MIAMI-DADE COUNTY
DEPARTMENT OF PERMITTING, ENVIRONMENT, AND REGULATORY AFFAIRS (PERA)
BOARD AND CODE ADMINISTRATION DIVISION

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/pera/

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 PERA-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. PERA 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. **11-ECP-0001**, titled "Ultracon Concrete and Masonry Anchors", Sheets 1 through 3 of 3, dated 03/07/2011, with last revision dated 01/30/2012, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E., bearing the Miami-Dade County Product Control renewal 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 **renews NOA # 07-0425.01** 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.**

MIAMI-DADE COUNTY APPROVED

05/01/2012

NOA No: 11-0406.01
Expiration Date: January 8, 2016
Approval Date: May 10, 2012

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **11-ECP-0001**, titled "Ultracon Concrete and Masonry Anchors", Sheets 1 through 3 of 3, dated 03/07/2011, with last revision dated 01/30/2012, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.

B. TESTS

	Test Report No.	Standard	Date	Signature
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.

05/01/2012

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No 11-0406.01
Expiration Date: January 8, 2016
Approval Date: May 10, 2012

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

C. CALCULATIONS

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 Permitting, Environment, and Regulatory Affairs (PERA)

F. STATEMENTS

1. 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.
2. Statement letter of no financial interest issued by Engineering Express, dated 04/04/2011, signed and sealed by Frank L. Bennardo, P.E.

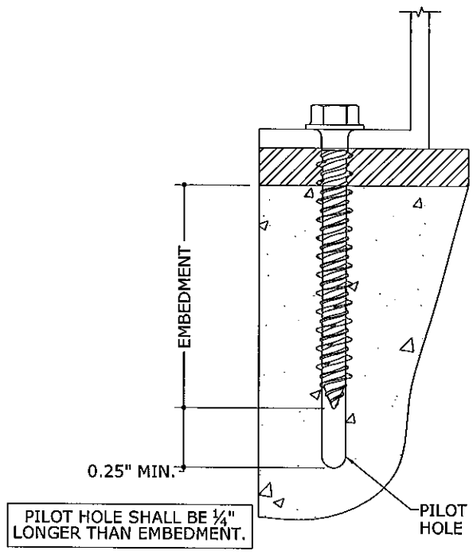
05/01/2012

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No 11-0406.01
Expiration Date: January 8, 2016
Approval Date: May 10, 2012

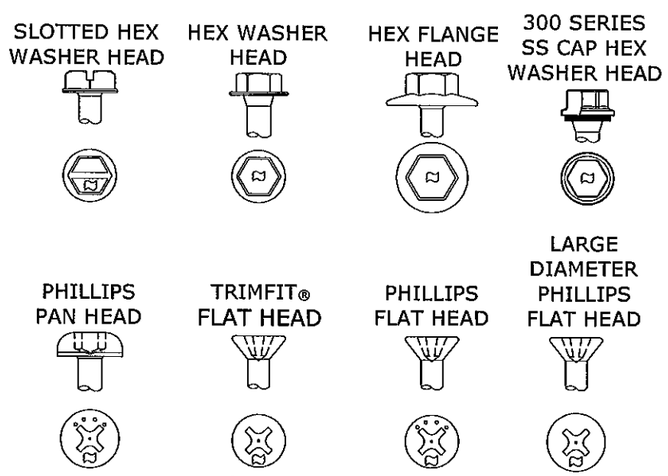
ELCO ULTRACON
CONCRETE & MASONRY ANCHORS

GENERAL NOTES:

