



MIAMI-DADE COUNTY  
 PRODUCT CONTROL SECTION  
 11805 SW 26 Street, Room 208  
 Miami, Florida 33175-2474  
 T (786) 315-2590 F (786) 315-2599  
[www.miamidade.gov/economy](http://www.miamidade.gov/economy)

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)  
 BOARD AND CODE ADMINISTRATION DIVISION  
**NOTICE OF ACCEPTANCE (NOA)**

**Elco Construction Products, Div. of Infastech**  
 1304 Kerr Drive  
 Decorah, IA 52101

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

**DESCRIPTION: Ultracon Concrete & Masonry Anchors**

**APPROVAL DOCUMENT:** Drawing No. 14-1821, titled "Elco Ultracon Concrete and Masonry Anchors", sheets 1 through 3 of 3, dated 03/07/2011, with last revision dated 09/29/2014, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E., bearing the Miami-Dade County Product Control revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

**MISSILE IMPACT RATING: None**

**LABELING:** Each box/container of the smallest quantity shall bear a label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA # 11-0406.01** and consists of this page 1, evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**



*[Signature]*  
 105/18/2015

NOA No: 15-0226.08  
 Expiration Date: January 8, 2016  
 Approval Date: May 28, 2015  
 Page 1

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**A. DRAWINGS**

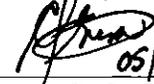
1. Drawing No. 14-1821, titled "Elco Ultracon Concrete and Masonry Anchors", sheets 1 through 3 of 3, dated 03/07/2011, with last revision dated 09/29/2014, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.

**B. TESTS**

	<u>Test Report No.</u>	<u>Standard</u>	<u>Date</u>	<u>Signature</u>
1.	HETI-08-A402	ASTM E488-96	08/12/08	Candido F. Font, P.E.
2.	HETI-08-A406	ASTM E488-96	08/12/08	Candido F. Font, P.E.
3.	HETI-08-A407	ASTM E488-96	08/12/08	Candido F. Font, P.E.
4.	HETI-08-A410	ASTM E488-96	08/20/08	Candido F. Font, P.E.
5.	HETI-08-A412	ASTM E488-96	08/20/08	Candido F. Font, P.E.
6.	HETI-08-A414	ASTM E488-96	08/20/08	Candido F. Font, P.E.
7.	HETI-08-A416	ASTM E488-96	08/20/08	Candido F. Font, P.E.
8.	HETI-08-A417	ASTM E488-96	08/20/08	Candido F. Font, P.E.
9.	HETI-08-A428	ASTM E488-96	08/22/08	Candido F. Font, P.E.
10.	HETI-08-A429	ASTM E488-96	08/22/08	Candido F. Font, P.E.
11.	HETI-08-A430	ASTM E488-96	08/22/08	Candido F. Font, P.E.
12.	HETI-08-A432	ASTM E488-96	08/20/08	Candido F. Font, P.E.
13.	HETI-08-A434	ASTM E488-96	08/20/08	Candido F. Font, P.E.
14.	HETI-08-A438	ASTM E488-96	08/22/08	Candido F. Font, P.E.
15.	HETI-08-A442	ASTM E488-96	08/22/08	Candido F. Font, P.E.
16.	HETI-08-C104	ASTM C39-05	09/11/08	Candido F. Font, P.E.
17.	HETI-08C107B	ASTM C39-05	09/11/08	Candido F. Font, P.E.

***"Submitted under NOA # 07-0425.01"***

1.	HETI-01-5013	ASTM E488	06/01/01	H. M. Medina, P.E.
2.	HETI-01-5069	ASTM E488	09/17/01	H. M. Medina, P.E.
3.	HETI-03-C600	ASTM C39	08/13/03	R. D. Seda, P.E.
4.	HETI-03-C601	ASTM C39	12/19/03	R. D. Seda, P.E.
5.	HETI-03-1127	ASTM E488	12/02/03	R. D. Seda, P.E.
6.	HETI-03-1136	ASTM E488	12/02/03	R. D. Seda, P.E.
7.	HETI-03-1153	ASTM E488	12/23/03	R. D. Seda, P.E.
8.	HETI-03-1159	ASTM E488	12/02/03	R. D. Seda, P.E.
9.	HETI-03-1161	ASTM E488	12/02/03	R. D. Seda, P.E.
10.	HETI-03-1164	ASTM E488	12/12/03	R. D. Seda, P.E.
11.	HETI-03-1165	ASTM E488	12/12/03	R. D. Seda, P.E.
12.	HETI-03-1173	ASTM E488	12/12/03	R. D. Seda, P.E.
13.	HETI-03-1175	ASTM E488	12/12/03	R. D. Seda, P.E.
14.	HETI-03-1177	ASTM E488	12/12/03	R. D. Seda, P.E.
15.	HETI-05-1501	ASTM E488	08/31/05	I. Ghia, P.E.

