

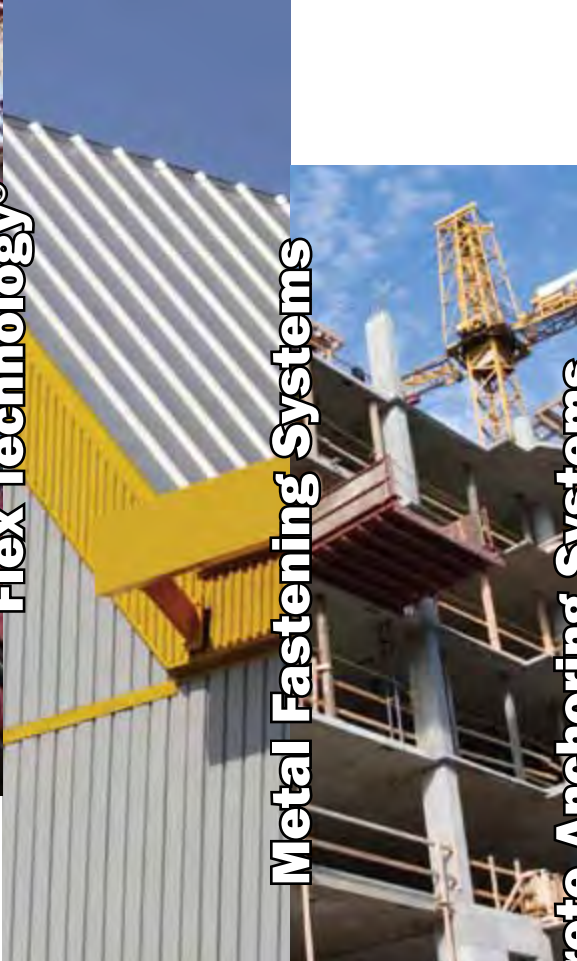


Innovative Fastening Technologies

2011 Construction Products Catalog



Flex Technology®



Metal Fastening Systems



Concrete Anchoring Systems



Building Protection





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A Commitment to the Construction Industry

Elco Construction Products provides a broad range of quality fasteners and value-added services designed to speed construction, improve building integrity and ensure performance under demanding conditions.

- **Dril-Flex**® structural drill screws that are virtually immune to embrittlement failure
- **Bi-Flex**™ 300 series (18-8) stainless steel self-drilling screws
- **Drilltite**® precision milled drill screws for greater drill consistency
- **Drilit**® screws with forged self-drilling points in a variety of styles
- 300 series stainless steel screws, including **Alumi-Flex**™ self-drilling and **TopSeal**™ H3 self-tapping styles
- **UltraCon**® masonry fasteners now available in blue, silver, white or bronze Stalgard® finish in 3/16", 1/4" and 5/16" diameters
- **ConFlex**® large diameter masonry fasteners
- **Aggre-gator**® 300 series (18-8) stainless steel bi-metal concrete anchors
- New sizes and styles of **HangerMate**® threaded rod anchoring system
- **Fab-Lok**® clamping fasteners

In addition, many of the products shown in this catalog can be customized to meet the needs of your application.

We have attempted to make this catalog as complete and accurate as possible, but changes are inevitable. More part numbers and product lines will be added on a regular basis. Visit our website for the most up-to-date literature.

New Product Development

Our close relationship with the construction industry has led to many innovative products customized for specific applications. Our application engineers can work directly with you to find solutions for your particular need.



Elco Construction Products

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Design & Application Assistance



Our application specialists can analyze your product designs and assist with optimal fastener selection. They can also offer design and material options.

Installation Analysis

Our commitment to you continues during and after construction. If a problem should arise, our applications specialists are available to investigate and determine the cause.

Pricing, Availability and Ordering Information

With only a few exceptions, all the items in this catalog are considered stock items. As such, they are usually available for shipment within 24 hours. Many parts are also stocked at various strategic locations around the United States to increase their accessibility.

For price and specific product availability, or to place an order, simply call 1-800-435-7213 and ask for customer service. Elco Construction Products only sells to authorized distributors.

Ordering Non-Stock Standard Parts

We recognize that all applications are unique and may require fastening solutions that are not considered standard. Specials are considered an integral part of what we offer to the marketplace. Because we offer such extensive manufacturing capabilities, we can customize a fastener to meet the specific needs of your application. A wide range of sizes, materials, drive styles, head styles and more are possible. Please contact a Customer Service Representative for assistance.

Special Services

Head Painting: Virtually any color can be matched, using the highest quality paint available to maximize adhesion and minimize chipping.

Packaging: In addition to the standard packaging indicated in this catalog, alternative packaging options are available ranging from bulk shipments in tubs to small-count poly bag packs.

To find the latest catalog information, learn about our custom capabilities and services, or find design and other technical data, log onto **www.elcoconstruction.com**.

Stalgard® High-Performance Protective Coatings



Provide consistent, high corrosion resistance in construction applications

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 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

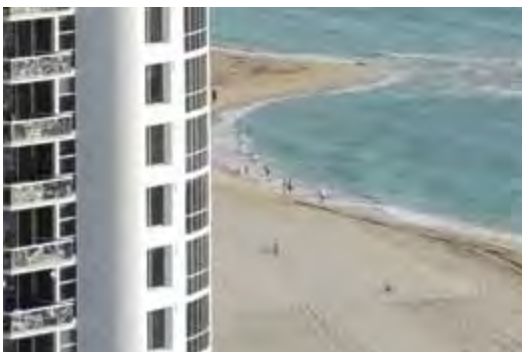


RoHS compliant (chrome-free)



Types of Stalgard Corrosion-Resistant Coatings

- **Stalgard Coating for High-Hardness Case and Induction Heat-Treated Fasteners** is cured at a low temperature so the hardness of the fasteners will not be affected
- **Stalgard SUB Class 4 Coating** for construction fasteners and others requiring a durable coating greater than 2000 hours salt spray testing (SST). Coming soon!



Applications

- Fasteners used in moderate marine environments
- Self-drilling and self-tapping fasteners
- High-hardness (Rc52) fasteners
- Fasteners used in ACQ-treated lumber

Stalgard® High-Performance Protective Coatings

Provide consistent, high corrosion resistance in construction applications

Stalgard® Coating for High-Hardness Case & Induction Heat-Treated Fasteners

Application: Drill and tapping fasteners that require a corrosion-resistant finish that does not affect hardness or self-drilling capability

Features & Performance Specs:

- Product diameter range: #8 and larger
- Salt spray resistance: 1000 hours per ASTM B117
- Available Pantone® colors: silver, black, blue, white, yellow, red, and brown
- Pantone® gray available for ACQ-treated lumber
- Semi-gloss color tones
- Uniform thickness
- Compatible with internal recesses
- Good paint adhesion characteristics (heat cure method)
- No introduced hydrogen -- will not cause brittle failures from electroplating
- RoHS compliant (chrome-free)
- Maintains drilling performance of self-drilling fasteners (Rc 52 min.)
- Maintains tapping performance of case and induction hardened thread-forming fasteners (Rc 52min)

Benefits:

- Durable tough finish – doesn't come off during handling or repeated installations
- Low friction
- Clean and dry – no oily residue

Stalgard® SUB Coating

Applications: More severe corrosion environments

Features & Performance Specs:

- Product diameter range: #8 and larger
- Available Pantone® color: Silver
- Uniform thickness
- Sulfur dioxide corrosion DIN 50018 SFW 2.0S for fifteen 24 hour cycles
- Salt spray 2,000 hours per ASTM B117
- Humidity per ASTM D2247 for 1,000 hours
- UV with humidity per ASTM G154 for 2,000 hours
- Good paint adhesion characteristics (heat cure method)
- RoHS compliant (chrome-free)
- Maintains drilling and tapping performance of case and induction hardened fasteners (Rc 52 min.)
- Available soon

Benefits:

- Durable tough finish – doesn't come off during handling or repeated installations
- Low friction
- Clean and dry – no oily residue



Elco Construction Products

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Avdel®





Drill Screws

Technical Information



Made in the U.S.A.

Ultimate Strength Values[†]

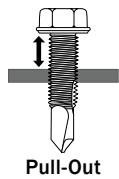
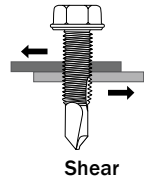
Carbon Steel, Case Hardened Product

Size	Tensile Lbs. Min.	Shear Avg. Lbs. Ult.	Torque Min. In-Lbs.
8-18	1,615	1,100	42
8-32	1,890	1,228	48
10-16	2,200	1,470	61
10-24	2,362	1,535	65
12-14	2,950	1,960	92
12-24	3,400	2,275	100
1/4-14	3,850	2,580	150
1/4-20	4,276	2,860	168
5/16-12	7,650	5,100	250
5/16-18	8,903	5,247	438
11/32-12	8,550	5,700	400
23/64-12	9,150	6,100	425

Shear Values[†]

(Average Lbs. Ultimate)

Desc.	Pt.	Gauge								0.125 (1/8")
		26	24	22	20	18	16	14	12	
8-18	2	301	500	542	742	1,049	—	—	—	—
10-16	1	403	585	673	883	1,330	—	—	—	—
10-16	3	—	461	524	731	1,254	1,524	1,674	—	—
12-14	1	437	718	763	1,030	1,548	—	—	—	—
12-14	2	370	607	622	860	1,360	1,690	2,112	2,212	—
12-14	3	—	—	—	775	1,361	1,624	1,974	1,993	—
12-24	4	—	—	—	—	—	1,430	1,930	2,455	2,573
12-24	4.5	—	—	—	—	—	1,389	1,920	2,174	2,257
12-24	5	—	—	—	—	—	1,351	1,825	2,152	2,226
1/4-14	1	519	863	892	1,301	1,771	—	—	—	—
1/4-14	3	—	—	—	930	1,447	2,102	2,584	2,650	—
1/4-20	5	—	—	—	—	—	1,655	2,277	—	3,210
11/32 Scrubolt™	AB	—	—	—	802	1,347	1,462	2,629	—	—
23/64 Scrubolt™	AB	—	—	—	883	1,367	1,718	2,864	—	—



Ultimate Average Fastener Pull-Out Values (Lbs)[†]

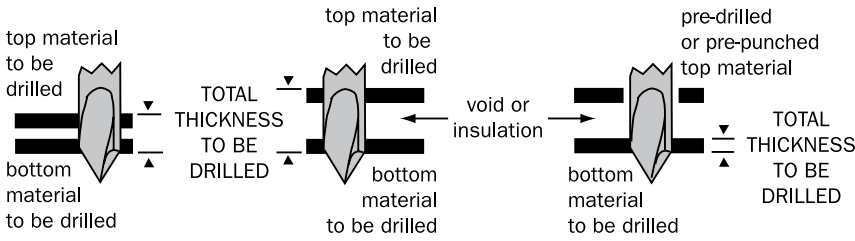
Descrip.	Point Type	Material Thickness												
		26 Ga.	24 ga.	22 Ga.	20 Ga.	18 Ga.	16 Ga.	14 Ga.	12 Ga.	.120"	3/16"	1/4"	5/16"	3/8"
8-18	2	120	197	268	301	494	702	961	1,615	—	—	—	—	—
8-32	2	156	244	304	318	519	1,184	1,550	1,854	—	—	—	—	—
10-16	1	151	242	315	361	565	826	1,092	1,791	—	—	—	—	—
10-16	2	134	218	281	340	539	741	991	1,632	—	—	—	—	—
10-16	3	130	206	272	303	498	702	970	1,495	—	—	—	—	—
10-24	2	161	238	293	324	517	1,096	1,544	1,906	—	—	—	—	—
12-14	1	161	260	332	394	640	920	1,262	1,940	—	—	—	—	—
12-14	2	154	247	286	379	609	852	1,186	1,863	2,345	—	—	—	—
12-14	3	142	214	296	349	580	767	1,078	1,553	1,956	—	—	—	—
12-14	5	—	—	—	307	463	953	1,060	1,588	1,813	—	—	—	—
12-24	5	—	—	—	311	452	1,060	1,288	1,844	2,205	3,237	—	—	—
1/4-14	1	228	342	432	571	801	1,169	—	—	—	—	—	—	—
1/4-14	3	150	238	301	340	702	891	1,162	1,798	2,120	—	—	—	—
1/4-20	3	—	—	—	337	571	1,232	1,525	2,212	2,447	4,066	—	—	—
1/4-20	5	—	—	—	—	—	—	—	—	3,431	4,801	5,261	—	—
5/16-12	3 (.260 dia.)	—	—	—	491	706	1,609	1,707	2,831	2,915	3,745	—	—	—
5/16-18	3 (.290 dia.)	—	—	—	457	568	1,209	1,712	2,422	2,601	3,716	5,122	5,288	—
14-10 SS	A	270	363	426	459	657	1,194	1,368	—	—	—	—	—	—
1/4-14 SS	B	216	344	383	411	571	686	983	1,698	2,242	2,693	3,695	3,746	3,484
11/32 CS Scrubolt™	AB	201	317	349	397	778	1,578	1,668	2,414	2,800	2,914	4,174	4,498	6,201
11/32 SS Scrubolt™	AB	190	304	364	381	725	1,468	1,593	2,397	2,525	2,892	4,028	4,419	6,158
23/64 CS Scrubolt™	AB	—	—	—	—	—	—	—	—	2,949	4,100	—	—	—

NOTE: SS = Stainless Steel; CS = Carbon Steel

†NOTE: Test values shown are ultimate average values obtained under laboratory conditions and apply to fasteners manufactured by Elco Construction Products only.

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.

Point Size Selection

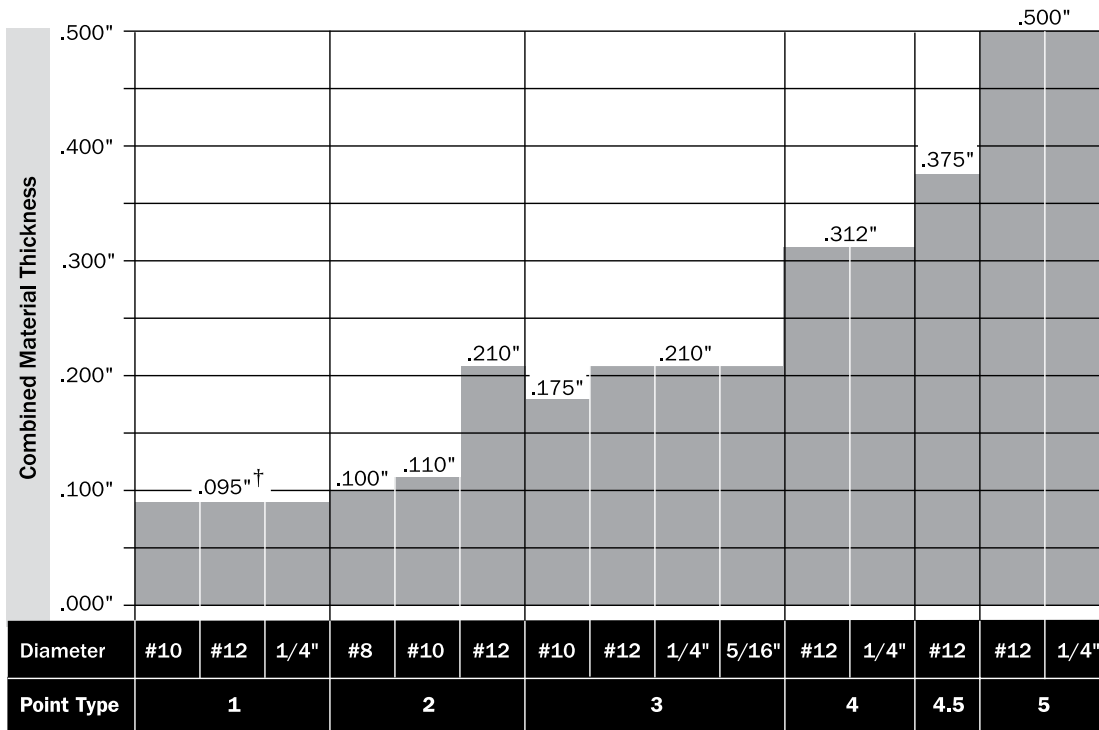


Maximum Combined Material Thickness By Point Type

Recommended Installation RPM

Diameter	RPM
#8	2500
#10	
#12	1800
1/4"	
5/16"	1200

Drilling and Tapping Capacity (Maximum Material Thickness)*



† Lapped panels: 18 ga. to 18 ga.

