

Crete-Flex[®] SS4 Masonry Fastening System

Extraordinary Corrosion Resistance and Fastener Performance

A family of high performance, 410 stainless steel masonry anchors, the Crete-Flex SS4 fastening system delivers corrosion resistance, installation consistency and outstanding performance.



Engineering Technology

Oversized threads: Crete-Flex anchors are available in

- 3/16" diameter, with a .200" O.D. and .157" I.D.
- #14 diameter, with a .268" O.D. and .201" I.D.

These larger-than-normal root diameters (54 – 56% higher than standard concrete anchors) allow Crete-Flex anchors to deliver exceptional performance, including higher shear values.

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

Superior Corrosion Resistance

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

Crete-Flex anchors undergo brite hardening. This higher level of hardening allows the 410 stainless material to retain more of its natural corrosion resistance and ductility.

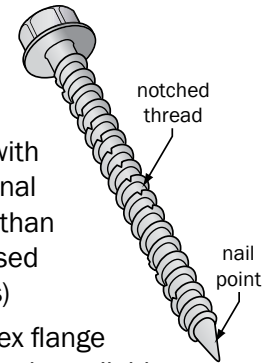
Unique Finish: Crete-Flex fasteners then receive Elco’s unequaled Stalgard[®] coating instead of zinc plating. The combination of this unique heat treatment and silver Stalgard coating results in superior corrosion resistance. Even after 2400 hours in a salt spray cabinet (per ASTM B117), Crete-Flex fasteners showed no signs of red rust.

For outstanding performance in applications of metal, wood or other materials to concrete or hollow block, rely on the proven Crete-Flex SS4 Masonry Fastening System.



Features

- 410 stainless steel
- Oversized 3/16" and #14 diameters
- Heavy-duty, v-notched thread with larger cross-sectional area (25% greater than other commonly-used masonry fasteners)
- Hex washer, flat, hex flange and TrimFit[®] flat heads available
- Nail point
- Brite hardened
- Silver Stalgard corrosion-resistant finish provides 1600 hours of salt spray resistance
- Made in the U.S.A.
- Installed with a commercial-grade hammer drill or rotary hammer, a specially-sized Crete-Flex carbide-tipped drill bit, and a 1000 or Crete-Flex installation tool



Benefits

- Oversized diameters provide exceptionally high shear values
- Enhanced corrosion resistance
- Easy and consistent installation

Approvals/Listings:

- Miami-Dade Product Control Approved: Miami-Dade County, Florida, Notice of Acceptance No. 12-0126.09

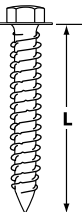


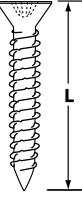
Made in the U.S.A.

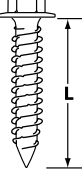
Selection Guide

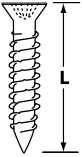
Standard Packaging: 100 fasteners and one tanged masonry drill bit per box.

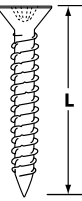
Bulk Quantities: Available upon request.

Catalog No.	L Length	Drive System	Shipper Qty.	Shipper Weight	Drill Bit Size†	
#14 Diameter, Hex Washer Head (.425" washer O.D.)						
	HFMF310	1-1/4"	5/16" hex	500	9	7/32" x 4-1/2"
	HFMF330	1-3/4"	5/16" hex	500	11	
	HFMF350	2-1/4"	5/16" hex	500	14	
	HFMF370	2-3/4"	5/16" hex	500	16	
	HFMF390	3-1/4"	5/16" hex	500	21	7/32" x 5-1/2"
	HFMF410	3-3/4"	5/16" hex	500	22	
	HFMF430	4"	5/16" hex	500	23	
	HFMF450	5"	5/16" hex	100	6	
HFMF470	6"	5/16" hex	100	7	7/32" x 7-1/2"	