  
05/18/2015

Carlos M. Utrera, P.E.

Product Control Examiner

NOA No 15-0226.08

Expiration Date: January 8, 2016

Approval Date: May 28, 2015

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

**C. CALCULATIONS “Submitted under NOA # 11-0406.01”**

1. Anchor allowable load calculations, prepared by Engineering Express, dated 11/16/2011, signed and sealed by Frank L. Bennardo, P.E.

**D. MATERIAL CERTIFICATIONS**

1. None.

**E. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

**F. STATEMENTS**

1. Statement letter of code conformance to the 5<sup>th</sup> edition (2014) FBC issued by Engineering Express, dated 09/29/2014, signed and sealed by Frank L. Bennardo, P.E.

**“Submitted under NOA # 11-0406.01”**

2. Statement letter of code conformance to 2007 and 2010 FBC, issued by Engineering Express, dated 11/10/2011, signed and sealed by Frank L. Bennardo, P.E.
3. Statement letter of no financial interest issued by Engineering Express, dated 04/04/2011, signed and sealed by Frank L. Bennardo, P.E.



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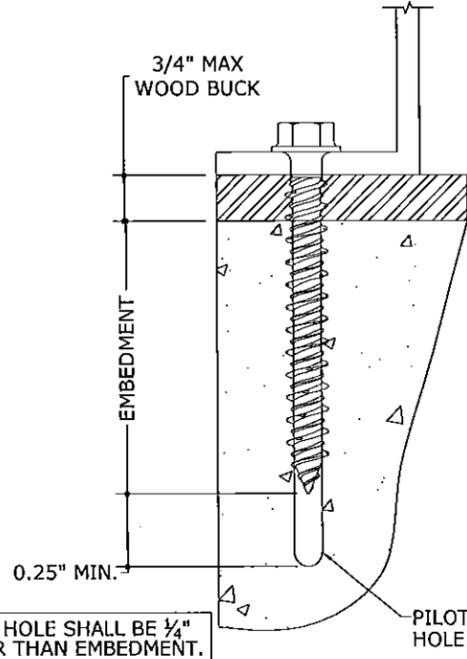
Carlos M. Utrera, P.E.  
Product Control Examiner  
NOA No 15-0226.08  
Expiration Date: January 8, 2016  
Approval Date: May 28, 2015

# ELCO ULTRACON

## CONCRETE & MASONRY ANCHORS

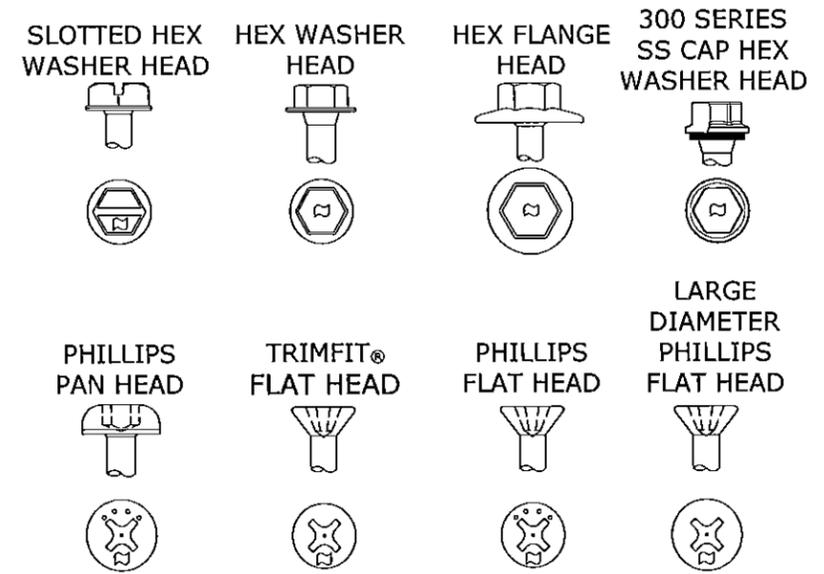
### GENERAL NOTES:

- THIS PRODUCT HAS BEEN DESIGNED & TESTED IN ACCORDANCE WITH THE STRUCTURAL PROVISIONS OF THE 2010 FLORIDA BUILDING CODE AND THE FBC FIFTH EDITION (2014) FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE.
- ANCHOR INSTALLATION SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND THIS NOTICE OF ACCEPTANCE.
- CONCRETE SHALL CONFORM TO ACI 301 SPECIFICATIONS, WITH STRENGTH PROPERTIES AS SPECIFIED HEREIN. HOLLOW AND GROUT-FILLED CONCRETE BLOCK SHALL CONFORM TO ASTM C-90.
- ELCO ULTRACON IS A CORROSION RESISTANT MASONRY AND CONCRETE FASTENER FINISHED WITH STALGARD COATING.
- HEAD MARKINGS: ELCO ULTRACON MASONRY FASTENERS ARE IDENTIFIED WITH EITHER THE ELCO LOGO, OR FOUR DOTS IN THE CASE OF THE PHILLIPS PAN HEAD. TRIMFIT FASTENERS HAVE THE ELCO LOGO ALONG WITH 1 DOT ( $\frac{1}{16}$ " DIAMETER) OR 2 DOTS ( $\frac{3}{16}$ " DIAMETER).  $\frac{5}{16}$ " DIAMETER HEX WASHER HEAD ULTRACON FASTENERS HAVE ELCO LOGO AND "5" INDICATING THE  $\frac{5}{16}$ " DIAMETER.
- ALLOWABLE LOAD SHOWN=ULTIMATE LOAD DIVIDED BY 4.0 FOR SOLID NON-CRACKED CONCRETE SUBSTRATES, 5.0 FOR HOLLOW BLOCK & GROUT FILLED BLOCK SUBSTRATES. NO ALLOWABLE STRESS INCREASE HAS BEEN USED IN PREPARATION OF THIS DOCUMENT.
- ANCHOR YIELD STRENGTH  $F_y=155$  KSI, ANCHOR ULTIMATE STRENGTH  $F_u=177$  KSI.
- ANCHOR EDGE DISTANCES, EMBEDMENTS, AND SPACINGS BELOW THOSE SHOWN IN DESIGN TABLES HEREIN ARE NOT ACCEPTABLE.
- ALLOWABLE LOAD CAPACITIES TO SUBSTRATES THAT ARE NOT SHOWN IN THE DESIGN TABLES LISTED HEREIN ARE OUTSIDE THE SCOPE OF THIS CERTIFICATION AND SHALL BE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER.
- ANCHOR INSTALLATION SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND THIS MIAMI-DADE COUNTY, NOTICE OF ACCEPTANCE.
- DRILL HOLES AT LEAST  $\frac{1}{4}$ " DEEPER THAN THE ULTRACON EMBEDMENT.
- SEE DRILL BIT TABLE TO DETERMINE APPROPRIATE DRILL BIT DIAMETER CORRESPONDING TO FASTENER DIAMETER.
- CLEAN HOLES OF DEBRIS AND DUST BEFORE INSTALLATION OF ANCHOR.
- ANCHORS SHALL NOT BE INSTALLED BEFORE THE CONCRETE HAS DEVELOPED ITS DESIGN STRENGTH.
- ANCHORS SHALL NOT BE INSTALLED IN CRACKED CONCRETED SUBSTRATES, AS DEFINED IN ACI 355.2.
- ANCHOR VALUES LISTED HEREIN ARE DETERMINED THROUGH TESTING REPORT DATA AND CHECKED FOR CONSISTENCY WITH EACH TEST PERFORMED.
- REFERENCE THE FOLLOWING TEST REPORTS:
  - HURRICANE ENGINEERING & TESTING, INC.
  - #HETI-01-5013 (06/01/2001) & ADDENDUM (06/21/02)
  - #HETI-01-5069 (09/17/2001)
  - #HETI-03-1127 (12/02/2003)
  - #HETI-03-1136 (12/02/2003)
  - #HETI-03-1153 (12/23/2003)
  - #HETI-03-1159 (12/02/2003)
  - #HETI-03-1161 (12/02/2003)
  - #HETI-03-1164 (12/12/2003)
  - #HETI-03-1165 (12/12/2003)
  - #HETI-03-1173 (12/12/2003)
  - #HETI-03-1175 (12/12/2003)
  - #HETI-03-1177 (12/12/2003)
  - #HETI-03-C600 (08/13/2003)
  - #HETI-03-C601 (12/19/2003)
  - #HETI-05-1501 (01/21/2011)
  - #HETI-08-A402 (08/12/2008)
  - #HETI-08-A406 (08/12/2008)
  - #HETI-08-A407 (08/12/2008)
  - #HETI-08-A410 (08/20/2008)
  - #HETI-08-A412 (08/20/2008)
  - #HETI-08-A414 (08/20/2008)
  - #HETI-08-A416 (08/20/2008)
  - #HETI-08-A417 (08/20/2008)
  - #HETI-08-A428 (08/22/2008)
  - #HETI-08-A429 (08/22/2008)
  - #HETI-08-A430 (08/22/2008)
  - #HETI-08-A432 (08/20/2008)
  - #HETI-08-A434 (08/20/2008)
  - #HETI-08-A438 (08/22/2008)
  - #HETI-08-A442 (08/22/2008)
  - #HETI-08-C104 (09/11/2008)
  - #HETI-08C107B (09/11/2008)