* **NOTE:** Some drill and tap capacities may vary due to special features on some fasteners. Refer to product performance specifications for any individual fastener to confirm performance and capabilities.

Standard Sheet Metal Sizes

Gauge	Decimal
26	0.018
24	0.024
22	0.030
20	0.038
18	0.048
16	0.060
14	0.075
12	0.106

Nominal Screw Sizes

Thread Dia.	Decimal
#6	.140
#7	.150
#8	.160
#9	.180
#10	.190
#11	.200
#12	.210
1/4	.240
#14	.250

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



Standard Drill Screws

Self-drilling fasteners in the most popular sizes



Made in the U.S.A.



Self-drilling fasteners eliminate separate drilling and tapping operations for faster, more economical installations.

Specifications

- Diameters: #8 to 5/16"
- Lengths: 1/2" to 4"
- Drill Points: Drilit® forged or Drilitite® dual-processed
- Drive Systems: Hex and phillips
- Material: Carbon steel
- Finishes: Stalgard® coating

Features & Benefits

- Eliminates separate drilling and tapping operations
- Fasteners coated with Stalgard finish typically show no red rust or other base metal corrosion on significant surfaces even after 1000 hours of 5% neutral salt spray exposure (per ASTM B117)

Catalog No.	Description	Point Type	Finish	Carton Quantity	Weight/Carton
#8 Diameter, 1/4" Hex Washer Head					
EDA236	8-18 x 1/2"	#2 Drilit	Stalgard	10,000	36
EDA261	8-18 x 3/4"	#2 Drilit	Stalgard	8,000	37
EDA286	8-18 x 1"	#2 Drilit	Stalgard	5,000	27
#8 Diameter, #2 Phillips Pan Head					
EDD251	8-18 x 1/2"	#2 Drilit	Stalgard	10,000	34
EDD266	8-18 x 3/4"	#2 Drilit	Stalgard	10,000	44
EDD291	8-18 x 1"	#2 Drilit	Stalgard	8,000	43
#10 Diameter, 5/16" High Hex Washer Head					
EDB401	10-16 x 1/2"	#3 Drilit	Stalgard	8,000	39
EDB426	10-16 x 5/8"	#3 Drilit	Stalgard	6,000	45
EDB446	10-16 x 3/4"	#3 Drilit	Stalgard	6,000	47
EDC450	10-16 x 3/4"	#1 Drilit	Stalgard	5,000	39
EDB486	10-16 x 1"	#3 Drilit	Stalgard	5,000	46
EDB541	10-16 x 1-1/2"	#3 Drilit	Stalgard	3,000	35
EDB571	10-16 x 2"	#3 Drilit	Stalgard	2,000	29
#12 Diameter, 5/16" Hex Washer Head					
EDC745	12-14 x 3/4"	#1 Drilit	Stalgard	5,000	45
EDB741	12-14 x 3/4"	#3 Drilit	Stalgard	5,000	46
EDB761	12-14 x 1"	#3 Drilit	Stalgard	4,000	41
EDA790	12-14 x 1-1/4"	#2 Drilitite	Stalgard	3,000	36
EDB782	12-14 x 1-1/4"	#3 Drilit	Stalgard	3,000	36
EDA815	12-14 x 1-1/2"	#2 Drilitite	Stalgard	2,500	35
EDB801	12-14 x 1-1/2"	#3 Drilit	Stalgard	2,500	35
EDB821	12-14 x 2"	#3 Drilit	Stalgard	2,000	34
EDB830	12-14 x 2-1/2"	#3 Drilit	Stalgard	1,500	29
EDB840	12-14 x 3"	#3 Drilit	Stalgard	1,000	24
EDB845	12-14 x 4"	#3 Drilit	Stalgard	500	15
1/4" Diameter, 3/8" Hex Washer Head					
EDB936	1/4-14 x 3/4"	#3 Drilit	Stalgard	3,500	48
EDC930	1/4-14 x 7/8"	#1 Drilit	Stalgard	4,000	38
EDB946	1/4-14 x 1"	#3 Drilit	Stalgard	3,000	47
EDB956	1/4-14 x 1-1/4"	#3 Drilit	Stalgard	2,000	37
EDB961	1/4-14 x 1-1/2"	#3 Drilit	Stalgard	2,000	39
EDB971	1/4-14 x 2"	#3 Drilit	Stalgard	1,500	38
EDB976	1/4-14 x 2-1/2"	#3 Drilit	Stalgard	1,000	30
EDB981	1/4-14 x 3"	#3 Drilit	Stalgard	800	28
EDB983	1/4-14 x 4"	#3 Drilit	Stalgard	500	23
5/16" Diameter, 3/8" Hex Washer Head					
EDB991	5/16-18 x 1"	#3 Drilitite	Stalgard	1,500	30
EDB994	5/16-18 x 1-1/4"	#3 Drilitite	Stalgard	1,000	34
EDB998	5/16-18 x 1-1/2"	#3 Drilitite	Stalgard	1,000	38



Drilit® Drill Screws with Bonded Sealing Washers

Economical fasteners for applications requiring a weather-tight seal



Made in the U.S.A.



This economical line of drill screws provides a weather-tight seal for protection against the elements.

Specifications

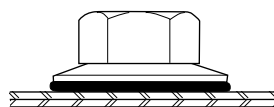
- Diameters: #10 to 1/4"
- Lengths: 3/4" to 4"
- Head Styles: Hex washer
- Drive System: Hex
- Point Types: #1 to #5
- Material: Carbon steel
- Finish: Stalgard® coating

Features & Benefits

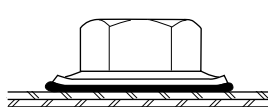
- EPDM washer material is UV- and heat-resistant for long-term protection against leakage
- Stalgard coating provides 1000 hours of salt spray resistance (per ASTM B117)

Catalog No.	Description	Point Type	Washer O.D.	Finish	Carton Quantity	Weight/Carton
#10 Diameter, 5/16" Hex Washer Head						
EHL111	10-16 x 3/4"	#3 Drilit	1/2"	Stalgard	4,000	31
EHL146	10-16 x 1-1/2"	#3 Drilit	1/2"	Stalgard	2,000	28
#12 Diameter, 5/16" Hex Washer Head						
EHL165	12-14 x 3/4"	#3 Drilit	9/16"	Stalgard	3,000	34
EHL351	12-24 x 7/8"	#4 Drilit	9/16"	Stalgard	2,500	31
EHL181	12-14 x 1"	#3 Drilit	9/16"	Stalgard	2,500	32
EHL235	12-14 x 1-1/4"	#3 Drilit	9/16"	Stalgard	2,000	27
EHL371	12-24 x 1-1/4"	#4.5 Drilit	9/16"	Stalgard	2,500	39
EHL276	12-14 x 1-1/2"	#3 Drilit	9/16"	Stalgard	2,000	33
EHL280	12-14 x 2"	#3 Drilit	9/16"	Stalgard	1,500	30
EHL285	12-14 x 2-1/2"	#3 Drilit	9/16"	Stalgard	1,000	23
EHL295	12-14 x 3"	#3 Drilit	9/16"	Stalgard	1,000	27
EHL310	12-14 x 4"	#3 Drilit	9/16"	Stalgard	500	15
ECW725	12-24 x 1-1/4"	#5 Drilltite	9/16"	Stalgard	2,500	35
ECW745	12-24 x 1-1/2"	#5 Drilltite	9/16"	Stalgard	2,000	28
ECW755	12-24 x 2"	#5 Drilltite	9/16"	Stalgard	1,000	20
1/4" Diameter, 3/8" Hex Washer Head						
EHL515	1/4-14 x 3/4"	#3 Drilit	5/8"	Stalgard	2,500	40
EHL315	1/4-14 x 7/8"	#1 Drilit	9/16"	Stalgard	2,500	32
EHL530	1/4-14 x 1"	#3 Drilit	5/8"	Stalgard	2,000	37
EHL556	1/4-14 x 1-1/4"	#3 Drilit	5/8"	Stalgard	1,500	31
EHL577	1/4-14 x 1-1/2"	#3 Drilit	5/8"	Stalgard	1,500	34
EHL585	1/4-14 x 2"	#3 Drilit	5/8"	Stalgard	1,000	27
EHL595	1/4-14 x 2-1/2"	#3 Drilit	5/8"	Stalgard	1,000	32
EHL600	1/4-14 x 3"	#3 Drilit	5/8"	Stalgard	800	29
EHL610	1/4-14 x 4"	#3 Drilit	5/8"	Stalgard	500	24

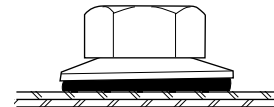
To assure a weather-tight seal, fasteners must be properly installed.



Correct



Overdriven



Underdriven



Flo-Seal® Drill Screws with Integral Sealing System

For self-drilling applications requiring a weather-tight seal



Made in the U.S.A.



Special underhead design and EPDM sealing washer combine to provide a custom, weather-tight seal.

Specifications

- Diameters: #12 and 1/4"
- Lengths: 3/4" to 2"
- Head Style: Hex washer (5/16" across flats)
- Drive System: Hex
- Material: Carbon steel
- Finish: Stalgard® coating

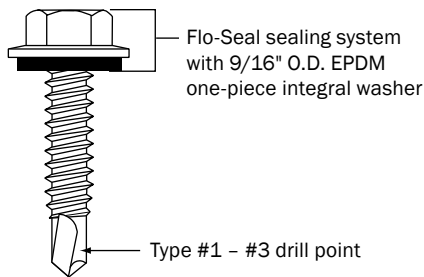
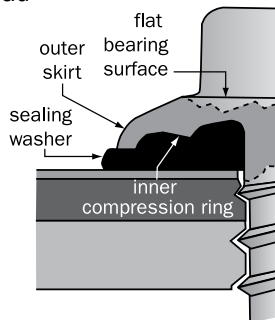
Features & Benefits

- EPDM washer is UV- and heat-resistant for long-term protection against leakage
- Reliable and consistent sealing even in under-tightened, over-tightened, or angle-driven installations
- Stalgard coating provides 1000 hours of salt spray resistance (per ASTM B117)

Catalog No.	Description	Point Type	Finish	Carton Quantity	Carton Weight
#12 Diameter with Flo-Seal Hex Washer Head					
EHB150	12-14 x 3/4"	#3	Stalgard	3,000	37
EHB180	12-14 x 1"	#2	Stalgard	2,500	35
EHB235	12-14 x 1-1/4"	#2	Stalgard	2,000	31
EHB295	12-14 x 1-1/2"	#2	Stalgard	2,000	35
EHB310	12-14 x 2"	#3	Stalgard	1,500	32
1/4" Diameter with Flo-Seal Hex Washer Head					
EHB515	1/4-14 x 7/8"	#1	Stalgard	2,500	35

Features and Benefits of the Flo-Seal Fastener Sealing System

- Fastener head engineered to control the flow of the special sealing washer, ensuring sealing in critical areas
- Provides reliable and consistent sealing even in under-tightened, over-tightened or angle-driven installations
- Ensures long-term protection against leakage
- Compensates for different installation situations and techniques



Drill Screw with Flo-Seal System

Maximum Material Attachment

Size	Material Attachment Max.
12-14 x 1	0.490"
12-14 x 1-1/4	0.560"
12-14 x 1-1/2	0.790"

Pull-Out Values (Average Lbs. Ultimate)

Dia.	Point Style	Gauge						
		24	22	20	18	16	14	12
#12	2	241	287	371	607	844	1184	1860
#12	3	214	296	349	580	767	1078	1553
1/4"	1	327	433	565	802	1148	-	-

Performance Values

Dia.	Tensile (lbs. min.)	Shear (avg. lbs. ult.)	Min. Torsional (in.-lbs)	Pull-Over 26 ga. (lbs)	Pull-Over 24 ga (lbs).
#12	2800	1875	92	851	1013
1/4"	3850	2590	150	851	1013



Drilit® Drill Screws for Wood-to-Metal Applications

For efficient fastening of wood or composite materials to steel



Made in the U.S.A.



These self-drilling fasteners eliminate separate drilling and tapping operations for faster installation in wood-to-metal applications.

Specifications

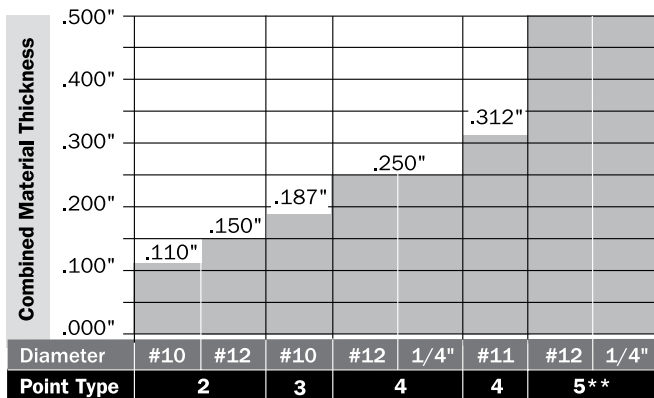
- Diameters: #10 to 1/4"
- Lengths: 3/4" to 3-15/16"
- Head Styles: Flat and wafer
- Drive System: Phillips
- Point Styles: Types 3 and 4
- Material: Carbon steel and bi-metal
- Finishes: Gray Stalgard® coating

Features & Benefits

- Eliminates costly pre-drilling of wood
- Broad selection of sizes
- Can be used with steel up to 5/16" thick
- Gray Stalgard coating provides 1000 hours of salt spray resistance and was developed for use with ACQ-treated lumber with retention levels no higher than .25 PCF

Cat. No.	Description	Point Type	Finish	Typical Wood Thickness	Drilling Capacity (min. – max. in steel)	Qty. Per Shipper	Wt. Per Shipper
#10 Diameter, #2 Phillips Wafer Head							
EDM582	10-24 x 3/4"	#3	Gray Stalgard	3/8"	.036" – .187"	8,000	43
EDM592	10-24 x 1"	#3	Gray Stalgard	1/2"	.036" – .187"	6,000	43
EDM607	10-24 x 1-1/4"	#3	Gray Stalgard	5/8"	.036" – .187"	5,000	38
EDT602	10-24 x 1-7/16"	#3 w/wings	Gray Stalgard	3/4"	.036" – .187"	4,000	40
EDM622	10-16 x 1-1/2"	#3	Gray Stalgard	3/4"	.036" – .187"	3,500	35
EDM635	10-16 x 1-13/16"	#2 w/pilot	Gray Stalgard	3/4"	.036" – .150"	2,500	29
#11 Diameter, #3 Phillips Wafer Head,							
EDT630	11-16 x 2-15/16"	#4 w/wings	Gray Stalgard	2"	.060" – .312"	1,000	26
EDT635	11-16 x 3-7/16"	#4 w/wings	Gray Stalgard	2-1/2"	.060" – .312"	1,000	27
EDT640	11-16 x 3-15/16"	#4 w/wings	Gray Stalgard	3"	.060" – .312"	500	16
#12 Diameter, #3 Phillips Wafer Head							
EDT720	12-24 x 1-3/4"	#4 w/wings	Gray Stalgard	1"	.060" – .250"	2,000	29
#12 Diameter, #3 Phillips Flat Head							
EDT267	12-24 x 2-1/4"	#4 w/wings	Gray Stalgard	1-1/4"	.060" – .250"	2,000	32
EDT282	12-24 x 2-3/4"	#4 w/wings	Gray Stalgard	1-5/8"	.060" – .250"	1,500	30
EDJ867	12-14 x 3-5/8"	#2 w/pilot	Gray Stalgard	1-3/4"	.030" – .150"	1,000	24
1/4" Diameter, #3 Phillips Flat Head							
EDT442	1/4-20 x 3"	#4 w/wings	Gray Stalgard	2"	.060" – .250"	1,000	30

Cat. No.	Dia. – TPI	Length	Drive System	Point Size	Max. Load-bearing Length	Pieces per 1/4 Keg	Weight/1/4 Keg
Bi-Flex™ Bi-Metal 300 Series Stainless Steel Fasteners; Flat Head Reamers w/Wings							
EBN140	10-16	1-1/2"	#2 phillips	3	0.800"	3,500	30
EBN345	12-24	2-13/16"	#3 phillips	5	1.710"	1,000	21
EBN645	1/4-20	2-13/16"	#3 phillips	5	1.710"	1,000	28



Drilling and Tapping Capacity for Wood to Metal Screws (Maximum Material Thickness) *

* **NOTE:** Some drill and tap capacities may vary due to special features on some fasteners. Refer to product performance specifications for any individual fastener to confirm performance and capabilities.