#14 Diameter, Phillips Flat Head						
	HFMF690	1-1/4"	#3 phillips	500	8	7/32" x 4-1/2"
	HFMF710	1-3/4"	#3 phillips	500	10	
	HFMF730	2-1/4"	#3 phillips	500	13	
	HFMF750	2-3/4"	#3 phillips	500	14	
	HFMF770	3-1/4"	#3 phillips	500	19	7/32" x 5-1/2"
	HFMF790	3-3/4"	#3 phillips	500	21	
	HFMF810	4"	#3 phillips	500	22	
	HFMF830	5"	#3 phillips	100	6	
HFMF850	6"	#3 phillips	100	7	7/32" x 7-1/2"	

#14 Diameter, Hex Flange Head (5/8" washer O.D.)						
	HFMF340	1-3/4"	5/16" hex	500	13	7/32" x 4-1/2"
	HFMF360	2-1/4"	5/16" hex	500	16	

#14 Diameter TrimFit® Flat Head						
	HFMF510	1-3/4"	#3 phillips	500	10	7/32" x 4-1/2"
	HFMF530	2-1/4"	#3 phillips	500	13	
	HFMF550	2-3/4"	#3 phillips	500	14	

3/16" Diameter, Phillips Flat Head						
	HFMF610	1-1/4"	#3 phillips	500	4	5/32" x 4-1/2"
	HFMF620	1-3/4"	#3 phillips	500	6	
	HFMF630	2-1/4"	#3 phillips	500	7	
	HFMF640	2-3/4"	#3 phillips	500	9	
	HFMF650	3-1/4"	#3 phillips	500	10	5/32" x 5-1/2"

*Dimensions

Diameter	14-10	3/16-10
Shank (Unthreaded Section)	.214"	.161"
Major Thread Diameter (O.D.)	.268"	.200"
Minor Thread Diameter (I.D.)	.201"	.157"

Masonry Drill Bits

NOTE: 7/32 drill bits are for installing #14 Crete-Flex fasteners only. 5/32" bits should be used to install 3/16" Crete-Flex fasteners.

Tanged Bits

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

Description	Max. Anchor Length
For 14-10 Crete-Flex Anchors	
7/32 x 4-1/2"	2-3/4"
7/32 x 5-1/2"	4"
7/32 x 7-1/2"	6"
For 3/16-10 Crete-Flex Anchors	
5/32 x 3-1/2"	1-3/4"
5/32 x 4-1/2"	2-3/4"
5/32 x 5-1/2"	4"

Hex-collared SDS Bits

- For use with rotary hammer drills†

Description	Max. Anchor Length
For 14-10 Crete-Flex Anchors	
7/32 x 5-1/2"	6"
7/32 x 7"	4"
7/32 x 8-1/4"	5"
7/32 x 11"	6"
For 3/16-10 Crete-Flex Anchors	
5/32 X 5	1-3/4"
5/32 x 7	4"

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

Mechanical Strengths

Tensile Yield (Fy): 127.4 KSI

Tensile Ultimate (Fu): 189.7 KSI

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

Installation Instructions

The Crete-Flex[®] Masonry Fastening System consists of Crete-Flex anchors and Elco[®] carbide-tipped drill bits.

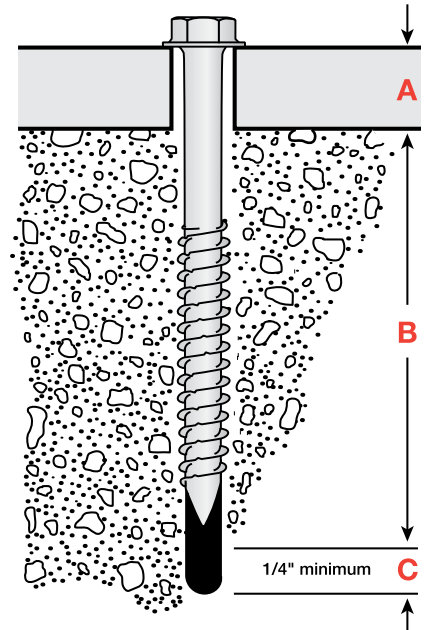
To determine the proper length Crete-Flex anchor for an application, combine the thickness of the attachment (A) with the desired depth of embedment in the masonry material (B). It is recommended that a minimum of 1" and a maximum of 2" embedment be used in determining fastener length.

