x 4-1/2	5/16"	5
ELT465-005	1/4 x 5-1/2	5/16"	5
ELT475-005	1/4 x 7-1/2	5/16"	5

\* For use with hammer drill guns. 5/32 and 3/16" sold in tubes containing 10 bits each; 1/4" bits sold in tubes containing 5 bits each.



## Elco Construction Products

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www.elcoconstruction.com



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