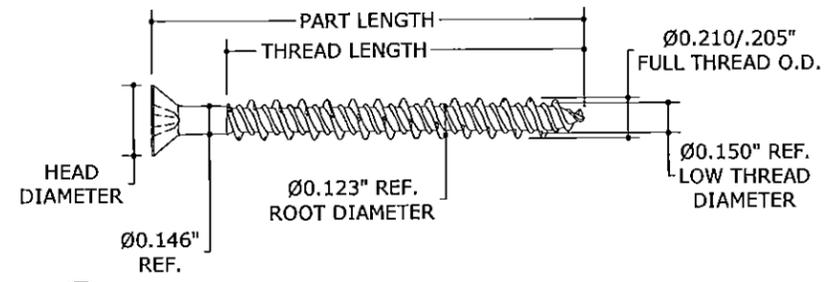


PILOT HOLE SHALL BE  $\frac{1}{4}$ " LONGER THAN EMBEDMENT.

**A** TYPICAL SECTION  
1 1'-0" = 1'-0"

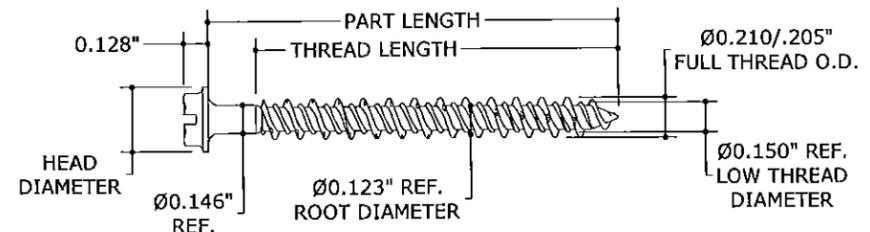


**B** HEAD STYLES  
1 N.T.S.



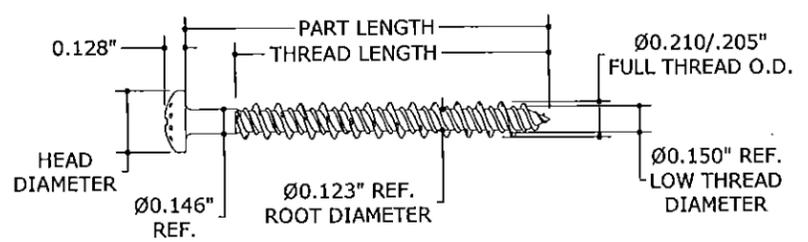
**C** 3/16" PHILIPS FLAT HEAD (PFH)  
1 1'-0" = 1'-0" SIDE VIEW

NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
1-1/4"	1.250"	0.875"
1-3/4"	1.750"	1.313"
2-1/4"	2.250"	1.750"
2-3/4"	2.750"	1.750"
3-1/4"	3.250"	1.750"
3-3/4"	3.750"	1.750"
4"	4.000"	1.750"



**D** 3/16" SLOTTED HEX WASHER HEAD (HWH)  
1 1'-0" = 1'-0" SIDE VIEW

NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
1-1/4"	1.250"	1.000"
1-3/4"	1.750"	1.500"
2-1/4"	2.250"	1.750"
2-3/4"	2.750"	1.750"
3-1/4"	3.250"	1.750"
3-3/4"	3.750"	1.750"
4"	4.000"	1.750"



**E** 3/16" PHILLIPS PAN HEAD (PPH)  
1 1'-0" = 1'-0" SIDE VIEW

NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
1-3/4"	1.750"	1.500"
2-1/4"	2.250"	1.750"
2-3/4"	2.750"	1.750"
3-1/4"	3.250"	2.000"

FRANK L. BERNARDO, P.E.  
LICENSE # 10604  
No. 48549  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
160 SW 12th AVENUE, #10604  
DEERFIELD BEACH, FL 33442  
PH: (954) 354-0660 FAX: (954) 354-0643  
WWW.ENGINEXP.COM  
CERT OF AUTH #885  
A FRANK L. BERNARDO, P.E., INC. INNOVATION

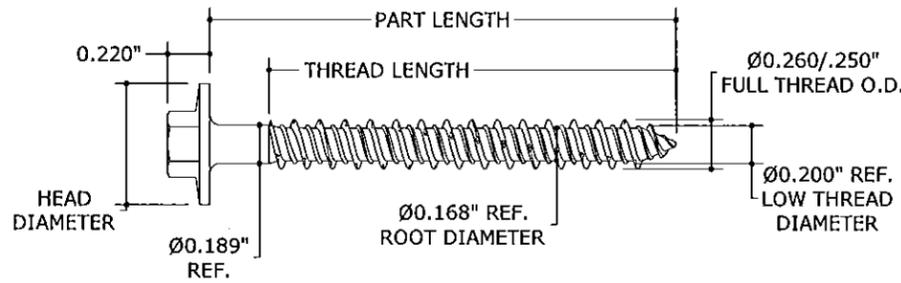
**ELCO**  
ELCO CONSTRUCTION PRODUCTS, DIV. OF INFASTECH  
1304 KERR DRIVE  
DECORAH, IA 52101  
ULTRACON CONCRETE ANCHORS  
MIAMI-DADE NOTICE OF ACCEPTANCE