** Bi-Flex fasteners only. See page 18 for details.

NOTE: 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.



Drill Screws with Extended Drilling Capacity

Specially-designed drill points handle the toughest applications



Made in the U.S.A.



This line of heavy-duty drill screws is designed to speed installation in steel applications up to 1/2" thick.

Specifications

- Diameters: #12 and 1/4"
- Lengths: 7/8" to 6"
- Head Style: Hex washer
- Drive System: Hex
- Material: Carbon steel
- Finish: Silver Stalgard® coating

Features & Benefits

- Points are either Drilit® forged or Drilltite® precision milled points
- Can drill metal up to 0.500" thick
- Stalgard coating provides 1000 hours of salt spray resistance (per ASTM B117)

Catalog No.	Description	Point Type	Finish	Carton Quantity	Carton Weight
#12 Diameter Decking Fasteners and Drill Screws for Steel Thicknesses of .175" to .500"					
EDC801	12-24 x 7/8"	#4 Drilit	Stalgard	4,500	47
EDC816	12-24 x 1-1/4"	#4.5 Drilit	Stalgard	3,500	50
ECC720	12-24 x 1-1/4"	#5 Drilltite	Stalgard	4,000	45
ECC740	12-24 x 1-1/2"	#5 Drilltite	Stalgard	2,500	40
ECC750	12-24 x 2"	#5 Drilltite	Stalgard	2,000	35
1/4" Diameter Decking Fasteners and Drill Screws for Steel Thicknesses of .175" to .500"					
ECC940	1/4-20 x 3"	#5 Drilit	Stalgard	1,000	36
ECC950	1/4-20 x 4"	#5 Drilit	Stalgard	1,000	46
ECC960	1/4-20 x 5"	#5 Drilit	Stalgard	500	31
ECC970	1/4-20 x 6"	#5 Drilit	Stalgard	500	37
ECC980	1/4-20 x 8"	#5 Drilit	Stalgard	150	16

NOTE: 1/4-20 drill screws with #5 points are available with bonded washers.



TapFast® Fasteners

For use in metal-to-wood applications



High-performance fastener designed specifically for attaching light-gauge metal panels (18 ga. max.) to wood frame structures.

Specifications

- Size: #9
- Lengths: 1" to 3"
- Head/Drive: 1/4" HWH
- Point: Type 17
- Material: Carbon steel
- Finish: Stalgard® coating

Features & Benefits

- Bonded sealing washer
- High-low thread increases performance
- Easily penetrates multiple panel thicknesses
- Stalgard coating provides 1000 hours of salt spray resistance (per ASTM B117)

Catalog No.	Description	Point	Finish	Carton Quantity	Carton Weight
#9 Diameter, with Bonded Sealing Washer, Hex Washer Head					
EHH210	9-15 x 1"	Type 17	Stalgard	3,000	26
EHH230	9-15 x 1-1/2"	Type 17	Stalgard	2,500	29
EHH250	9-15 x 2"	Type 17	Stalgard	1,500	20
EHH265	9-15 x 2-1/2"	Type 17	Stalgard	1,000	17
EHH280	9-15 x 3"	Type 17	Stalgard	800	16



Architectural Roof Clip Fasteners

Low-profile head design for wood and steel applications



Made in the U.S.A.



The efficiency of self-drilling fasteners and the aesthetics of an inobtrusive head are ideal for attaching metal roof clips to metal and wood.

Specifications

- Diameters: #10 to #12"
- Lengths: 1" to 2"
- Head Styles: Pancake
- Drive Systems: Phillips
- Material: Carbon steel
- Finishes: Silver or gray Stalgard® coating

Features & Benefits

- Eliminates separate drilling and tapping operations
- Pancake head improves aesthetics and prevents panel dimpling
- Stalgard coating provides 1000 hours of salt spray resistance (per ASTM B117)
- Gray Stalgard is AQC-compatible

Catalog No.	Description	Drive System	Point Type	Finish*	Carton Quantity	Carton Weight
For Steel						
EDO450	10-16 x 1"	#2 Phillips	#3	Silver Stalgard	4,000	34
EDO460	10-16 x 1-1/2"	#2 Phillips	#3	Silver Stalgard	3,000	34
EDO470	10-16 x 2"	#2 Phillips	#3	Silver Stalgard	2,000	28
EDO735	12-14 x 1"	#2 Phillips	#3	Silver Stalgard	4,000	40
For Wood/Light Gauge Steel						
ETA850	10-12 x 1"	#2 Phillips	Pierce	Gray Stalgard	4,000	37
ETA855	10-12 x 1-1/2"	#2 Phillips	Pierce	Gray Stalgard	3,000	33
ETA860	10-12 x 2"	#2 Phillips	Pierce	Gray Stalgard	2,000	27
ETA870	12-11 x 1"	#2 Phillips	Pierce	Gray Stalgard	4,000	40

* Gray Stalgard coating is ACQ-compatible

Performance Data

Pull-Out Values (Lbs)

Diameter	Point Type	26 ga.	24 ga.	22 ga.	20 ga.	18 ga.	14 ga.	12 ga.
#10	#3	139	206	272	303	498	970	1495
#12	#3	142	214	296	349	580	1078	1553

Diameter	Point Type	1/2" Plywood	5/8" Plywood	3/4" Plywood	Yellow Pine	3/4" OSB
#10	Pierce	366	381	401	582	290
#12	Pierce	378	393	429	677	329

Shear values (Lbs)

Diameter	Point Type	20 ga.	18 ga.	16 ga.	14 ga.
#10	#3	301	503	710	969
#12	#3	775	1361	1624	1974

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



Dril-Flex® Structural Drill Screws

Virtually immune to delayed embrittlement failures



Made in the U.S.A.



Precision-engineered and dual heat treated drill screws provide the strength, ductility and resistance to embrittlement required for critical applications.

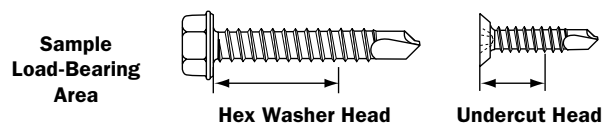
Specifications

- Diameters: #10 to 5/16"
- Lengths: 3/4" to 4"
- Head/Drive Styles: Hex washer and phillips undercut flat
- Point Types: #3, #4 and #5
- Material: Alloy steel
- Heat Treat: Grade 5
- Finish: Silver Stalgard® coating

Features & Benefits

- High-hardness points and lead threads for drilling and tapping with lower-hardness in load-bearing threads for ductility
- Virtually immune to delayed embrittlement failures
- Stalgard coating provides 1000 hours of salt spray resistance (per ASTM B117)

Catalog No.	Description	Point	Load-Bearing Area	Finish	Carton Quantity	Carton Weight
#10 Diameter, 5/16" Hex Washer Head						
EAF430	10-16 x 3/4"	#3	.500"	Stalgard	6,000	48
EAF460	10-16 x 1-1/2"	#3	1.50"	Stalgard	2,500	30
EAF470	10-16 x 2"	#3	2.00"	Stalgard	2,000	28
EAF480	10-16 x 2-1/2"	#3	2.50"	Stalgard	1,500	25
#10 Diameter, #2 Phillips Pan Head						
EDX445	10-16 x 3/4"	#2	.500"	Stalgard	6,000	36
#10 Diameter, #2 Phillips Wafer Head						
EBL530	10-24 x 1-1/4"	#3	.750"	Stalgard	5,000	44
#12 Diameter, 5/16" Hex Washer Head						
EAF621*	12-14 x 7/8"	#3	.470"	Stalgard	5,000	54
EAF641	12-14 x 1"	#3	.500"	Stalgard	4,000	44
EAF681	12-14 x 1-1/2"	#3	1.00"	Stalgard	2,500	38
EAF755	12-24 x 1-3/4"	#5	.800"	Stalgard	2,500	48
EAF690	12-14 x 2"	#3	1.50"	Stalgard	2,000	37
EAF715	12-14 x 3"	#3	2.50"	Stalgard	1,000	27
#12 Diameter, #3 Phillips Undercut Flat Head						
EBL215	12-14 x 1"	#3	.500"	Stalgard	4,000	36
EBL223	12-14 x 1-1/2"	#3	1.00"	Stalgard	2,500	26
1/4" Diameter, 3/8" Hex Washer Head						
EAF816	1/4-14 x 1"	#3	.450"	Stalgard	3,000	54
EAF841	1/4-14 x 1-1/2"	#3	.950"	Stalgard	2,000	45
EAF876	1/4-20 x 1-1/2"	#4	.830"	Stalgard	2,000	48
EAF846	1/4-14 x 2"	#3	1.45"	Stalgard	1,500	41
EAF886	1/4-20 x 2"	#4	1.33"	Stalgard	1,500	45
EAF865	1/4-20 x 1-1/8"	#4	.500"	Stalgard	2,500	51
EAF888	1/4-20 x 1-3/4"	#5	.800"	Stalgard	1,000	27
EAF890	1/4-20 x 2-1/2"	#4	1.830"	Stalgard	1,000	45
EAF900	1/4-20 x 3-3/8"	#4	2.70"	Stalgard	500	22
EAF910	1/4-20 x 4"	#4	3.50"	Stalgard	500	23
1/4" Diameter, #3 Phillips Undercut Flat Head						
EBL330	1/4-20 x 3"	#4	2.50"	Stalgard	500	20
EBL340	1/4-20 x 4"	#4	3.50"	Stalgard	500	23
5/16" Diameter, 3/8" Hex Washer Head						
EAF940	5/16-18 x 1-1/2"	#3	.850"	Stalgard	1,000	37
EAF960	5/16-24 x 1-1/2"	#4	.850"	Stalgard	1,000	40
EAF970	5/16-24 x 2"	#4	1.35"	Stalgard	1,000	49



* for aluminum applications only.



Dril-Flex® Structural Drill Screws

Technical Information



Made in the U.S.A.

Pull-out Tests – Steel

Pull-out values shown are in lbs.

Screw Size	Point Type	Drill Cap.	Steel							
			18	16	14	12	1/8	3/16	1/4	5/16
10-16	3	.150	396	501	634	1595	1693			
12-14	3	.187	396	527	710	1678	2061	2898		
1/4-14	3	.210	398	530	686	1950	2264	3919		
1/4-20	4	.312		516	649	1912	2296	2928	3561	4488
5/16-24	4	.312				2148	2573	4226	5424	6622

Shear Tests – Steel

Shear values shown are in lbs.

Screw Size	Point Type	Drill Cap.	Steel						
			18-18 gauge	18-14 gauge	16-16 gauge	14-14 gauge	1/8"-3/16"	3/16"-1/4"	1/4"-12 gauge
10-16	3	.150	1362	1733	1462				
12-14	3	.187	1315	2118	1655	1816			
1/4-14	3	.210	1395	2313	1681	2417	2600		
1/4-20	4	.312	1350	2086	1582	2450	2814	2810	2706
5/16-24	4	.312					5486	5283	4761

NOTE: All test setups and dimensions were as limited and outlined in AISI Test Method for Mechanically Fastened Cold-Formed Steel Connections (CF92-1) document. Performance values listed are ultimate values obtained under laboratory conditions.

Comparison to Stainless Steel Screws

Galvanic Series

Anodic End	
Metal/Alloy	EMF(v)
Magnesium.....	-1.60
Zinc.....	-1.10
Alum (5000, 6000, 7000).....	-0.75
Iron, Low Alloy Steels.....	-0.70
Alum (2000).....	-0.60
Lead.....	-0.55
18% Chromium Steel.....	-0.35
Naval Brass.....	-0.30
Brass, Bronze.....	-0.25
Austenitic Stainless (300 Series)..	-0.20
Nickel.....	-0.15
Silver.....	0
Gold.....	+0.15
Cathodic End	

In the presence of moisture, materials higher on the list will be sacrificial to materials lower on the list. The greater the EMF differential, the greater the sacrificial action of the anode to the cathode in a galvanic cell.

300 series stainless steel fasteners provide high resistance to hydrogen embrittlement failures. However, stainless steel is galvanically incompatible with aluminum or steel panels. In this case, stainless steel fasteners trigger a sacrificial action, which can lead to degradation of the panel and loosening of the fastener.

A dual-hardening process allows Dril-Flex® fasteners to provide high strength and resistance to hydrogen embrittlement failures. Their Stalgard® finish provides corrosion resistance several times greater than other commonly-used finishes. If an environment is corrosive enough to significantly affect the Stalgard finish, the

potential for significant degradation of the aluminum/stainless steel assembly would also exist.

Approvals

- ICC ES ER-4780 Legacy Report
- COLA (City of Los Angeles) Research Report #25095

Pull-out Tests – Aluminum

Pull-out values shown are in lbs.

Screw Size	Point Type	Drill Cap.	Aluminum 6063-T5		
			1/8"	1/4"	3/8"
10-16	3	.150			
12-14	3	.187	939	2286	
1/4-14	3	.210	1003	2424	
1/4-20	4	.312	897	2075	3683
5/16-24	4	.312	1043	2566	

Shear Tests – Aluminum

Shear values shown are in lbs.

Screw Size	Point Type	Drill Cap.	Aluminum 6063-T5	
			1/8" - 1/8"	1/8" - 1/4"
10-16	3	.150	1466	
12-14	3	.187	1797	2483
1/4-14	3	.210	1996	2883
1/4-20	4	.312	2006	2926
5/16-24	4	.312	1849	2926

Embrittlement Tests

Embrittlement testing of Dril-Flex screws was performed in accordance to ASTM F1624-06. Fastener lots were tested to determine their Threshold Stress Limits for both Internal Hydrogen Embrittlement and Environmental Hydrogen Embrittlement. Threshold Stress Limit is the stress level below which no time-dependent cracking will occur. Above this level, subcritical cracking that leads to time-delayed fracture or embrittlement may occur if the fastener is exposed to a hydrogen environment.

Embrittlement Test Results

- Dril-Flex fasteners have a hardness range of HRC 28 – 34, which is roughly equivalent to a SAE Grade 5 fastener (HRC 25 – 34).
- Dril-Flex fasteners showed resistance to the effect of hydrogen-assisted cracking when loaded to 75% of their tensile strength. This is within accepted industry guidelines for in-service loading conditions.
- Dril-Flex fasteners showed no degradation or failures in tensile strength below their ultimate tensile strength.

Identification

(hex washer head shown)



NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



Tap-Flex™ Thread-Forming Structural Screws

Increased thread engagement with strength and ductility



Made in the U.S.A.



Segmented thread profile and Flex Technology dual heat treat allow Tap-Flex screws to install easily and provide high performance in the field.