Use of properly-sized carbide bits is imperative for optimum performance:

- 5/32" bits for 3/16" Crete-Flex fasteners
- 7/32" bits for #14 Crete-Flex fasteners

Consistent performance and maximum pull-out values can be assured only when genuine Elco drill bits are used along with a 1000 tool (Elco Cat. No. ELP100). With the Elco drill bit installed in the drill or rotary hammer, drill the depth of (A) + (B) + (C).

With the drill tool still in its hammer mode, drive the Crete-Flex anchor using an appropriate hex or phillips drive tool until properly seated with the work surface.



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.



Hex Washer Head



1/4" Flat Head



3/16" Flat Head

Performance and Technical Data

Testing in Concrete (3350 PSI min.)

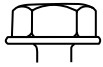
Embedment	Edge Distance	Spacing	Tension (lbs)	Shear (lbs)
1"	1"	6" O.C.	150	125
	1-3/4"	6" O.C.	165	215
	2-1/2"	6" O.C.	190	265
1-3/4"	1"	1-1/2" O.C.	320	-
		3" O.C.	388	178
		6" O.C.	390	310
	1-3/4"	6" O.C.	525	450
	2-1/2"	3" O.C.	314	467
		6" O.C.	625	645
2"	1"	6" O.C.	390	310
	1-3/4"	6" O.C.	525	450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

Testing in Concrete Block (C90)

1-1/4"	1"	6" O.C.	195	105
	1-3/4"	6" O.C.	290	330
	2-1/2"	1-1/2" O.C.	126	266
		3" O.C.	126	309
		6" O.C.	305	330
1-5/8"	1"	6" O.C.	310	135

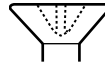
NOTE: All performance data shown is based on tests performed under laboratory conditions at independent construction testing facilities. The appropriate safety factor should be applied and code requirements factored into specification and use of these fasteners. A safety factor of 4:1 or 25% of the ultimate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

Head Styles



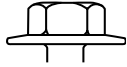
Hex Washer Head

5/16" hex with washer that provides a bearing surface for fast, secure driving.



Phillips Flat Head

Used primarily in wood applications to countersink head for finished appearance. #3 phillips drive.



Hex Flange Head

5/16" hex with larger 5/8" washer diameter provides larger bearing surface. Ideal for attaching track systems or other applications that require a washer.



TrimFit[®] Flat Head

Undersized head permits use of 1/4" and 5/16" diameter fastener in applications with clearance constraints. Head O.D. .415" nom. #3 phillips drive.

Important Product and Warranty Information!

- As with all cutting tools and fasteners, normal safety precautions should be observed to avoid electrical installations, other utilities and reinforcement bars. Careful use will provide the utmost in safety and reliability.
- The wearing of safety glasses by users and persons in the vicinity is required by Federal Law.
- Complete Crete-Flex[®] product information, code approvals and technical application assistance is available from Elco Construction Products by calling 800.435.7213.
- This literature was prepared as a summary of the Crete-Flex Masonry Fastening System and is not, therefore, intended to describe all hazards, limitations, warnings, precautions, etc., pertaining to the use of the product. The information and data presented herein are believed to be accurate and reliable. However, due to the wide variety of possible intervening factors, the suitability of the product for the use intended is the sole responsibility of the user. Specifications and other information contained herein supersede all previously published material and are subject to change without notice.
- All Crete-Flex anchors are warranted to be manufactured free from defects in material and workmanship. Under this warranty, Elco Construction Products will provide, at no charge, replacement product for any Crete-Flex^f anchor proven to be defective when installed in accordance with our published recommendations and in applications considered by us as suitable for this product. This warranty is in lieu of any and all warranties, express or implied, and in no case will Elco Construction Products be liable for incidental, liquidated or consequential damages.

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