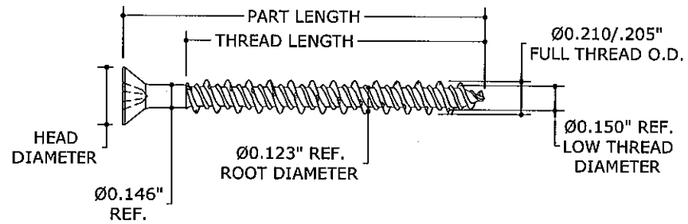
1. THIS PRODUCT HAS BEEN DESIGNED & TESTED IN ACCORDANCE WITH THE 2007 AND 2010 FLORIDA BUILDING CODE FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE.
2. ANCHOR INSTALLATION SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND THIS NOTICE OF ACCEPTANCE.
3. 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.
4. ELCO ULTRACON IS A CORROSION RESISTANT MASONRY AND CONCRETE FASTENER FINISHED WITH STALGARD COATING.
5. 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 (¼" DIAMETER) OR 2 DOTS (5/16" DIAMETER). 5/16" DIAMETER HEX WASHER HEAD ULTRACON FASTENERS HAVE ELCO LOGO AND "5" INDICATING THE 5/16" DIAMETER.
6. ALLOWABLE LOAD SHOWN=ULTIMATED LOAD DIVIDED BY 4.0 FOR SOLID NON-CRAKCED CONCRETE SUBSTRATES, 5.0 FOR HOLLOW BLOCK & GROUT FILLED BLOCK SUBSTRATES. NO ALLOWABLE STRESS INCREASE HAS BEEN USED IN PREPARATION OF THIS DOCUMENT.
7. ANCHOR YIELD STRENGTH Fy=155 KSI, ANCHOR ULTIMATE STRENGTH Fu=177 KSI.
8. ANCHOR EDGE DISTANCES, EMBEDMENTS, AND SPACINGS BELOW THOSE SHOWN IN DESIGN TABLES HEREIN ARE NOT ACCEPTABLE.
9. 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.
10. ANCHOR INSTALLATION SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND THIS MIAMI-DADE COUNTY, FLORIDA P.E.R.A. NOTICE OF ACCEPTANCE.
    - 10.1. DRILL HOLES AT LEAST ¼" DEEPER THAN THE ULTRACON EMBEDMENT.
    - 10.2. SEE DRILL BIT TABLE TO DETERMINE APPROPRIATE DRILL BIT DIAMETER CORRESPONDING TO FASTENER DIAMETER.
    - 10.3. CLEAN HOLES OF DEBRIS AND DUST BEFORE INSTALLATION OF ANCHOR.
    - 10.4. ANCHORS SHALL NOT BE INSTALLED BEFORE THE CONCRETE HAS DEVELOPED ITS DESIGN STRENGTH.
    - 10.5. ANCHORS SHALL NOT BE INSTALLED IN CRACKED CONCRETED SUBSTRATES, AS DEFINED IN ACI 355.2.
11. ANCHOR VALUES LISTED HEREIN ARE DETERMINED THROUGH TESTING REPORT DATA AND CHECKED FOR CONSISTENCY WITH EACH TEST PERFORMED.
12. 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)



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

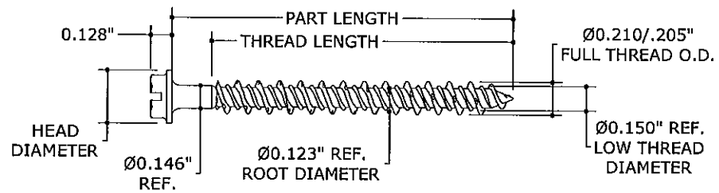


B 1 HEAD STYLES
N.T.S.



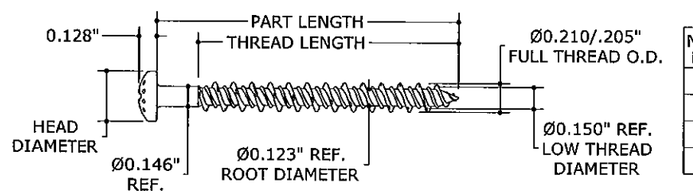
NOMINAL LENGTH	PART LENGTH	THREAD LENGTH
1-1/4"	1.250"	0.875"
1-3/4"	1.750"	1.313"
2-1/4"	2.250"	1.750"
2-3/4"	2.750"	1.750"
3-1/4"	3.250"	1.750"
3-3/4"	3.750"	1.750"
4"	4.000"	1.750"

C 1 3/16" PHILIPS FLAT HEAD (PFH)
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"

D 1 3/16" SLOTTED HEX WASHER HEAD (HWH)
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"

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

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 11-0406.01
Expiration Date 01/08/2016
By
Miami Dade Product Control

FRANK L. BENNARDO, P.E.
PE0016549
STATE OF FLORIDA
01/30/2012
ENGINEERING EXPRESS, INC.
160 SW 12th AVENUE, STE. 206
DEERFIELD BEACH, FL 33442
Ph: (954) 354-0660 Fax: (954) 354-0443
WWW.ENGEXP.COM
CERT OF AUTH #9685
A FRANK L. BENNARDO, 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

