

Crete-Flex[®] SS4 Masonry Fastening System

Extraordinary Strength 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 when connecting materials to concrete or hollow block.



Engineering Technology

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

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

Superior Corrosion Resistance

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

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

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



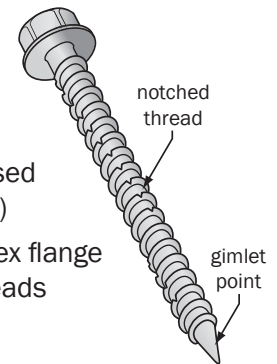
Inspection

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



Features

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



Benefits

- Exceptionally high shear values and pull-out values
- Enhanced corrosion resistance
- Easy and consistent installation

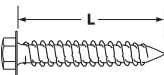


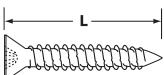
Made in the U.S.A.

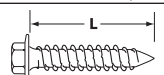
Selection Guide

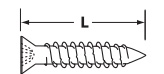
Standard Packaging: 100 fasteners and one tanged masonry drill bit per box.

Bulk Quantities: Available upon request.

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

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

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

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

Performance and Technical Data

Allowable Loads

Testing in Concrete (3350 PSI min.)

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

Testing in Concrete Block (C90)

Embedment	Edge Distance	Spacing	Tension (lbs)	Shear (lbs)
1-1/4"	1"	6" O.C.	195	105
	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

Masonry Drill Bits

Tanged Bits

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

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

Hex-collared SDS Bits

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

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

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

^{††}EMC140 and EMC150 drill bits are NOT shanked

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

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

Mechanical Strengths

Tensile Yield (Fy): 127.4 KSI

Tensile Ultimate (Fu): 189.7 KSI

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