DATE	DRWN	CHKD	REMARKS
03/07/11	CSL	KL	INIT ISSUE
10/20/11	CSL	KL	REV. PER BNC
11/10/11	CSL	KL	REV. FOR 2010 FBC
01/30/12	RWN	TSB	ADD. REVIEWER COMMENTS
09/29/14	FLB	FLB	2014 FBC

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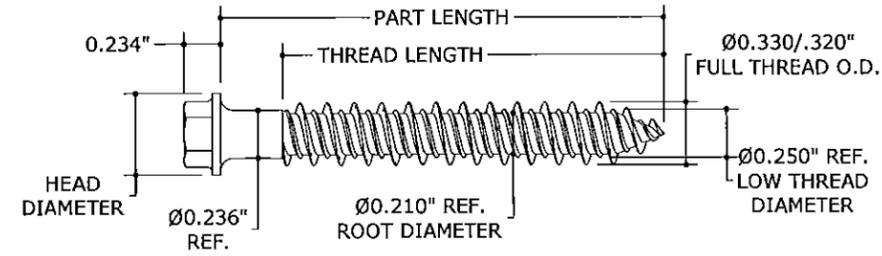
PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No 15-2226-08  
Expiration Date 01/08/2016  
By: *[Signature]*  
Miami Dade Product Control

14-1821  
SCALE: -  
PAGE DESCRIPTION:  
1



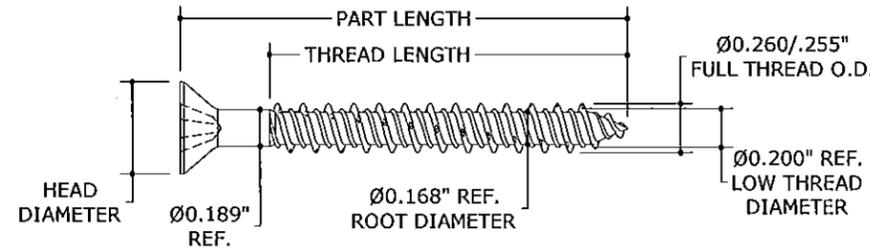
NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
1-3/4"	1.750"	1.500"
2-1/4"	2.250"	1.750"
2-3/4"	2.750"	1.750"
3-1/4"	3.250"	1.750"

**A**  
2  
1'-0" = 1'-0" SIDE VIEW  
**1/4" HEX FLANGE HEAD (HFH)**



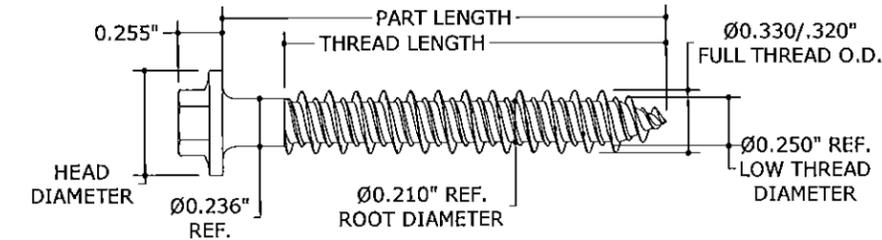
NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
2"	2.000"	1.750"
2-1/4"	2.250"	2.000"
2-3/4"	2.750"	2.000"
3"	3.000"	2.000"
3-1/4"	3.250"	2.000"
4"	4.000"	2.000"

**E**  
2  
1'-0" = 1'-0" SIDE VIEW  
**5/16" HEX WASHER HEAD (HWH)**



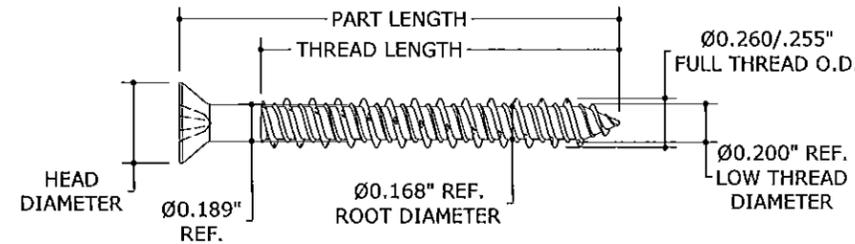
NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
1-1/4"	1.250"	1.000"
1-3/4"	1.750"	1.500"
2-1/4"	2.250"	1.750"
2-3/4"	2.750"	1.750"
3-1/4"	3.250"	1.750"
3-3/4"	3.750"	1.750"
4"	4.000"	1.750"
5"	5.000"	1.750"
6"	6.000"	1.750"