Specifications

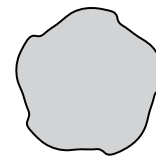
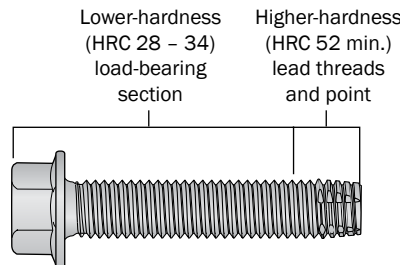
- Diameters: 3/8", 1/2", and 5/8"
- Head Style: Hex washer
- Threads: E-Form® five-lobe thread forming
- Material: Alloy steel
- Finish: Silver Stalgard® GB coating
- Heat Treat: Grade 5; meets ASTM A449 specifications (120 KSI strength)

Features and Benefits

- E-Form thread overcomes friction build-up and reduces drive torque
- Roll forms own work-hardened thread to resist loosening cause by vibration or thermal changes and provide enhanced pull-out values
- Stalgard GB coating provides 1000 hours of salt spray resistance (per ASTM B117)

Size	Catalog No.	Finish	Load-Bearing Length	Quantity	Weight
3/8" Diameter, Hex Washer Head					
3/8-16 x 1-1/2	ESU310	Stalgard GB	1.00"	500	34
3/8-16 x 2	ESU320	Stalgard GB	1.49"	500	40
3/8-16 x 2-1/2	ESU330	Stalgard GB	1.99"	500	46
1/2" Diameter, Hex Washer Head					
1/2-13 x 1-1/2	ESU410	Stalgard GB	0.875"	250	36
1/2-13 x 2	ESU420	Stalgard GB	1.365"	250	41
1/2-13 x 2-1/2	ESU430	Stalgard GB	1.865"	250	47
5/8" Diameter, Hex Washer Head					
5/8-11 x 1-1/2	ESU510	Stalgard GB	0.800"	250	46
5/8-11 x 2	ESU520	Stalgard GB	1.24"	150	33
5/8-11 x 2-1/2	ESU530	Stalgard GB	1.74"	150	38

Identification



E-Form® Profile

Ultimate Shear and Tensile Values

Fastener Dia.	Tensile Ultimate. Lbs.	Shear Ultimate Lbs.	Pre-Drilled Hole Dia.
3/8"	9300	5580	11/32
1/2"	17040	10224	15/32
5/8"	27120	16272	19/32

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



Bi-Flex™ 300 Series Stainless Steel Bi-Metal Self-Drilling Screws

Bi-metal technology provides outstanding corrosion resistance and long service life



Bi-Flex™ fasteners provide the corrosion resistance of 300 series stainless steel and the efficiency of drillscrews.

Specifications

- Diameters: #10 to 1/4"
- Lengths: 3/4" to 8"
- Drive Systems: Hex and phillips
- Material: Hardened steel tapping threads and point fused onto an 18-8 stainless steel shank and head
- Finish: Stalgard® GB (Galvanic Barrier) coating

Features & Benefits

- High strength, ductility and reliability
- Virtually immune to delayed embrittlement failures
- Greater galvanic compatibility in dissimilar metal applications involving aluminum
- High in-place value over the life of application

	Catalog No.†	Dia. – TPI	L Length	Drive System	Point Size	B Maximum Load-bearing Length*	Pieces per 1/4 Keg	Weight per 1/4 Keg
Hex Washer Head								
	EAJ110	10-16	3/4"	5/16" hex	2	0.320"	5,000	32
	EAJ140	10-16	1-1/2"	5/16" hex	2	1.10"	2,500	39
	EAJ185	12-14	1"	5/16" hex	2	0.500"	3,000	31
	EAJ215	12-14	1-1/2"	5/16" hex	2	1.00"	2,500	34
	EAJ190	12-14	1"	5/16" hex	3	0.500"	4,000	41
	EAJ220	12-14	1-1/2"	5/16" hex	3	1.00"	2,500	34
	EAJ260	12-14	2-1/2"	5/16" hex	3	2.00"	1,000	21
	EAJ240	12-14	2"	5/16" hex	2	1.500"	1,500	26
	EAJ340	12-24	2"	5/16" hex	5	1.100"	2,000	35
	EAJ415	1/4-14	1"	3/8" hex	2	0.500"	2,500	40
	EAJ540	1/4-20	1"	3/8" hex	3	0.500"	2,500	40
	EAJ430	1/4-14	1-1/2"	3/8" hex	2	1.00"	1,000	30
	EAJ580	1/4-20	1-1/2"	3/8" hex	3	1.00"	1,000	32
	EAJ445	1/4-14	2"	3/8" hex	2	1.500"	1,500	25
	EAJ610	1/4-20	2"	3/8" hex	3	1.500"	1,500	38
	EAJ615	1/4-20	2"	3/8" hex	5	1.100"	1,500	38
	EAJ640	1/4-20	2-1/2"	3/8" hex	3	2.000"	1,000	32
	EAJ650	1/4-20	3"	3/8" hex	3	2.500"	500	18
EAJ660	1/4-20	4"	3/8" hex	3	3.500"	500	22	
EAJ690C	1/4-20	8"	3/8" hex	5	7.10"	150	15	

Flat Head Reamers w/wings

	EBN140	10-16	1-1/2"	#2 phillips	3	0.800"	3,500	30
	EBN345	12-24	2-13/16"	#3 phillips	5	1.710"	1,000	21
	EBN645	1/4-20	2-13/16"	#3 phillips	5	1.710"	1,000	28

Flat Head Undercut

	EBN200	12-14	1"	#3 phillips	2	0.500"	4,000	31
	EBN240	12-14	1-1/2"	#3 phillips	2	1.00"	2,500	29
	EBN630	1/4-20	3"	#3 phillips	2	2.500"	500	18
	EBN640	1/4-20	4"	#3 phillips	2	3.500"	500	22

* The load-bearing length is the length of 300 series stainless under the hex head or including the flat head. Hardened steel length (lead threads and point) should be through the connection and not in the load bearing section of the connection.



Bi-Flex™ 300 Series Stainless Steel Bi-Metal Self-Drilling Screws

Technical Information

Performance Data

Pull-Out Values

Screw Size	Drill Point Type	Drill Cap. (in.)	Pull-Out (Lbs)								
			Steel RB60-75 50 – 66KSI						Aluminum 6063-T5 22KSI		
			18 ga.	16 ga.	14 ga.	12 ga.	1/8"	3/16"	1/4"	1/8"	1/4"
10-16	2	0.110	455	677	793	1394	1906	-	-	994	-
10-16	3	0.187	-	616	684	1242	1605	1527	-	961	-
12-14	2	0.140	528	750	892	1536	2602	2514	-	1132	-
12-14	3	0.210	417	679	802	1371	2028	2499	-	974	-
12-24	5	0.500	-	-	-	-	-	2110	2781	538	1995
1/4-14	2	0.175	619	885	1082	1830	2943	3535	-	1310	-
1/4-20	3	0.312	-	680	780	1442	2623	3684	4069	1037	2786
1/4-20	5	0.500	-	-	-	-	-	-	2622	-	1724

Ultimate Strengths**

Size	Tensile (Lbs)	Shear Average Lbs Ultimate
10-16	1847	1282
12-14	2628	1950
12-24	2734	2284
1/4-14	3459	2676
1/4-20	4124	2860



flat head



hex washer head

Identification

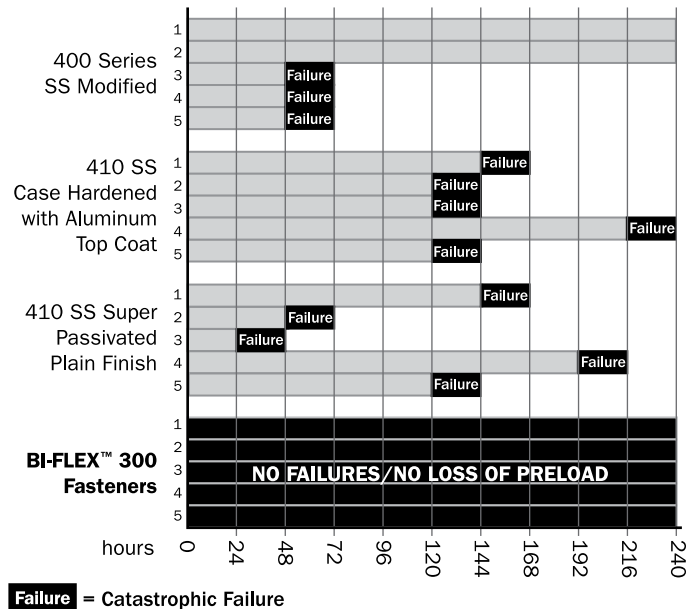
The head marking consists of the number "3" above the Elco® logo as shown to the left.

** Values are for 300 series stainless fastener threaded shank

Susceptibility To Embrittlement Failures

In head to head testing, Bi-Flex™ 300 fasteners and three different types of 400 series martensitic stainless, self-drilling screws were installed in identical test coupons of unplated steel and aluminum. They were then subjected to a mildly corrosive environment of 5% neutral salt spray testing per ASTM B117. At the start of the test all samples were torqued (pre-loaded) to 75 in lbs. Every 24 hours the samples were inspected for torque value and retorqued to 75 in lbs.

The parts were evaluated by scanning electron microscope (S.E.M.) to determine the type of fracture that had occurred. The three 400 series fasteners showed an intergranular type failure, indicative of fracturing that occurs from hydrogen assisted stress corrosion cracking. **No failures or loss of preload occurred with the Bi-Flex fasteners.**



All fasteners were placed through a clear hole in 6061 T6 aluminum with a thickness of 0.125" and drilled into an unplated steel strip measuring a thickness of 0.125". A strip of 0.060" aluminum was placed in between the 0.125" aluminum and steel strip on one side, to simulate a fastener placed under load.

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



Alumi-Flex™ 302 (18-8) Stainless Steel Drill Screws

For fastening to aluminum when corrosion is a primary concern



Made in the U.S.A.



Stainless steel drill screws provide strength and corrosion resistance in a variety of aluminum applications.

Specifications

- Diameters: #10 to 1/4"
- Lengths: 1/2" to 1-1/2"
- Head Style: Hex washer
- Drive System: Hex
- Point Types: #3 and #4
- Material: 302 stainless steel
- Finish: Stalgard® GB (Galvanic Barrier) coating

Features & Benefits

- Provides a very high level of corrosion resistance
- Coating allows greater galvanic compatibility in dissimilar metal applications involving aluminum
- Head marked with a "3" for easy identification

Catalog No.	Description	Point Type	Finish	Carton Quantity	Carton Weight
#10 Diameter Hex Washer Head					
EAH430	10-16 x 1/2"	#3	Stalgard GB	8,000	51
EAH445	10-16 x 3/4"	#3	Stalgard GB	6,000	46
EAH460	10-16 x 1"	#3	Stalgard GB	5,000	45
#12 Diameter Hex Washer Head					
EAH630	12-14 x 3/4"	#3	Stalgard GB	5,000	40
EAH650	12-14 x 1"	#3	Stalgard GB	5,000	52
EAH680	12-14 x 1-1/2"	#3	Stalgard GB	3,000	44
1/4" Diameter Hex Washer Head					
EAH800	1/4-14 x 3/4"	#3	Stalgard GB	3,500	51
EAH820	1/4-14 x 1"	#3	Stalgard GB	3,000	48
EAH835	1/4-14 x 1-1/2"	#3	Stalgard GB	2,000	41
EAH870	1/4-20 x 1"	#4	Stalgard GB	2,000	35
EAH880	1/4-20 x 1-1/2"	#4	Stalgard GB	2,000	42

Note: For aluminum applications **only**. See previous page for performance data.



Identification

The head marking consists of the number "3" below the Elco® logo as shown to the left.



AllFlex™ 302 Stainless Steel Fasteners

High Performance in Aluminum Applications



Made in the U.S.A.



302 stainless steel thread-cutting/self-tapping fasteners with Stalgard® GB coating to prevent galvanic reactions and increase corrosion resistance.

Specifications:

- Diameters: #10 – 1/4"
- Head Styles: Hex washer, pan, flat and flat undercut
- Drive Systems: Hex washer and phillips
- Thread/Point Styles: Type F, B or AB
- Material: 302 stainless steel
- Finish: Stalgard GB (Galvanic Barrier) coating

Benefits

- Roll-form or cut own mating threads in aluminum components to eliminate tapping operations and speed installation
- Stalgard GB coating prevents galvanic reaction between stainless steel fastener and aluminum components

Catalog No.	Description	Finish	Carton Quantity	Carton Weight
Type F Thread-Cutting, Hex Washer Head				
EHE310	1/4-20 x 3/4"	Stalgard GB	2,500	55
EHE312	1/4-20 x 1"	Stalgard GB	2,500	45
EHE314	1/4-20 x 1-1/4"	Stalgard GB	2,000	41
Type F Thread-Cutting, Phillips Flat Head				
EHE321	1/4-20 x 1"	Stalgard GB	2,500	30
Type F Thread-Cutting, Phillips Flat Undercut Head				
EHE110	10-24 x 1/2"	Stalgard GB	8,000	32
EHE211	12-24 x 1/2"	Stalgard GB	5,000	30
Type B Self-Tapping with 1/4" Lead Point				
EHE336	14 x 1-1/2"	Stalgard GB	2,000	44
Type AB Self-Tapping, Hex Washer Head				
EHE122	10 x 3/4"	Stalgard GB	5,000	33
EHE124	10 x 1"	Stalgard GB	5,000	39
EHE220	12 x 3/4"	Stalgard GB	4,000	34
EHE222	12 x 1"	Stalgard GB	4,000	41
EHE224	12 x 1-1/2"	Stalgard GB	2,500	34
EHE342	14 x 1"	Stalgard GB	2,500	40
EHE344	14 x 1-1/4"	Stalgard GB	2,000	35
EHE346	14 x 1-1/2"	Stalgard GB	2,000	43
Type AB Self-Tapping, Phillips Flat Undercut Head				
EHE352	14 x 1"	Stalgard GB	2,500	44
Type AB Self-Tapping, Phillips Flat Head				
EHE232	12 x 1"	Stalgard GB	4,000	33
EHE234	12 x 1-1/2"	Stalgard GB	2,500	39
EHE362	14 x 1"	Stalgard GB	2,500	34
EHE366	14 x 1-1/2"	Stalgard GB	2,000	41
Type AB Self-Tapping, Phillips Pan Head				
EHE240	12 x 3/4"	Stalgard GB	4,000	34
EHE244	12 x 1-1/2"	Stalgard GB	2,500	40
EHE370	14 x 3/4"	Stalgard GB	3,500	35
EHE372	14 x 1"	Stalgard GB	2,500	43



AllFlex™ 302 Stainless Steel Fasteners

Technical Information



Made in the U.S.A.

Performance Data

Thread/Point	Head Style	Screw Dia.	Ultimate Yield	Ultimate Tensile	Ultimate Shear	Screw Material KSI
Type F	Hex Washer	1/4	3203	3274	2259	103
	Flat	1/4	2945	3203	2123	101
	Undercut Flat	#10	1717	1839	1222	105
	Undercut Flat	#12	2243	2322	1604	96
Type B	Hex Washer	#14	3038	3233	2249	99
Type AB	Hex Washer	#10	1602	1616	1165	86
	Hex Washer	#12	2386	2399	1639	97
	Hex Washer	#14	3033	3187	2228	98
	Undercut Flat	#14	2819	3217	2230	99
	Flat	#12	1916	2130	2230	86
	Flat	#14	1916	2130	2230	86
	Pan	#12	2819	3217	2230	99
	Pan	#14	2819	3217	2230	99

Thread and Point Styles



Type F



Type B with lead



Type AB

Head Styles & Identification



Hex Washer



Phillips Pan



Phillips Flat



Phillips Flat Undercut



AllFlex™ headmarking

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.**



Topseal™ H3 304 Stainless Steel Self-Tapping Screws

For applications where corrosion resistance is a primary concern



Made in the U.S.A.



Elco manufactures and stocks the most popular 304 (18-8) stainless steel self-tapping screws with a 300 series stainless steel bonded sealing washer.

