

# ConFlex® Large Diameter Masonry Screws

ConFlex® fasteners are a new generation of masonry screws from Elco Construction Products. The design combines our 25 years of experience in manufacturing the highest quality masonry screws with our unique Flex Technology® heat treat process used in our Dril-Flex® drill screws. The result is a large diameter masonry screw that is virtually immune to brittle failures, allowing use in exterior applications.

## High Performance

The major feature of the ConFlex® design is the Flex Technology® heat treatment, which provides dual hardness zones on the screw shank:

- The lead threads are extremely hard for more efficient and effective thread tapping
- The lower hardness of the rest of the fastener renders it virtually immune to brittle failures

Brittle failures occur when high hardness fasteners, under high loads (including that from installation torque), are used in applications where moisture is present. The chance of failure is greatly enhanced when aluminum is in contact with such a fastener. This type of metallurgical reaction is usually referred to as Hydrogen-Assisted Stress Corrosion Cracking (HASCC).

## Other Features and Benefits

- Installs using standard ANSI masonry drill bits
  - 3/8" masonry drill bit for 3/8" ConFlex® fastener
  - 7/16" masonry drill bit for 1/2" ConFlex® fastener
- Silver Stalgard® finish provides exceptional corrosion resistance (800 to 1,000 hours without red rust in salt spray testing per ASTM B117)
- Double-lead threads allow rapid fastener advancement into the pilot hole – twice as fast as a standard single-lead thread
- Locking serrations under the head provide back-out resistance
- Provides high pull-out and shear values
- Low installation torque
- Head markings allow easy inspection

## Specifications

**Sizes:** 3/8" and 1/2" diameters

Actual thread O.D. is greater than nominal screw anchor diameter designation (see thread diameter information on following page)

**Material:** Alloy steel

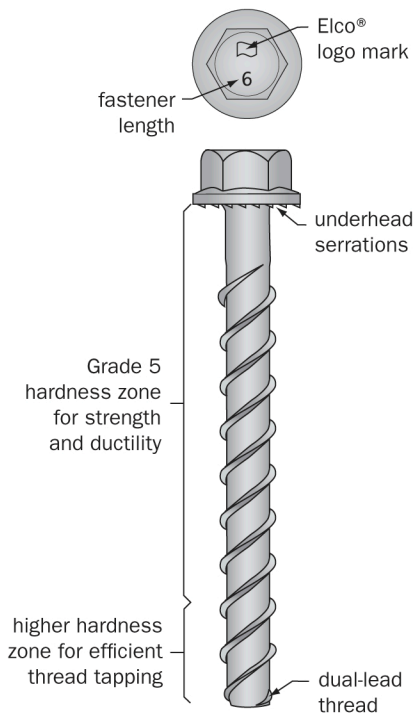
### Mechanical Properties

**Tensile Yield:** 92,000 KSI min. (Grade 5)

**Tensile Ultimate:** 120,000 KSI min. (Grade 5)

**Finish:** Silver Stalgard® corrosion-resistant coating

**Corrosion Resistance:** 800 to 1,000 hours in salt spray testing without red rust (per ASTM B117)



## Applications

- Curtain wall and glazing
- Blast- and impact-resistant window systems
- Accordion and pull-down hurricane shutter tracks
- Racking and shelving
- Maintenance and repairs
- Window and door frames
- Fencing
- Mudsills and ledgers
- Material handling
- Pool enclosures

**ConFlex® Large Diameter Masonry Anchors**



# ConFlex® Large Diameter Masonry Screws

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

## ConFlex® Selection Guide

3/8" Diameter				1/2" Diameter			
Length	Thread Length	Part No.	Quantity Per Box	Length	Thread Length	Part No.	Quantity Per Box
2-1/2"	2-1/4"	EMR215	50	2-1/2"	2-1/4"	EMR320	50
3"	2-1/4"	EMR235	50	3"	2-1/4"	EMR340	50
4"	3-1/2"	EMR255	50	4"	3-1/2"	EMR360	50
5"	3-1/2"	EMR265	25	5"	3-1/2"	EMR370	25
7-1/2"	3-1/2"	EMR295	25	6"	3-1/2"	EMR380	25

Recommended min. embedment: 2"

Recommended min. embedment: 2"

### Installation:

- Standard 3/8" ANSI masonry drill bit (.398" +.000"/-.010")

- Recommended functional masonry drill bit length: minimum 1" more than fastener length

### Installation:

- 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: 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 data is available upon request.



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
	2-5/8"	3-1/2	9,288	2,732
		1-1/2		
		2		
		2-1/2	5,111	2,667
	3-1/2"	3-1/2	8,438	4,046
		1-1/2	2,055	X
		2	X	5,810
		2-1/2	4,778	X
	3-3/4" (10d)	3-1/2	X	X
1-1/2		2,055	3,414	
2		X	5,810	
2-1/2		5,111	7,309	
1/2"	2"	3-1/2	9,508	8,339
		1-3/4	3,515	X
		2	4,388	X
		3	6,719	2,229
	3"	4	11,076	3,860
		1-3/4	X	X
		2	X	X
		3	X	X
	3-1/2"	3	X	X
		4	X	X
		1-3/4	X	X
		2	X	X
	4"	3	7,646	X
		4	10,234	X
		1-3/4	2,887	6,787
		2	4,310	6,678
	5" (10d)	3	8,169	8,489
		4	11,111	10,942
		1-3/4	X	X
		2	X	X
		3	X	X
		4	X	X