**B**  
2  
1'-0" = 1'-0" SIDE VIEW  
**1/4" PHILLIPS FLAT HEAD (PFH)**



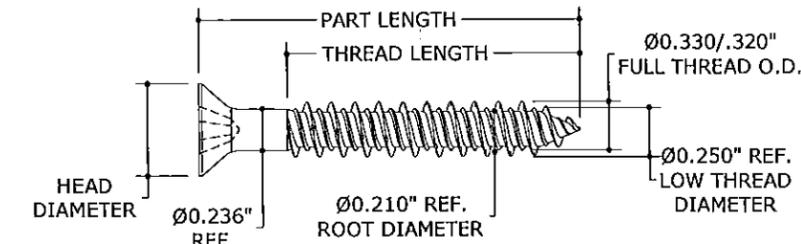
NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
2"	2.000"	1.750"
2-1/4"	2.250"	2.000"
2-3/4"	2.750"	2.000"
3"	3.000"	2.000"
3-1/4"	3.250"	2.000"
4"	4.000"	2.000"

**F**  
2  
1'-0" = 1'-0" SIDE VIEW  
**5/16" HEX FLANGE HEAD (HFH)**



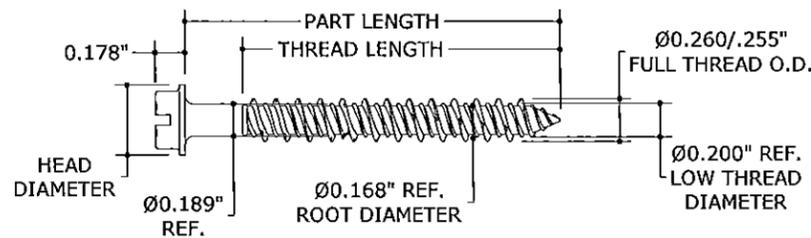
NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
1-3/4"	1.750"	1.313"
2-3/4"	2.750"	1.750"
3-1/4"	3.250"	1.750"
3-3/4"	3.750"	1.750"

**C**  
2  
1'-0" = 1'-0" SIDE VIEW  
**1/4" TRIMFIT**



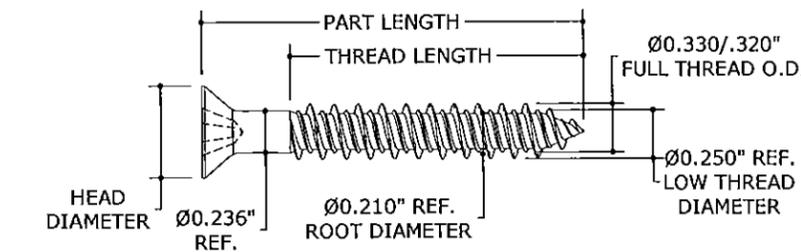
NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
3"	3.000"	2.000"
4"	4.000"	2.000"
5"	5.000"	2.000"
6"	6.000"	2.000"

**G**  
2  
1'-0" = 1'-0" SIDE VIEW  
**5/16" PHILLIPS FLAT HEAD (PFH)**



NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
1-1/4"	1.250"	1.000"
1-3/4"	1.750"	1.500"
2-1/4"	2.250"	1.750"
2-3/4"	2.750"	1.750"
3-1/4"	3.250"	1.750"
3-3/4"	3.750"	1.750"
4"	4.000"	1.750"
5"	5.000"	1.750"
6"	6.000"	1.750"

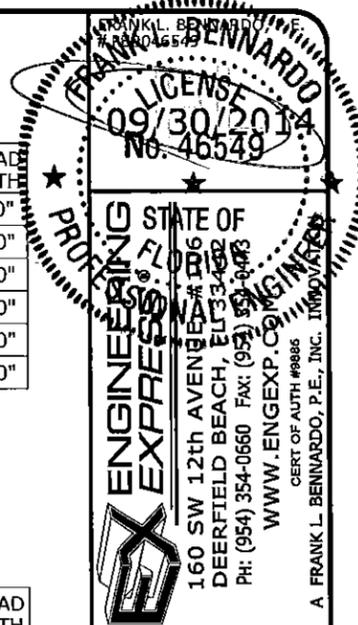
**D**  
2  
1'-0" = 1'-0" SIDE VIEW  
**1/4" SLOTTED HEX WASHER HEAD (HWH)**



NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
2"	2.250"	1.750"
2-3/4"	2.750"	2.000"
3-1/4"	3.250"	2.000"
3-3/4"	3.750"	2.000"
4"	4.000"	2.000"
5"	5.000"	2.000"

**H**  
2  
1'-0" = 1'-0" SIDE VIEW  
**5/16" TRIMFIT**

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
Acceptance No 15-0226-08  
Expiration Date 01/08/2016  
By *[Signature]*  
Miami Dade Product Control



**ELCO**  
ELCO CONSTRUCTION PRODUCTS, DIV. OF INFASTECH  
1304 KERR DRIVE  
DECORAH, IA 52101  
ULTRACON CONCRETE ANCHORS  
MIAMI-DADE NOTICE OF ACCEPTANCE

DATE	DRWN	CHKD	REMARKS
03/07/11	CSL	KL	INIT ISSUE
10/20/11	CSL	KL	REV. PER BNC
11/10/11	CSL	KL	REV. FOR 2010 FBC
01/30/12	FLB	TSB	ADD. REVIEWER COMMENTS
09/29/14	RWN	TSB	2014 FBC

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14-1821  
SCALE:  
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### 3/16"Ø ULTRACON ALLOWABLE LOAD CAPACITIES:

	EDGE DISTANCE	SPACING		EMBEDMENT	TENSION (LB)	SHEAR (LB)	
		INCHES	NUMBER OF DIAMETERS				
2,846 P.S.I. CONCRETE*	1"	1-1/8"	6d	1-3/4"	270	120	
		2-1/4"	12d	1-3/4"	270	195	
		3"	16d	1"	105	155	
				1-3/8"	185	195	
		3-9/16"	19d	1-3/4"	270	195	
		2-1/2"	1-1/8"	6d	1-3/4"	315	175
	2-1/4"		12d	1-3/4"	315	175	
	3"		16d	1"	110	155	
				1-3/8"	185	195	
	3-9/16"		19d	1-3/4"	315	195	
	GROUT FILLED BLOCK		2-1/2"	3-9/16"	16d	1-3/4"	175
		4-1/2"		24d	2-1/4"	220	195
HOLLOW BLOCK	1"	6"	32d	1-1/4"	80	105	
		1-1/8"	6d		85	75	
		2-1/4"	12d		85	115	
	2-1/2"	6"	32d		85	115	

NOTE:  
\*ULTRACON ALLOWABLE LOAD CAPACITIES LISTED HEREIN ARE NOT VALID FOR CRACKED CONCRETE SUBSTRATES.

### 1/4"Ø ULTRACON ALLOWABLE LOAD CAPACITIES:

	EDGE DISTANCE	SPACING		EMBEDMENT**	TENSION (LB)	SHEAR (LB)	
		INCHES	NUMBER OF DIAMETERS				
2,846 P.S.I. CONCRETE*	1"	1-1/2"	6d	1-3/4"	345	120	
		3"	12d	1-3/4"	345	170	
				1"	150	155	
		4"	16d	1-3/8"	290	225	
				1-3/4"	460	225	
		2-1/2"	1-1/2"	6d	1-3/4"	455	315
	3"		12d	1-3/4"	465	390	
				1"	200	285	
	4"		16d	1-3/8"	375	395	
				1-3/4"	475	445	
	2,730 P.S.I. CONCRETE*†		2-1/2"	4"	16d	1-3/4"	-
	GROUT FILLED BLOCK	2-1/2"	4"	16d	1-3/4"	230	250
4-1/2"			18d	2-1/4"	410	250	
HOLLOW BLOCK	1"	6"	24d	1-1/4"	140	140	
		1-1/2"	6d		140	100	
		3"	12d		140	150	
	2-1/2"	6"	24d		140	295	

NOTE:  
\*ULTRACON ALLOWABLE LOAD CAPACITIES LISTED HEREIN ARE NOT VALID FOR CRACKED CONCRETE SUBSTRATES, AS DEFINED IN ACI 355.2.  
† EMBEDMENT DEPTH INTO 2,846 PSI CONCRETE, WITH THE 3/4" MAX UNANCHORED WOOD BUCK LOCATED BETWEEN THE CONCRETE AND THE SIDE MEMBER.  
\*\* EMBEDMENT VALUE LISTED HEREIN CONSIDERS FULL EMBEDMENT TO CONCRETE, GROUT FILLED BLOCK OR HOLLOW BLOCK. EMBEDMENT DEPTH DOES NOT INCLUDE THE THICKNESS OF ANY WOOD BUCKS.