Specifications

- Diameters: #14
- Lengths: 3/4" to 6"
- Point Types: A and B
- Material: 304 stainless steel
- Finish: Stalgard® GB (Galvanic Barrier) coating
- Available without washer

Features & Benefits

- Saves time and labor by eliminating tapping operations
- Standard thread designs allow easy field replacement
- Coating allows greater galvanic compatibility in dissimilar metal applications involving aluminum

Catalog No.	Description	Point Type	Finish	Carton Quantity	Carton Weight
#14 Diameter, With Washer, Type A Point, 3/8" Hex Head					
EHE400	14-10 x 3/4	Type A	Stalgard GB	2,000	27
EHE410	14-10 x 1	Type A	Stalgard GB	1,500	24
EHE430	14-10 x 1-1/2	Type A	Stalgard GB	1,500	31
EHE450	14-10 X 2	Type A	Stalgard GB	1,000	36
EHE470	14-10 x 3	Type A	Stalgard GB	500	17
1/4" Diameter, With Washer, Type B Point, 3/8" Hex Head					
EHE500	1/4-14 x 3/4	Type B	Stalgard GB	2,500	37
EHE510	1/4-14 x 1	Type B	Stalgard GB	1,500	26
EHE530	1/4-14 x 1-1/2	Type B	Stalgard GB	1,500	34
EHE550	1/4-14 x 2	Type B	Stalgard GB	1,000	27
EHE570	1/4-14 x 3	Type B	Stalgard GB	500	18
EHE580	1/4-14 X 4	Type B	Stalgard GB	500	24
EHE590	1/4-14 X 5	Type B	Stalgard GB	250	16
EHE600	1/4-14 X 6	Type B	Stalgard GB	250	18
#14 Diameter, No Washer, Type A Point, 3/8" Hex Head					
ETH650	14-10 x 3/4	Type A	Stalgard GB	3,000	37
ETH655	14-10 x 1	Type A	Stalgard GB	2,500	32
ETH665	14-10 x 1-1/2	Type A	Stalgard GB	2,000	34
ETH675	14-10 X 2	Type A	Stalgard GB	2,000	44
ETH705	14-10 x 3	Type A	Stalgard GB	1,000	35
1/4" Diameter, No Washer, Type B Point, 3/8" Hex Head					
ETH600	1/4-14 x 3/4	Type B	Stalgard GB	3,000	36
ETH605	1/4-14 x 1	Type B	Stalgard GB	2,500	36
ETH610	1/4-14 x 1-1/2	Type B	Stalgard GB	1,500	29
ETH615	1/4-14 x 2	Type B	Stalgard GB	1,500	35
ETH620	1/4-14 x 3	Type B	Stalgard GB	500	19
ETH625	1/4-14 X 4	Type B	Stalgard GB	500	21
ETH720	1/4-14 X 5	Type B	Stalgard GB	500	27
ETH635	1/4-14 X 6	Type B	Stalgard GB	500	31

Note: Lengths up to 8" available by special order.



Identification

The head marking consists of the number "3" below the letter "H" as shown.

Performance Data

	Min. Tensile	Min. Torque	Min. Shear
14-10 Type A	2925	125	1925
1/4-14 Type B	3600	150	2600

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. Final determination of the appropriate safety factor and use of these fasteners is the sole responsibility of the person responsible for 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.



Fab-Lok® Fasteners

To maintain panel integrity in high-stress and high-vibration environments



Made in the U.S.A.



Vibration, either from inside or outside a building, can make ordinary fasteners loosen and back out. Fab-Lok fasteners combine a slotted aluminum sleeve and fastener to provide high resistance to vibration loosening. Excellent for use with insulated panels.

Specifications

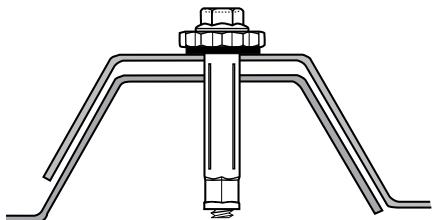
- Drive System: Hex
- Materials: Low carbon steel or 300 series stainless steel screw with aluminum sleeve
- Finish: Zinc

Features & Benefits

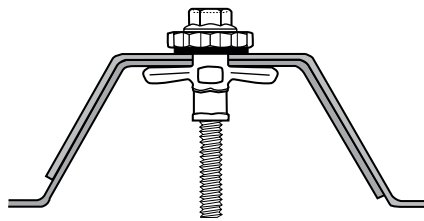
- Hex washer head machine screw assembled to a slotted aluminum sleeve and EPDM sealing washer
- After tightening, clamping times remain in place even if screw is removed
- Greater joint integrity with clamping force

Catalog No.	Description	Penetrating Length	Grip Range	Carton Quantity	Carton Weight
Carbon Steel					
EZJ100	FAS-10-4	1.373"	.062" - .250"	1,000	22
EZJ120	FAS-10-8	1.612"	.250" - .500"	1,000	23
EZJ140	FAS-10-12	1.807"	.500" - .750"	1,000	27
H3 (300 Series) Stainless Steel					
EZJ210	FAC-10-4	1.373"	.062" - .250"	1,000	21
EZJ230	FAC-10-8	1.612"	.250" - .500"	1,000	25
EZJ250	FAC-10-12	1.807"	.500" - .750"	1,000	27
Fab-Lok Drive Tools*					
EZJ900	Holding Sleeve with Socket			1	

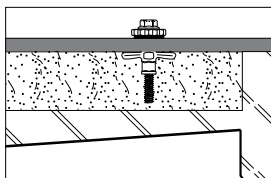
*Fab-Lok fastener is inserted into a 5/16" hole (hole size is not critical) then installed with a power driver equipped with a Fab-Lok holding sleeve, with a socket designed to fit DeWalt® tools DW969K-2, DW968K-2, DW267, DW268 and DW269.



before installation



after installation



can be easily used in blind applications

Ultimate Shear (lbs)

Screw Material	
Carbon	Stainless
2400	1885

Pull-Out (lbs)

Single Sheet

Material Thickness	Pull-Out	Failure Mode
26 ga.	612	Sheet Split
24 ga.	833	Sheet Split
20 ga.	858	Sheet Split
18 ga.	1050	Sheet Split
16 ga.	1293	Sheet Split
14 ga.	1400	Broken Fastener

Double Steel Sheet

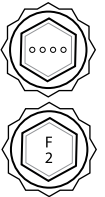
Material Thickness	Pull-Out	Failure Mode
26 ga.	1160	Sheet Split
20 ga.	1345	Broken Fastener

Double Aluminum Sheet

Material Thickness	Pull-Out	Failure Mode
0.032"	915	Sheet Split

Head Marking Designations

- Carbon steel screw: 4 dots in horizontal line
- Stainless steel screw: "F" above "2"





Avdel® N Rivets

Protruding head nail rivets for metal to metal applications



The N Rivet relies on a unique mandrel head design to complete the application joint and ensure positive stem retention after installation.

Specifications

- Diameters: 1/8", 5/32" and 3/16"
- Lengths: .275" to .980"
- Grip ranges: .020" to .750"
- Body/Mandrel material:
 - Aluminum/Aluminum
 - Steel/Steel
 - Aluminum/Steel
 - Stainless/Stainless

Features and Benefits

- High quality with low in-place cost
- Vibration resistant
- Tamper-resistant
- Long grip ranges
- High pull out and shear strengths
- Works in all hand and battery tooling
- Packaged and bulk available
- Custom painting

All Aluminum Protruding Head

Size	Packaged Cat. No.	Pkg Qty./ Master	Bulk Cat. No.	Bulk Qty.
42	AAPS-04-02-250	250/2500	AAPS-04-02	10,000
43	AAPS-04-03-250	250/2500	AAPS-04-03	10,000
44	AAPS-04-04-250	250/2500	AAPS-04-04	10,000
45	AAPS-04-05-250	250/2500	AAPS-04-05	10,000
46	AAPS-04-06-250	250/2500	AAPS-04-06	10,000
48	AAPS-04-08-250	250/2500	AAPS-04-08	10,000
52	AAPS-05-02-250	250/2500	AAPS-05-02	8,000
54	AAPS-05-04-250	250/2500	AAPS-05-04	8,000
56	AAPS-05-06-250	250/2500	AAPS-05-06	8,000
58	AAPS-05-08-250	250/2500	AAPS-05-08	8,000
62	AAPS-06-02-250	250/2500	AAPS-06-02	5,000
64	AAPS-06-04-250	250/2500	AAPS-06-04	5,000
66	AAPS-06-06-250	250/2500	AAPS-06-06	5,000
68	AAPS-06-08-250	250/2500	AAPS-06-08	5,000
610	AAPS-06-10-250	250/2500	AAPS-06-10	4,000
612	AAPS-06-12-250	250/2500	AAPS-06-12	4,000

All Steel Protruding Head

Size	Packaged Cat. No.	Pkg Qty. / Master	Bulk Cat. No.	Bulk Qty.
42	SSPS-04-02-250	250/2500	SSPS-04-02	10,000
43	SSPS-04-03-250	250/2500	SSPS-04-03	10,000
44	SSPS-04-04-250	250/2500	SSPS-04-04	10,000
45	SSPS-04-05-250	250/2500	SSPS-04-05	10,000
46	SSPS-04-06-250	250/2500	SSPS-04-06	10,000
48	SSPS-04-08-250	250/2500	SSPS-04-08	10,000
54	SSPS-05-04-250	250/2500	SSPS-05-04	5,000
56	SSPS-05-06-250	250/2500	SSPS-05-06	5,000
62	SSPS-06-02-250	250/2500	SSPS-06-02	4,000
64	SSPS-06-04-250	250/2500	SSPS-06-04	4,000
66	SSPS-06-06-250	250/2500	SSPS-06-06	4,000
68	SSPS-06-08-250	250/2500	SSPS-06-08	3,000
610	SSPS-06-10-250	250/2500	SSPS-06-10	3,000
612	SSPS-06-12-250	250/2500	SSPS-06-12	3,000

Aluminum/Steel Protruding Head

Size	Packaged Cat. No.	Pkg Qty./ Master	Bulk Cat. No.	Bulk Qty.
42	BSPS-04-02-250	250/2500	BSPS-04-02	10,000
43	BSPS-04-03-250	250/2500	BSPS-04-03	10,000
44	BSPS-04-04-250	250/2500	BSPS-04-04	10,000
45	BSPS-04-05-250	250/2500	BSPS-04-05	10,000
46	BSPS-04-06-250	250/2500	BSPS-04-06	10,000
48	BSPS-04-08-250	250/2500	BSPS-04-08	10,000
54	BSPS-05-04-250	250/2500	BSPS-05-04	5,000
56	BSPS-05-06-250	250/2500	BSPS-05-06	5,000
62	BSPS-06-02-250	250/2500	BSPS-06-02	5,000
64	BSPS-06-04-250	250/2500	BSPS-06-04	4,000
66	BSPS-06-06-250	250/2500	BSPS-06-06	4,000
68	BSPS-06-08-250	250/2500	BSPS-06-08	3,000
610	BSPS-06-10-250	250/2500	BSPS-06-10	3,000
612	BSPS-06-12-250	250/2500	BSPS-06-12	3,000

All Stainless Protruding Head

Size	Packaged Cat. No.	Pkg Qty./ Master	Bulk Cat. No.	Bulk Qty.
42	CCPS-04-02-250	250/2500	CCPS-04-02	10,000
43	CCPS-04-03-250	250/2500	CCPS-04-03	10,000
44	CCPS-04-04-250	250/2500	CCPS-04-04	10,000
45	CCPS-04-05-250	250/2500	CCPS-04-05	10,000
46	CCPS-04-06-250	250/2500	CCPS-04-06	10,000
54	CCPS-05-04-250	250/2500	CCPS-05-04	5,000
56	CCPS-05-06-250	250/2500	CCPS-05-06	5,000
62	CCPS-06-02-250	250/2500	CCPS-06-02	4,000
64	CCPS-06-04-250	250/2500	CCPS-06-04	4,000
66	CCPS-06-06-250	250/2500	CCPS-06-06	4,000
68	CCPS-06-08-250	250/2500	CCPS-06-08	4,000

All Aluminum Protruding Head – White (Painted)

Size	Bulk Cat. No.	Bulk Qty.
42	AAPS-04-02W	10,000
43	AAPS-04-03W	10,000
44	AAPS-04-04W	10,000

All Steel Protruding Head – White (Painted)

Size	Bulk Cat. No.	Bulk Qty.
42	SSPS-04-02W	10,000
43	SSPS-04-03W	10,000
44	SSPS-04-04W	10,000



Avdel® N Rivets

Protruding head nail rivets for metal to metal applications

Grip Ranges and Recommended Hole Size

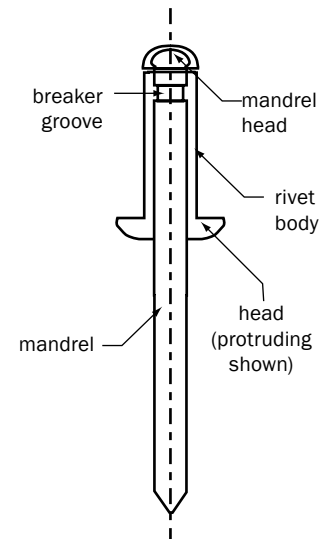
Size	Grip Range	Hole Size
42	.063 - .125	#30 (.1285")
43	.126 - .187	
44	.188 - .250	
45	.251 - .312	
46	.313 - .375	
48	.438 - .500	

Size	Grip Range	Hole Size
52	.020 - .125	#20 (.161")
53	.126 - .187	
54	.126 - .250	
56	.251 - .375	
58	.376 - .500	

Size	Grip Range	Hole Size
62	.020 - .125	#11 (.191")
64	.126 - .250	
66	.251 - .375	
68	.376 - .500	
610	.501 - .625	
612	.626 - .750	

Shear and Tensile Values

Diameter	Body	Mandrel	Shear	Tensile
1/8"	Aluminum	Aluminum	120	150
1/8"	Steel	Steel	260	310
1/8"	Aluminum	Steel	170	220
1/8"	Stainless	Stainless	420	530
5/32"	Aluminum	Aluminum	190	230
5/32"	Steel	Steel	370	470
5/32"	Aluminum	Steel	260	350
5/32"	Stainless	Stainless	650	820
3/16"	Aluminum	Aluminum	260	320
3/16"	Steel	Steel	540	680
3/16"	Aluminum	Steel	380	500
3/16"	Stainless	Stainless	950	1200

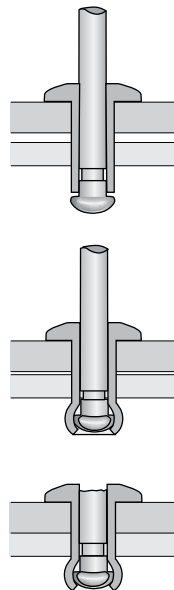


Installation Tools

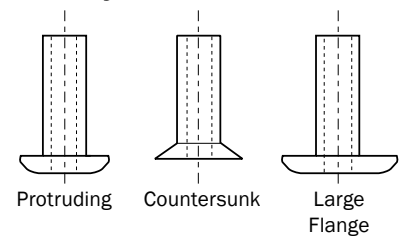


Cat. No.	Description
G-28	Hand riveter for 1/8" and 3/16" diameter rivets
728A9-104	Additional nose piece for 5/32" diameter rivets

N Rivet Placement Sequence



Head Styles



NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



UltraCon® Masonry Fastening System

Offers optimal performance in concrete, brick and hollow block applications



Made in the U.S.A.



UltraCon anchors are available in a variety of styles to meet your needs.

Specifications

- Diameters: 3/16" to 5/16"
- Head Styles: Hex washer, flat, hex flange, TrimFit® hex and TrimFit flat
- Drive Systems: Hex and phillips
- Material: Carbon steel
- Finishes: Blue, silver, and white Stalgard® coating standard; bronze available upon request. Blue and white Stalgard are ACQ-compatible.

Features & Benefits

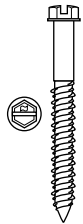
- Installs quickly when using Elco® installation tools
- When all three elements of the system are used, consistent performance and maximum pull-out strengths can be realized
- Stalgard coating provides 1000 hours of salt spray resistance (per ASTM B117)

Boxed Anchors

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

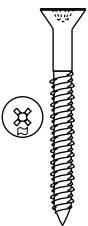
	Cat. No.	Size	Drive System	Quantity Per Shipper	Weight Per Shipper
	Blue Stalgard				

Slotted Hex Washer Head



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

Phillips Flat Head



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

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UltraCon® Masonry Fasteners

Offers optimal performance in concrete, brick and hollow block applications



Made in the U.S.A.