### 5/16"Ø ULTRACON ALLOWABLE LOAD CAPACITIES:

	EDGE DISTANCE	SPACING		EMBEDMENT**	TENSION (LB)	SHEAR (LB)		
		INCHES	NUMBER OF DIAMETERS					
3,515 P.S.I. CONCRETE*†	1-1/4"	1-7/8"	6d	2"	205	120		
		3-3/4"	12d	2"	290	120		
		5"	16d	1"	180	215		
	2-3/16"	5"	16d	1"	205	375		
				1-3/4"	600	785		
				2"	300	120		
	3-1/8"	5"	16d	1"	210	450		
				1-3/4"	660	850		
				2"	835	850		
	GROUT FILLED BLOCK	2-1/2"	5"	16d	1-3/4"	230	370	
					2-1/4"	290	375	
	HOLLOW BLOCK	1-9/16"	6"	20d	1-1/4"	130	140	
1-7/8"						6d	130	175
3-3/4"						12d	140	175
3-1/8"		6"	20d	225		290		

NOTE:  
\*ULTRACON ALLOWABLE LOAD CAPACITIES LISTED HEREIN ARE NOT VALID FOR CRACKED CONCRETE SUBSTRATES.  
† EMBEDMENT DEPTH INTO 2,846 PSI CONCRETE, WITH THE 3/4" MAX UNANCHORED WOOD BUCK LOCATED BETWEEN THE CONCRETE AND THE SIDE MEMBER.  
\*\* EMBEDMENT VALUE LISTED HEREIN CONSIDERS FULL EMBEDMENT TO CONCRETE, GROUT FILLED BLOCK OR HOLLOW BLOCK. EMBEDMENT DEPTH DOES NOT INCLUDE THE THICKNESS OF ANY WOOD BUCKS.

### ULTRACON HEAD DIMENSIONS:

HEAD STYLE	HEAD DIAMETER
3/16" PFH	0.363"
3/16" PPH	0.365"
1/4" PFH	0.480"
1/4" TRIMFIT	0.414"
5/16" PFH	0.543"
5/16" LDFH	0.695"
5/16" TRIMFIT	0.414"

### HEX WASHER HEAD (HWH) DIMENSIONS:

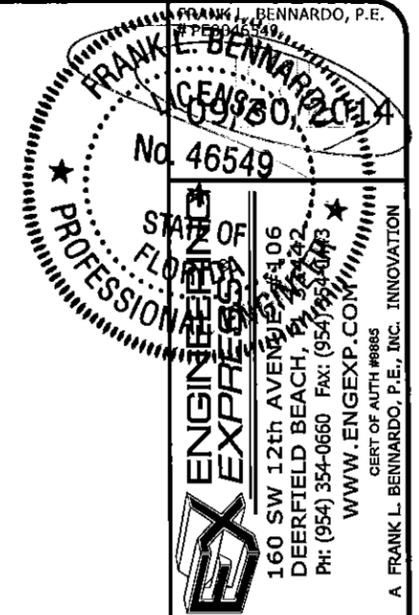
HEAD STYLE	ACROSS FLAT	WASHER DIAMETER
3/16" HWH	1/4"	0.355"
1/4" HFH	5/16"	0.625"
1/4" HWH	5/16"	0.415"
1/4" 300 SS CAP HWH	5/16"	0.580"
5/16" HWH	5/16"	0.543"
5/16" HFH	5/16"	0.585"

### DRILL BIT SCHEDULE:

SCREW-ANCHOR DIAMETER	DRILL BIT
3/16"	3/32" DIAMETER ELCO ULTRACON BIT
1/4"	3/16" DIAMETER ELCO ULTRACON BIT
5/16"	1/4" DIAMETER ELCO ULTRACON BIT

- INSTALLATION SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND THIS MIAMI-DADE COUNTY, NOTICE OF ACCEPTANCE.
- DRILL HOLES AT LEAST 1/4" DEEPER THAN ULTRACON EMBEDMENT.
- CLEAN HOLES OR DEBRIS AND DUST BEFORE INSTALLATION OF ANCHOR.
- ANCHORS SHALL NOT BE INSTALLED BEFORE THE CONCRETE HAS DEVELOPED ITS DESIGN STRENGTH.
- ANCHORS SHALL NOT BE INSTALLED IN CRACKED CONCRETE SUBSTRATES, AS DEFINED IN ACI 355.2.

**PRODUCT REVISED**  
as complying with the Florida Building Code  
Acceptance No 15-0226-08  
Expiration Date 01/08/2016  
By *[Signature]*  
Miami Dade Product Control



**ELCO**  
ELCO CONSTRUCTION PRODUCTS, DIV. OF INFASTECH  
1304 KERR DRIVE  
DECORAH, IA 52101  
ULTRACON CONCRETE ANCHORS  
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	CSL	KL	03/07/11
REV. PER BNC	CSL	KL	10/20/11
REV. FOR 2010 FBC	CSL	KL	11/10/11
ADD. REVIEWER COMMENTS	KL	FLB	01/30/12
2014 FBC	RWN	TSB	09/29/14

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