Bulk Anchors

	Cat. No.			Size	Drive Size	Quantity Per Case	Weight Per Case
	Silver Stalgard	White Stalgard	Bronze Stalgard				
Slotted Hex Washer Head							
	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
Phillips Flat Head							
	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	1,000	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	500	16
	ELG998	-	-	5/16 x 6"	#3 phillips	500	21
Phillips Oversized Flat Head – Door Frame Anchor							
	ELG203			5/16 x 3"	#3 phillips	500	22
	ELG204			5/16 x 4"	#3 phillips	500	29
	ELG205			5/16 x 5"	#3 phillips	250	16
	ELG206			5/16 x 6"	#3 phillips	250	21
Hex Flange Head (5/8" O.D.)							
	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
Hex Head with Oversized Washer (.540" O.D.)							
	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	800	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
TrimFit Hex Head (.415 nom. washer O.D.)							
	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

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For product or ordering information, call 1.800.435.7213 (USA and Canada)



UltraCon® Masonry Fastening System

Offers optimal performance in concrete, brick and hollow block applications



Made in the U.S.A.

	Cat. No.			Size	Drive Size	Quantity Per Case	Weight Per Case
	Silver Stalgard	White Stalgard	Bronze Stalgard				
TrimFit Flat Head (.415" nom. O.D.)							
	-	-	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

Installation Tools

	Cat. No.	Description	Qty.	Wt.
	ELP100	1000 Tool Kit	1	4
<i>includes:</i>				
	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	-
<i>also available:</i>				
	ELY170	8" Drive Sleeve Assembly for 5" and 6" UltraCon Anchors	1	-

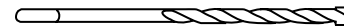
Hex-collared SDS Carbide-tipped Drill Bits**



Cat No.	Description	For Anchor Size	Quantity 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*



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.



UltraCon® Masonry Fastening System

Technical Information



Made in the U.S.A.

Performance Data

Dia.	Hollow Block 1,924 PSI				Concrete 2,730 PSI				Wood				
	Depth of Embedment	Edge Distance	Pull-out	Shear	Depth of Embedment	Edge Distance	Pull-out	Shear	Depth of Embedment	Edge Distance	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	-	-	-	-	
1/4"	1-1/4"	1"	998	900	1"	1"	668	632	-	-	-	-	
					1-3/8"		1,166	1,070	-	-	-	-	
					1-3/4"		1,857	919	-	-	-	-	
		2-1/2"	709	1,486	1"	2-1/2"	809	1,153	-	-	-	-	-
					1-3/8"		1,507	1,583	-	-	-	-	
					1-3/4"		1,908	1,780	-	-	-	-	
Dia.	Hollow Block 1,872 PSI				Concrete 3,513 PSI				Wood #2 SYP Specific Gravity .55				
	Depth of Embedment	Edge Distance	Pull-out	Shear	Depth of Embedment	Edge Distance	Pull-out	Shear	Depth of Embedment	Edge Distance	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.

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.

Identification

Fastener Dia.	Head Style	Head Mark	
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	

Approvals

For 3/16", 1/4" and 5/16" UltraCon fasteners:
Miami-Dade, Florida Notice of Acceptance (NOA)
No. 11-0406.01

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



UltraCon® SS4 Masonry Fastening System

400 stainless steel fasteners for concrete, brick and hollow block applications



UltraCon SS4 stainless steel masonry fasteners provide enhanced corrosion resistance and ductility over carbon steel fasteners.

Specifications

- Diameter: 1/4"
- Lengths: 1-1/4" to 4"
- Head style: Hex washer head and TrimFit® flat
- Material: 410 stainless steel
- Finish: Silver Stalgard® coating

Features and Benefits

- Special heat treatment to protect inherent corrosion resistance of the 410 stainless steel material
- Stalgard coating provides 1600 hours of salt spray protection
- Installs with standard 3/16" masonry drill bit
- Miami-Dade Florida NOA pending

Packaged Anchors

Hex Washer Head

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

Phillips TrimFit Flat Head

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

Bulk Anchors

Hex Washer Head

Cat No.	Size	Drive Size	Quantity Per Shipper	Weight Per Shipper
EUH310	1/4 x 1-1/4"	5/16 hex washer	3000	40
EUH315	1/4 x 1-3/4"	5/16 hex washer	2000	38
EUH325	1/4 x 2-1/4"	5/16 hex washer	1500	34
EUH335	1/4 x 2-3/4"	5/16 hex washer	1000	27
EUH345	1/4 x 3-1/4"	5/16 hex washer	1000	31
EUH355	1/4 x 3-3/4"	5/16 hex washer	500	16
EUH365	1/4 x 4"	5/16 hex washer	500	17

Phillips TrimFit Flat Head

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



Crete-Flex® SS4 Masonry Fasteners

For masonry attachments requiring enhanced corrosion resistance and increased performance



Made in the U.S.A.



Crete-Flex® 410 stainless steel masonry fasteners provide high shear values, corrosion resistance and ductility for outstanding performance.

Specifications

- Diameters: #14 and 3/16"
- Lengths: 1-1/4" to 6"
- Thread Style: 14-10 heavy-duty
- Head Styles: Hex washer, hex flange, flat and Trimfit® flat
- Drive Systems: Hex and phillips
- Material: 410 stainless steel
- Finish: Silver Stalgard® coating

Features & Benefits

- Special heat treatment to protect inherent corrosion resistance of the 410 stainless steel material
- Stalgard coating provides 1600 hours of salt spray resistance
- Larger .201 root diameter provides exceptionally high shear values

Note: All fasteners are packed 100 per box, 5 boxes per shipper unless otherwise noted.

Catalog No.	Length	Drive System	Drill Bit Size	Shipper Quantity	Shipper Weight
#14 Diameter, Hex Washer Head (.425" washer O.D)					
EMF310	1-1/4"	5/16" hex	7/32 x 4-1/2"	500	9
EMF330	1-3/4"	5/16" hex	7/32 x 4-1/2"	500	11
EMF350	2-1/4"	5/16" hex	7/32 x 4-1/2"	500	14
EMF370	2-3/4"	5/16" hex	7/32 x 4-1/2"	500	16
EMF390	3-1/4"	5/16" hex	7/32 x 5-1/2"	500	21
EMF410	3-3/4"	5/16" hex	7/32 x 5-1/2"	500	22
EMF430	4"	5/16" hex	7/32 x 5-1/2"	500	23
EMF450	5"	5/16" hex	7/32 x 7-1/2"	100	6
EMF470	6"	5/16" hex	7/32 x 7-1/2"	100	7
#14 Diameter, Phillips Flat Head					
EMF690	1-1/4"	#3 phillips	7/32 x 4-1/2"	500	8
EMF710	1-3/4"	#3 phillips	7/32 x 4-1/2"	500	10
EMF730	2-1/4"	#3 phillips	7/32 x 4-1/2"	500	13
EMF750	2-3/4"	#3 phillips	7/32 x 4-1/2"	500	14
EMF770	3-1/4"	#3 phillips	7/32 x 5-1/2"	500	19
EMF790	3-3/4"	#3 phillips	7/32 x 5-1/2"	500	21
EMF810	4"	#3 phillips	7/32 x 5-1/2"	500	22
EMF830	5"	#3 phillips	7/32 x 7-1/2"	100	6
EMF850	6"	#3 phillips	7/32 x 7-1/2"	100	7
#14 Diameter, Hex Flange Head (5/8" washer O.D.)					
EMF340	1-3/4"	5/16" hex	7/32 x 4-1/2"	500	13
EMF360	2-1/4"	5/16" hex	7/32 x 4-1/2"	500	16
3/16" Diameter, Phillips Flat Head					
EMF610	1-1/4"	#3 phillips	5/32 x 4-1/2"	500	4
EMF620	1-3/4"	#3 phillips	5/32 x 4-1/2"	500	6
EMF630	2-1/4"	#3 phillips	5/32 x 4-1/2"	500	7
EMF640	2-3/4"	#3 phillips	5/32 x 4-1/2"	500	9
EMF650	3-1/4"	#3 phillips	5/32 x 5-1/2"	500	10
#14 Diameter TrimFit® Flat Head					
EMF510	1-3/4"	#3 phillips	7/32 x 4-1/2"	500	10
EMF530	2-1/4"	#3 phillips	7/32 x 4-1/2"	500	13
EMF550	2-3/4"	#3 phillips	7/32 x 4-1/2"	500	14

* O.D.; #14 = .268", 3/16" = .200"



Crete-Flex® SS4 Masonry Fasteners

Drill Bits and Fastener Technical Information



Made in the U.S.A.

Masonry Drill Bits

Cat. No.	Description	Max. Crete-Flex Anchor Length
EMC100	7/32 x 4-1/2" Tanged	2-3/4"
EMC110	7/32 x 5-1/2" Tanged	4"
EMC115	7/32 x 7-1/2" Tanged	6"
EMC120	7/32 x 5-1/2" Hex-shanked SDS	2-1/4"
EMC130	7/32 x 7" Hex-shanked SDS	4"
EMC140	7/32 x 6 x 8-1/4" SDS**	5"
EMC150	7/32 x 9 x 11" SDS**	6"

** EMC140 and EMC150 drill bits are NOT shanked

Performance and Technical Data

Testing in Concrete Beam

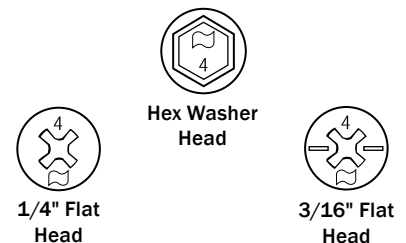
Dia.	Test Load	Test	Edge Distance	Embedment	Ultimate Load Lbs.
3/16"	2,732 PSI	Pull-Out	-	1	651
			-	1-1/4	873
			-	1-1/2	1,231
			-	1-3/4	1,397
	2,735 PSI	Shear	-	2	2,374
#14	3350 PSI	Pull-out	2.5"	1.00"	762
			2.5"	1.75"	2505
		Shear	2.5"	2.00"	2729
			2.5"	1.75"	2591

Testing in Concrete Block

Dia.	Test Load	Test	Edge Distance	Embedment	Ultimate Load Lbs.
3/16"	2,676 PSI	Pull-out	-	1-1/4	839
		Shear	-	1-1/4	1,425
#14	2070 PSI	Pull-out	1.0"	1.25"	780
			2.5"	1.25"	1216
		Shear	1.0"	1.25"	424
			2.5"	1.25"	1324

Inspection

In-place inspection can be made by identifying the special Crete-Flex head marking. This marking consists of an Elco® logo and a "4" as shown. The 3/16" diameter is indicated by 2 slots on opposite sides of the drive.



NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



Aggre-Gator® 300 Series Stainless Bi-Metal Masonry Fasteners

The corrosion resistance of 300 series stainless steel in a threaded concrete anchor



Aggre-gator® anchors provide unmatched corrosion resistance in demanding applications, such as those in coastal or wet areas.

Specifications

- Diameter: 1/4"
- Lengths: 1-3/4" to 4"
- Heads: Hex washer and TrimFit® flat
- Drive Systems: Hex and phillips
- Material: 300 (18-8) stainless steel head and shank with fused and hardened steel tapping threads and gimlet point
- Finish: Silver-colored Stalgard® GB (Galvanic Barrier) coating

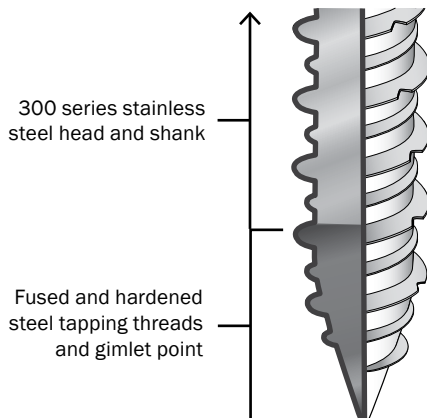
Features & Benefits

- Long service life – high in-place value over life of structure
- High strength and ductility
- Offers greater galvanic compatibility in dissimilar metal applications involving aluminum
- Thread profile provides quick cutting and stability during installation
- Best choice for ACQ-treated lumber

Catalog No.	Length	Drive System	Quantity Per Shipper	Weight Per Shipper
1/4 Diameter, Hex Washer Head				
EML315-050	1-3/4"	5/16" hex	300	6
EML325-050	2-1/4"	5/16" hex	300	7
EML335-050	2-3/4"	5/16" hex	300	8
EML345-050	3-1/4"	5/16" hex	300	11
EML365-050	4"	5/16" hex	300	12
1/4 Diameter, TrimFit Flat Head				
EMM310-050	1-3/4"	#3 phillips	300	6
EMM320-050	2-1/4"	#3 phillips	300	7
EMM330-050	2-3/4"	#3 phillips	300	8
EMM340-050	3-1/4"	#3 phillips	300	11
EMM360-050	4"	#3 phillips	300	12

NOTES: Installation tools available: see page 27. Use 3/16" masonry drill bit to install. 50 anchors per box, 6 boxes per shipper.

Bi-Metal Technology Provides Unmatched Performance



- Head and shank made of 300 series (18-8) stainless steel alloy to provide unmatched corrosion resistance in your toughest applications
- Fused and hardened steel tapping threads make installation easy and hold tight in block and poured concrete
- Coated overall with silver-colored Stalgard GB, a galvanic barrier to protect aluminum components from accelerated corrosion when in contact with 300 series stainless steel



Aggre-Gator® 300 Series Stainless Bi-Metal Masonry Fasteners

The corrosion resistance of 300 series stainless steel in a threaded concrete anchor

Approvals:

Miami-Dade 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.

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



ConFlex® Large Diameter Concrete Screw Anchors

Enhanced ductility allows use in demanding exterior applications



Made in the U.S.A.



ConFlex® masonry screws are engineered to provide high pull-out and shear values with virtual immunity to brittle failures.

Specifications

- Diameters: Oversized 3/8" and 1/2"
- Material: Alloy steel
- Head Style: Hex washer head with locking serrations
- Thread Style: Double-lead
- Finish: Silver Stalgard® coating
- Tensile Yield: 92,000 KSI min. (Grade 5); Tensile Ultimate: 120,000 KSI min. (Grade 5)

Features & Benefits

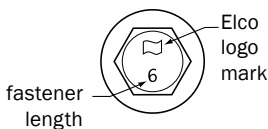
- Flex Technology® heat treat allows virtual immunity to brittle failures, allowing use in exterior applications
- Locking serrations under the head provide back-out resistance
- Hardened tip ensures efficient tapping into concrete
- Head markings allow easy inspection
- Install with standard ANSI bits

Catalog No.	Length	Thread Length	Drive Size	Drill Bit Size	Box Quantity*	Box Weight
3/8" Diameter, Hex Washer Head with Locking Serrations						
EMR215-050	2-1/2"	2-1/4"	9/16" hex	3/8"	50	5
EMR235-050	3"	2-1/4"	9/16" hex	3/8"	50	6
EMR255-050	4"	3-1/2"	9/16" hex	3/8"	50	7
EMR265-025	5"	3-1/2"	9/16" hex	3/8"	25	4
EMR285-025	7-1/2"	3-1/2"	9/16" hex	3/8"	25	6
1/2" Diameter, Hex Washer Head with Locking Serrations						
EMR320-050	2-1/2"	2-1/4"	3/4" hex	7/16"	50	8
EMR340-050	3"	2-1/4"	3/4" hex	7/16"	50	9
EMR360-050	4"	3-1/2"	3/4" hex	7/16"	50	11
EMR370-025	5"	3-1/2"	3/4" hex	7/16"	25	7
EMR380-025	6"	3-1/2"	3/4" hex	7/16"	25	7

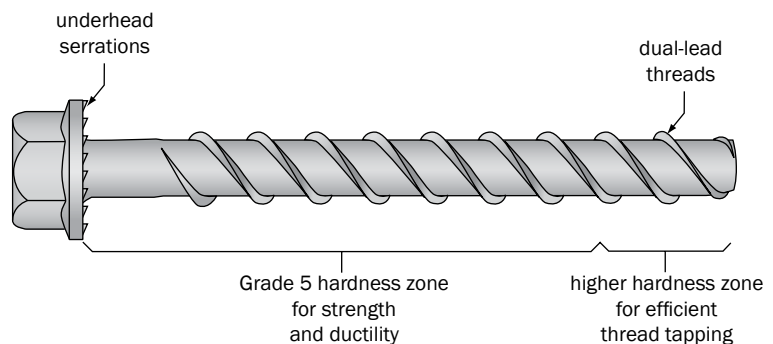
* **Note:** Also available in bulk quantities.

Inspection

The head marking consists of an Elco® logo and the fastener length in inches.



Features





ConFlex® Large Diameter Concrete Screw Anchors

Technical Information



Made in the U.S.A.

ConFlex® Performance Data† Ultimate Value (Lbs) in Concrete

1,819 PSI				
Dia .	Edge Distance	Embedment	Pull-out	Shear
3/8"	1-7/8" (5d)	1-1/2"	1,364	x
		2"	2,995	x
		2-1/2"	3,226	1,534
		3-1/2"	5,379	2,170
	2-5/8"	1-1/2"	x	x
		2"	x	x
		2-1/2"	3,620	2,459
		3-1/2"	6,070	3,902
	3-3/4" (10d)	1-1/2"	1,232	4,766
		2"	3,296	5,658
		2-1/2"	3,936	6,419
		3-1/2"	6,493	7,047
1/2"	2	1-3/4"	x	x
		2"	x	x
		3"	x	x
		4"	x	x
	2-1/2" (5d)	1-3/4"	2,266	x
		2"	2,706	x
		3"	4,666	4,549
		4"	7,058	6,960
	3-1/2"	1-3/4"	x	x
		2"	x	x
		3"	5,483	5,739
		4"	8,656	8,028
	4"	1-3/4"	x	x
		2"	x	x
		3"	x	x
		4"	x	x
5" (10d)	1-3/4"	2,090	6,081	
	2"	2,875	7,167	
	3"	6,042	9,148	
	4"	8,732	9,631	

4,510 PSI				
Dia.	Edge Distance	Embedment	Pull-out	Shear
3/8"	1-7/8" (5d)	1-1/2"	2,497	x
		2"	3,169	x
		2-1/2"	5,063	2,111
		3-1/2"	9,288	2,732
	2-5/8"	1-1/2"	x	x
		2"	x	x
		2-1/2"	5,111	2,667
		3-1/2"	8,438	4,046
	3-1/2"	1-1/2"	2,055	x
		2"	x	5,810
		2-1/2"	4,778	x
		3-1/2"	x	x
3-3/4" (10d)	1-1/2"	2,055	3,414	
	2"	x	5,810	
	2-1/2"	5,111	7,309	
	3-1/2"	9,508	8,339	
1/2"	2"	1-3/4"	3,515	x
		2"	4,388	x
		3"	6,719	2,229
		4"	11,076	3,860
	3" (6d)	1-3/4"	x	x
		2"	x	x
		3"	x	x
		4"	x	x
	3-1/2"	1-3/4"	x	x
		2"	x	x
		3"	7,646	x
		4"	10,234	x
	4"	1-3/4"	2,887	6,787
		2"	4,310	6,678
		3"	8,169	8,489
		4"	11,111	10,942
5" (10d)	1-3/4"	x	x	
	2"	x	x	
	3"	x	x	
	4"	x	x	

† **NOTE:** Indicated pull-out and shear values listed are ultimate values and were obtained in tests conducted by HETI/ Miami, FL, an independent test lab. 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 values are generally accepted as a safe working load.

Testing was done per ASTM E 488 - 96. Additional technical information is available upon request.

Recommended min. embedment, all diameters: 2"

Installation of 3/8" Con-Flex Screw Anchors:

- Standard 3/8" ANSI masonry drill bit (.398" +.000"/-.010")
- Recommended functional masonry drill bit length: minimum 1" more than fastener length

Installation of 1/2" Con-Flex Screw Anchors:

- Standard 7/16" ANSI masonry drill bit (.468" +.000"/-.010")
- Recommended functional masonry drill bit length: minimum 1" more than fastener length

Dimensional Properties

3/8" Diameter	1/2" Diameter
Drive system: 9/16" hex	Drive system: 3/4" hex
Washer diameter: 11/16"	Washer diameter: 1.0"
Thread O.D.: .430"	Thread O.D.: .525"
Thread root: .345"	Thread root: .405"
Unthreaded shank dia.: .360"	Unthreaded shank dia.: .426"
Head mark: Elco logo mark and length in inches	Head mark: Elco logo mark and length in inches

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



HangerMate® Threaded Rod Anchoring System

Anchoring system for threaded rod components



Made in the U.S.A.



HangerMate® anchors accept 1/4-20, 3/8-16 or 1/2" threaded rod and components of piping systems for attachment to steel, masonry, and wood.

Specifications

- Sizes: For use with 1/4-20 and 3/8-16 threaded rod; adaptor installs 1/2" threaded rod
- Lengths: 1-1/8" to 3"
- Drive System: Hex
- Material: Carbon steel
- Finish: Plating per ASTM B633 Type II Class 12

Features & Benefits

- Eases installation of sprinkler systems, strut, HVAC, cable trays and various piping systems
- Self-drilling points for steel; in wood applications, no pre-drilling is required
- Many styles UL listed and/or FM approved
- Installs with one universal HangerMate drive socket

Catalog No.	Description	Rod Size	Steel Thickness	Quantity per Shipper*	Weight Per Shipper
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Steel Applications

Vertical Mount – End-Drilled Head

EZG160	1/4-20 x 1 #3 point	1/4-20	.060 - .250	300	17
EZG450	1/4-20 x 1 #2 point	3/8-16	.060 - .125	300	15
EZG470	1/4-20 x 1 #3 point	3/8-16	.060 - .250	300	17
EZG471	1/4-20 x 1 #3 point w/nuts	3/8-16	.060 - .250	300	15
EZG490	1/4-20 x 1-1/2 #3 point	3/8-16	.060 - .250	300	17
EZG491	1/4-20 x 1-1/2 #3 point w/nuts	3/8-16	.060 - .250	300	17
EZG530	1/4-20 x 2 #3 point	3/8-16	.060 - .250	300	18
EZG540	1/4-20 x 3 #3 point	3/8-16	.060 - .250	300	21
EZG510	1/4-20 x 1-1/2 #5 point	3/8-16	.187 - .500	300	17
EZG511	1/4-20 x 1-1/2 #5 point w/nuts	3/8-16	.060 - .500	300	30
EZG610	1/4-20 collapsing insert	1/4-20	26 ga. -.187"	150	4
EZG580	1/4-20 x 1; use with EZG610	3/8-16	26 ga. -.187"	150	7
EZG590	1/4-20 x 1; use with EZG610	3/8-16	26 ga. -.187"	150	7
EZG600	1/4-20 x 1; use with EZG610	3/8-16	26 ga. -.187"	150	7

Horizontal Mount – Cross-Drilled Head

EZH155	1/4-20 x 1 #3 point	1/4-20	.060 - .250	300	17
EZH455	1/4-20 x 1 #2 point	3/8-16	.060 - .125	300	15
EZH475	1/4-20 x 1 #3 point	3/8-16	.060 - .250	300	15
EZH476	1/4-20 x 1 #3 point w/nuts	3/8-16	.060 - .250	300	16
EZH495	1/4-20 x 1-1/2 #3 point	3/8-16	.060 - .250	300	16
EZH496	1/4-20 x 1-1/2 #3 point w/nuts	3/8-16	.060 - .250	300	17
EZH515	1/4-20 x 1-1/2 #5 point	3/8-16	.187 - .500	300	16
EZH516	1/4-20 x 1-1/2 #5 point w/nuts	3/8-16	.060 - .500	300	18
EZH535	1/4-20 x 2 #3 point	3/8-16	.060 - .250	300	16

*Note: 50 anchors per box and 300 (6 boxes) per shipper.



HangerMate® Threaded Rod Anchoring System

Anchoring system for threaded rod components



Made in the U.S.A.

Catalog No.	Description	Rod Size	Quantity Per Shipper*	Weight Per Shipper
Wood Applications				
Vertical Mount – End-Drilled Head				
EZG315	5/16 x 2-1/4	1/4-20	300	22
EZG650	5/16 x 2-1/4	3/8-16	300	22
EZG670	5/16 x 3	3/8-16	300	23
Horizontal Mount – Cross-Drilled Head				
EZH320	5/16 x 2-1/4	1/4-20	300	22
EZH665	5/16 x 2-1/4	3/8-16	300	22
Concrete Applications				
Vertical Mount – End-Drilled Head				
EZG365	5/16 x 2-1/4	1/4-20	300	22
EZG730	5/16 x 2-1/4	3/8-16	300	22
Horizontal Mount – Cross-Drilled Head				
EZH370	5/16 x 2-1/4	1/4-20	300	22
EZH735	5/16 x 2-1/4	3/8-16	300	22
All Materials – Adapter for Hanging 1/2" Rod†				
EZE270		1/2-13	150	25

† Simply install any 3/8" HangerMate anchor as required, then thread EZE270 adapter into it.

*Note: 50 anchors per box and 300 (6 boxes) per shipper.

HangerMate MP (Multi-Purpose) Anchors

Works in all three substrates



Catalog No.	Description	Rod Size	Quantity Per Shipper*	Weight Per Shipper
Steel, Wood or Concrete				
Vertical Mount – End-Drilled Head				
EZG910	1/4-10X2	1/4-20	300	20
EZG930	1/4-10X2	3/8-16	300	20
Horizontal Mount – Cross-Drilled Head				
EZH935	1/4-10X2	3/8-16	300	20

HangerMate Installation Tools

Catalog No.	Description	Quantity
EZE215	Drive Socket (for steel and wood applications)	1
EZE220	Drive Sleeve (for concrete applications)	1
EZE240	Drill Bit Adapter Kit	1
EZE320	Collared 25/64 Drill Bit for installing HangerMate LG anchors	1
EZE340	ANSI 1/4" Tanged Drill Bit for Hammer Drills	1
EZE350	ANSI 1/4" SDS Drill Bit for Rotary Hammer Drills	1
EZE360	7/32" Tanged Drill Bit for Hammer Drills installing HangerMate MP anchors	1
EZE380	7/32" SDS Drill Bit for Rotary Hammer Drills installing HangerMate MP anchors	1
EZE290	Setting Tool for EZG580/EZG590/EZG600/EZG610 components	1



HangerMate® Threaded Rod Anchoring System

Technical Information



Made in the U.S.A.

Steel Applications

Average Ultimate Value (lbs)*

Cat. No.	Rod Size	Shank	Steel Thickness					
			.062"	.074"	.104"	.125"	.1875"	.250"
End-Drilled Anchors								
EZG160	1/4-20	1/4-20	786	1139	1738	2376	4694	5994
EZG450	3/8-16	1/4-20	922	1351	2273	2488	N/A	N/A
EZG470			786	1139	1738	2376	4694	5994
EZG471			3435	4024	4279	4692	5812	5909
EZG490			786	1139	1738	2376	4694	5994
EZG491			3435	4024	4279	4692	5812	5909
EZG510			N/A	N/A	N/A	N/A	3677	5207
EZG511			3435	4024	4279	4692	5812	5909
EZG530			786	1139	1738	2376	4694	5994
EZG540			786	1139	1738	2376	4694	5994

Cat. No.	Rod Size	Anchor Shank	Steel Thickness					
			.062"	.074"	.104"	.111"	.189"	.248"
Cross-Drilled Anchors								
EZH155	1/4-20	1/4-20	1739	1944	2420	2570	2809	2809
EZH455	3/8-16	1/4-20	1860	2071	2516	2606		N/A
EZH475			1739	1944	2420	2570	2809	2809
EZH476			2756	2753	2809	2809	2809	2809
EZH495			1739	1944	2420	2570	2809	2809
EZH496			2756	2753	2809	2809	2809	2809
EZH515			N/A	N/A	N/A	N/A	3529	3529
EZH516			2756	2753	2809	2809	2809	2809
EZH535			2756	2753	2809	2809	2809	2809

Light-Gauge Steel Applications

Cat. No.	EZG580	EZG590	EZG600
Max. Pipe Diameter	2.5"	3.5"	4"
Min. Steel Thickness	22 ga.	18 ga	16 ga

Ultimate Tensile Load[†]

Gauge	26	22	20	18	16
Ultimate Tensile Load	848	1025	1153	1410	1880

Wood Applications

Average Ultimate Value (lbs)*

Cat. No.	Rod Size	Anchor Shank	Douglas Fir	Southern Pine	Hemfir
End-Drilled Anchors					
EZG315	1/4-20	5/16-14	2487	2162	1768
EZG650	3/8-16	5/16-14	2487	2162	1768
EZG670	3/8-16	5/16-14	2487	2162	1768

Cross-Drilled Anchors

Cat. No.	Rod Size	Anchor Shank	Douglas Fir	Southern Pine	Hemfir
EZH320	1/4-20	5/16-14	1801	1460	1451
EZH665	3/8-16	5/16-14	1801	1460	1451

Concrete Applications

Average Ultimate Value (lbs)*

Cat. No.	Rod Size	Anchor Shank	3650 PSI Concrete
End-Drilled Anchors			
EZG365	1/4-20	5/16-14	2188
EZG730	3/8-16	5/16-14	2188
Cross-Drilled Anchors			
EZH370	1/4-20	5/16-14	2767
EZH735	3/8-16	5/16-14	2767

HangerMate MP Anchors – End-drilled Product Only

Average Ultimate Value (lbs)

Application Material	Performance Values NOTE: End-drilled Products Only
Southern pine	1541
16 ga. steel	880
14 ga. steel	1106
12 ga. steel	1754
1/8" steel	2505
Concrete (3300 psi)	2933

* Performance Testing Notes:

- The loads indicated above are average ultimate values achieved under laboratory conditions and appropriate safety factors should be applied for design purposes.
- NFPA (National Fire Protection Assoc.) minimum fastening requirements are five times the weight of a 15 foot section of water filled pipe plus 250 lbs. This is 1475 lbs. for 4" pipe.
- All test values were obtained using 3/8-16 rod. When 1/4-20 rod is used, the strength of the rod may be less than the pull-out values of the anchors.
- Loads were determined by testing products in the orientation for which they were designed to be used. End-drilled parts were pulled in line with the anchor's axis while cross-drilled parts were tested with the force perpendicular to the axis.

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



HangerMate® Threaded Rod Anchoring System

Technical Information



Made in the U.S.A.

UL Listings and FM Approvals

Vertical Mount – End-Drilled Head

Rod Size	Cat. No.	Description	UL Pipe Size	UL Steel Thickness	FM Pipe Size	FM Steel Thickness
3/8-16	EZG450	1/4-20X1 #2 point	4"	0.125"		
3/8-16	EZG470	1/4-20X1 #3 point	4"	0.125"	4"	12 ga.
3/8-16	EZG471	1/4-20X1 #3 point w/nuts	4"	0.060"	4"	16 ga.
3/8-16	EZG490	1/4-20X1-1/2 #3 point	4"	0.125"	4"	12 ga.
3/8-16	EZG491	1/4-20X1-1/2 #3 point w/nuts	4"	0.060"	4"	16 ga.
3/8-16	EZG530	1/4-20X2 #3 point	-	-	4"	0.125"
3/8-16	EZG510	1/4-20X1-1/2 #5 point	4"	0.125"	4"	0.125"
3/8-16	EZG511	1/4-20X1-1/2 #5 point w/nuts	4"	0.060"	4"	16 ga.
1/4-20	EZG610	1/4-20 collapsing insert	N/A	N/A	N/A	N/A
3/8-16	EZG580	1/4-20X1; use with EZG610	2.5"	22 ga.	4"	12 ga.
3/8-16	EZG590	1/4-20X1; use with EZG610	3.5"	18 ga.	4"	12 ga.
3/8-16	EZG600	1/4-20X1; use with EZG610	4"	16 ga.	4"	12 ga.

Horizontal Mount – Cross-Drilled Head

Rod Size	Cat. No.	Description	UL Pipe Size	UL Steel Thickness	FM Pipe Size	FM Steel Thickness
3/8-16	EZH476	1/4-20X1 #3 point w/nuts	4"	0.060"	4"	16 ga.
3/8-16	EZH496	1/4-20X1-1/2 #3 point w/nuts	4"	0.060"	4"	16 ga.
3/8-16	EZH516	1/4-20X1-1/2 #5 point w/nuts	4"	0.060"	4"	16 ga.

Wood Applications

Vertical Mount – End-Drilled Head

Rod Size	Elco Cat. No.	Description	UL Pipe Size	FM Pipe Size
3/8-16	EZG650	5/16X2-1/4	4"	4"
3/8-16	EZG670	5/16X3	4"	4"

Horizontal Mount – Cross-Drilled Head

Rod Size	Elco Cat. No.	Description	UL Pipe Size	FM Pipe Size
3/8-16	EZH665	5/16X2-1/4	3-1/2"	-

Concrete Applications

Vertical Mount – End-Drilled Head

Rod Size	Elco Cat. No.	Description	UL Pipe Size	FM Pipe Size
3/8-16	EZG730	5/16X2-1/4	-	4"

Horizontal Mount – Cross-Drilled Head

Rod Size	Elco Cat. No.	Description	UL Pipe Size	FM Pipe Size
3/8-16	EZH735	5/16X2-1/4	-	4"

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



PanelMate® Hurricane Panel Anchoring System

The quick, economical method to secure hurricane protection



Made in the U.S.A.



PanelMate® fasteners offer one-time installation – the anchors stay in place, ready for even faster and easier panel mounting as the next storm approaches.

Specifications

- Styles: Externally-threaded heads, internally-threaded heads or inserts and hex heads
- Thread Style: Oversized 14-10 V-notched threads (.270 O.D.)
- Materials: Carbon steel and 18-8 stainless steel
- Finish: Silver Stalgard® coating unless otherwise noted

Features & Benefits

- Accept standard 1/4-20 hardware
- Provide exceptional pull-out and shear values
- Provide outstanding corrosion resistance (withstands 1000 hours salt spray per ASTM B117)
- Tested to tough Miami-Dade hurricane standards

Descrip.	Cat. No.	1/4-20 Stud Thd. Length	Anchor Length	14-10 Fastener Thread Length	Material	Finish	Qty. / Box	Wt. / Box
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PanelMate Pro Anchors: Accept standard 1/4-20 nuts

Double-ended studs with stop collar (accept standard 1/4-20 nuts)	ENT220†	5/8"	2-1/4"	2"	carbon steel	Stalgard	1000	17
	ENT320††	5/8"	3-1/4"	3"	carbon steel	Stalgard	500	22
	ENT225*	7/8"	2-1/4"	2"	carbon steel	Stalgard	800	29
	ENT226	7/8"	2-1/4"	2"	stainless steel	passivated	800	30
	ENT325	7/8"	3-1/4"	3"	carbon steel	Stalgard	500	24
	ENT326	7/8"	3-1/4"	3"	stainless steel	passivated	500	24
	ENT450	7/8"	4-1/2"	3"	carbon steel	Stalgard	250	15
	ENT451	7/8"	4-1/2"	3"	stainless steel	passivated	250	15
	ENT550	7/8"	5-1/2"	3"	carbon steel	Stalgard	250	18
ENT551	7/8"	5-1/2"	3"	stainless steel	passivated	250	18	

Descrip.	Cat. No.	Overall Anchor Len.	14-10 Fastener Thread Length	Material	Finish	Qty. / Box	Wt. / Box
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PanelMate Female ID (Internal Drive) Anchors: Accept standard 1/4-20 hardware

Internally-threaded head accepts standard 1/4-20 hardware	ENW260	2-5/8"	1-3/4"	carbon steel fastener with stainless steel head	Stalgard	1,000	48
	ENW261	2-5/8"	1-3/4"	stainless steel	passivated	1,000	48
	ENW325	3-1/4"	2"	carbon steel fastener with stainless steel head	Stalgard	500	27
	ENW326	3-1/4"	2"	stainless steel	passivated	500	27
	ENW450	4-1/2"	3"	carbon steel fastener with stainless steel head	Stalgard	500	34
	ENW451	4-1/2"	3"	stainless steel	passivated	500	34
	ENW550	5-1/2"	3"	carbon steel fastener with stainless steel head	Stalgard	500	39
	ENW551	5-1/2"	3"	stainless steel	passivated	500	39

Descrip.	Cat. No.	1/4-20 Stud Thd. Length	Anchor Length	14-10 Fastener Thread Length	Description	Finish	Qty. / Box	Wt. / Box
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PanelMate Plus Anchors: Accept standard 1/4-20 wingnuts

Double-ended studs (no washer or stop collar)	ENX383	1-1/4"	2-1/4"	2-1/8"	carbon steel anchor	white Stalgard	1,000	35
	ENX384-050KIT	1-1/4"	2-1/4"	2-1/8"	carbon steel anchors, drill bit, driver, wing nuts and plastic caps	white Stalgard	300	11
	ENX400	1-1/4"	2-1/4"	2-1/8"	stainless steel	passivated	1000	35
	ENX380	1-1/4"	2-1/4"	2-1/8"	carbon steel anchor	silver Stalgard	1000	35

† Formerly sold as Cat# ENX320

†† Formerly sold as Cat# ENX328

* Formerly sold as ENX322



PanelMate® Hurricane Panel Anchoring System

The quick, economical method to secure hurricane protection



Made in the U.S.A.

Descrip.	Cat. No.	1/4-20 Stud Thd. Length	Anchor Length	14-10 Fastener Thread Length	Material	Finish	Qty. / Box	Wt. / Box
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PanelMate TVAS** Pro Anchors

Double-ended studs	ENT737	7/8"	7-3/8"	3"	carbon steel	Stalgard	400	37
	ENT738	7/8"	7-3/8"	3"	stainless steel	passivated	400	37

Descrip.	Cat. No.	Overall Anchor Length	14-10 Fastener Thread Length	Material	Finish	Qty. / Box	Wt. / Box
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PanelMate TVAS** Female Anchors: Accept standard 1/4-20 hardware

Internally-threaded head	ENW737	7-3/8"	3"	carbon steel	Stalgard	300	29
	ENW738	7-3/8"	3"	stainless steel	passivated	300	29

Descrip.	Cat. No.	Overall Anchor Length	14-10 Fastener Thread Length	Material	Finish	Qty. / Box	Wt. / Box
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PanelMate TVAS** Hex Anchors for track systems

Hex head screw	ENX335	7-3/8" (below head)	3"	carbon steel	Stalgard	400	40
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Descrip.	Cat. No.	Overall Anchor Length	14-10 Fastener Thread Length	Material	Finish	Qty. / Box	Wt. / Box
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PanelMate L Inserts: Accept standard 1/4-20 hardware

Internally-threaded insert	ENX305	2-1/8"	N/A	carbon steel	Stalgard and nylon locking patch	500	37
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PanelMate S Inserts: Accept standard 1/4-20 hardware

Internally-threaded insert	ENX310	1-5/8"	N/A	carbon steel	Stalgard	1000	47
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** Through-Veneer Anchoring System

Installation Tools and Mating Hardware

Cat. No.	Description	Quantity
ENY105	SPL 3/8" Drive Socket	1
ENY110	PMD-1 Combo Bit	1
ENY111	PMD-1 Replacement Center Bit	10 per tube
ENY130-100	1/4 x 1/2 Stainless Sidewalk Bolt, packaged	100 per pkg. / 3,000 per shipper
ENY130	1/4 x 1/2 Stainless Sidewalk Bolt, bulk	3,000
ENY137	1/4 x 1-1/4 Stainless Sidewalk Bolt, bulk	2,000
ENY140	PanelMate Plus Drive Sleeve	1
ENY156	Modified 3/16" Drive Socket (PM Pro Drive Socket)	1
ENY176-050	Wing Nuts	50 per bag / 1,500 per shipper
ENY181	Plastic Caps	2,000 per box
ENY186-100	Plastic Push-in Button Screw	100 per bag / 600 per shipper
ENY190	Panelmate Insert Driver 2"	1
ENY192	Panelmate Insert Driver 3"	1
ENY194	Panelmate Insert Driver 4"	1

Masonry Drill Bits

Cat. No.	Description	Func. Length
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Tanged Masonry Drill Bits

EMC100	7/32 X 4-1/2" tanged	3"
EMC110	7/32 X 5-1/2" tanged	4"
EMC115	7/32 X 7-1/2" tanged	6"
EMC116	7/32 X 13" hex stem	11-1/2"

SDS Hex Shank Masonry Drill Bits***

EMC120	7/32 X 5-1/2"	2-1/4"
EMC130	7/32 X 7"	4"
EMC140	7/32 X 8 1/4"	5"
EMC150	7/32 X 11"	6"

Drill Bit Adaptor

ELY100	Tanged Drill Bit Adapter (1/8" Hex Key Included)	NA
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PanelMate® Hurricane Panel Anchoring System

Technical Information



Made in the U.S.A.

Performance Data – Anchors with 14-10 Threads Only

Concrete : 3,350 PSI						
Fastener Material	Style	Design	Edge distance	Depth of embedment	Tension	Shear
Carbon Steel Only	PanelMate Pro, Plus, TVAS	Protruding	2.50" (10d)	1.75"	2176	-
			1.00" (4d)	2.00"	2383	755
			1.75" (7d)	2.00"	-	1758
			2.50" (10d)	2.00"	2458	2269
Carbon Steel Only	PanelMate Female ID	Non-protruding	1.75" (7d)	1.75"	-	1620
			2.50" (10d)	1.75"	2176	1602
CMU: 2,071 PSI						
Fastener Material	Style	Design	Edge distance	Depth of embedment	Tension	Shear
Carbon Steel Only	PanelMate Pro, Plus, TVAS	Protruding	2.00"	1.25"	1091	1060
			3.00"	1.25"	1050	1300
Carbon Steel Only	PanelMate Female ID	Non-protruding	2.00"	1.25"	1091	-
			3.00"	1.25"	1050	994
Wood – #2 SYP (Specific Gravity .54)						
Fastener Material	Style	Design	Edge distance	Depth of embedment	Tension	Shear
Carbon Steel and Stainless Steel	All	All	0.75"	1.875"	2632	1152
			2.00"	1.50"	-	1560

Performance Data – PanelMate Inserts

Poured Concrete Beam (2,700 PSI)					
Test	Edge Distance	Embedment	Ultimate Load (lbs.)		
Pull-out	4"	1-5/8"	2,342		
Block or CMU (2,676 PSI)					
Test	Block Type	Power Tool and Drill Bit	Ultimate Load (lbs.)		
Pull-out	Grout filled	Rotary hammer and SDS bit	1,666†		
Hollow Block (1,794 PSI)††					
Test Type	Edge Distance (in.)	Embedment (In.)	Ultimate Load (lbs.)	Typical Mode of Failure	
Pull-out	1-3/4"	1-1/4"	1,376	Pop-out/spall of block	
Shear			1,100	Break-out of block	
Pull-out	3-1/2"		1,608	Pop-out/spall of block	
Shear			2,208	Break-out of block	
Wood					
	Specific Gravity	Pilot Hole	Embedment	Edge Distance	Ultimate Load (lbs.)
SPF	.35	7/16" (.437")	1-5/8"	3/4"	1,115
#2SYP	.55				1,396

† In-house testing was done with pilot hole drilled using corded rotary hammer and 7/16" SDS masonry drill bit.

†† In testing, the PanelMate insert was installed and a 1/4-20 stainless steel machine screw was threaded into the insert. The test load was then applied to the machine screw.

NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate average values shown is generally accepted as an appropriate working load. 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.



RapidSet® Tools

The fastest, easiest and most reliable way to install machine screw anchors



Made in the U.S.A.



Efficient RapidSet® tools eliminate clumsy hammer and setting processes or expensive, slow expander tools.*

Specifications

- For machine screw anchor sizes #10, 1/4" and 3/8"
- Designed for use with power tools, including battery impact drivers
- MAXX model allows placement of 1/4" anchors at various depths (up to 2") below the surface

Features & Benefits

- Power tool does all the work – no pounding with setting tools
- Automatically sets anchor just below the surface
- Maximizes expansion of bottom portion of lead sleeve, which results in consistently high pull-out values

Catalog No.		For Insert-Anchor Size
Standard RapidSet tool		
	EZB790	#10-24
	EZB800	1/4-20
	EZB820	3/8-16
RapidSet MAXX tool		
	EZB810	1/4-20
Catalog No.		Description
Repair Kits		
	EZB811	Repair Kit for EZB810 (Rapidset MAXX Tool)
	EZB801	Repair Kit for EZB800 (Rapidset Tool for 1/4-20 Inserts)

* **Note:** RapidSet tools draw the anchor's internal insert up into the anchor's outer sleeve; this installation process eliminates the need to maintain a back bearing surface (required by hammer setting tools).

Warranty and Limitation of Liability:

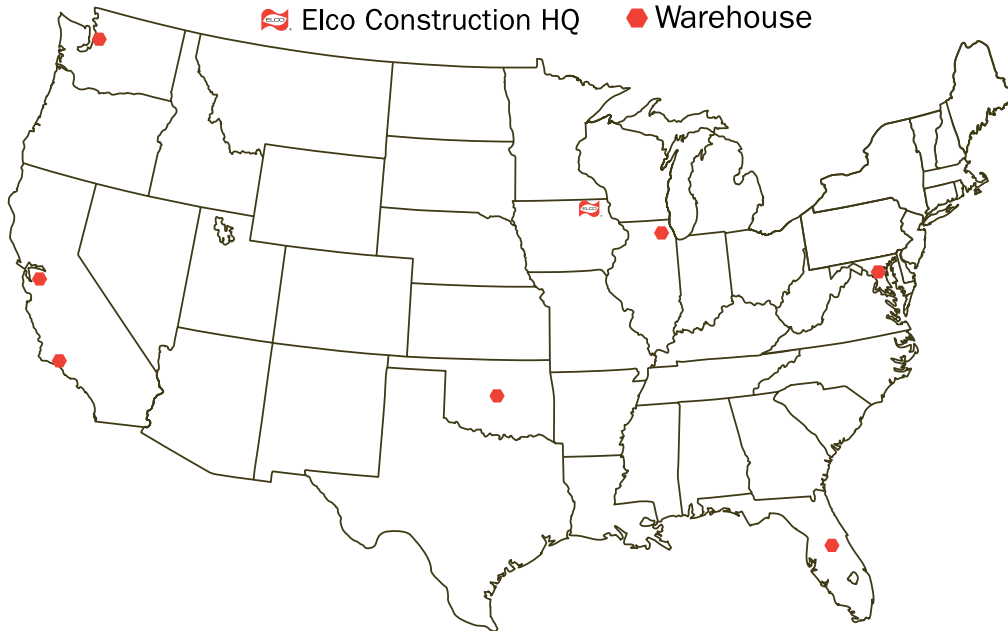
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Seven Stocking Warehouse Locations To Serve You



Northwest

Tucker Weitzel

230 South Austin Street
Seattle, WA 98108
Phone: 206-763-3690
Fax: 206-763-3797

North Central

Bach & Associates

111 Union St.
Batavia, IL 60510
Phone: 630-879-1596
Fax: 630-879-1598

Northeast

The Distribution Center

9014 Junction Drive
Annapolis Junction, MD 20701
Phone: 800-342-4750
Fax: 410-792-0953

Northern CA, Northern NV, HI

Larrabee Company

2192 West Winton Ave.
Hayward, CA 94545
Phone: 510-264-9199
Fax: 510-785-6483

South Central

Triangle Marketing

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