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
ADDITIONAL HEAD STYLE	KL	FLB	01/18/12
ADDL REVIEWER COMMENTS	KL	FLB	01/30/12

11-ECP-0001
SCALE: - 04
PAGE DESCRIPTION:
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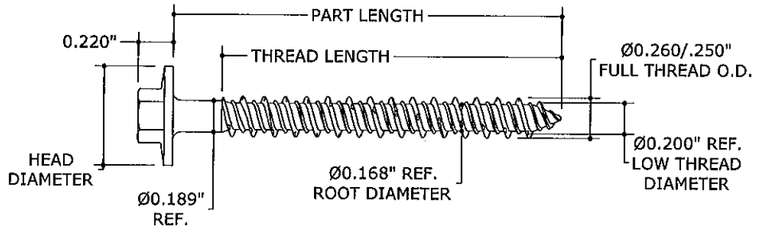
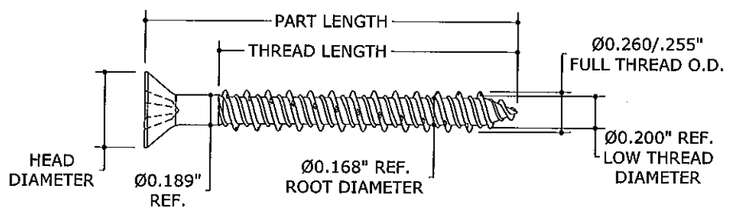
01/30/2012 - 2:34pm keithl



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 — 1/4" HEX FLANGE HEAD (HFH)

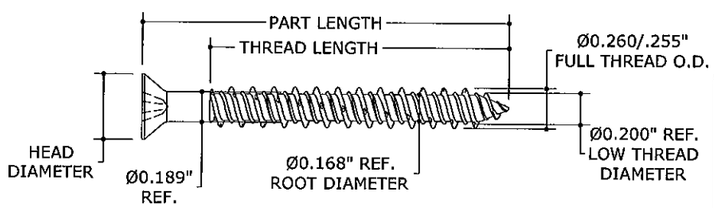
1'-0" = 1'-0" SIDE VIEW



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"
5"	5.000"	1.750"
6"	6.000"	1.750"

B / 2 — 1/4" PHILLIPS FLAT HEAD (PFH)

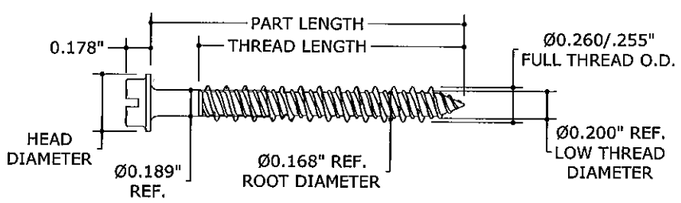
1'-0" = 1'-0" SIDE VIEW



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 — 1/4" TRIMFIT

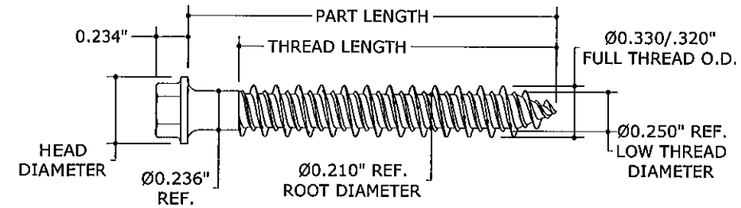
1'-0" = 1'-0" SIDE VIEW



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"
5"	5.000"	1.750"
6"	6.000"	1.750"

D / 2 — 1/4" SLOTTED HEX WASHER HEAD (HWH)

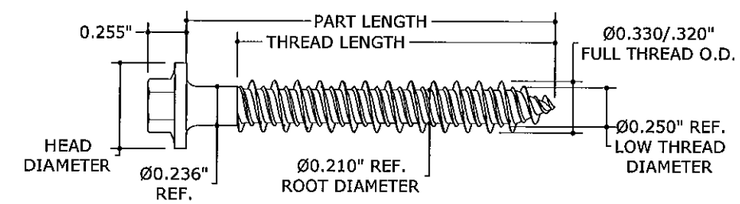
1'-0" = 1'-0" SIDE VIEW



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 — 5/16" HEX WASHER HEAD (HWH)

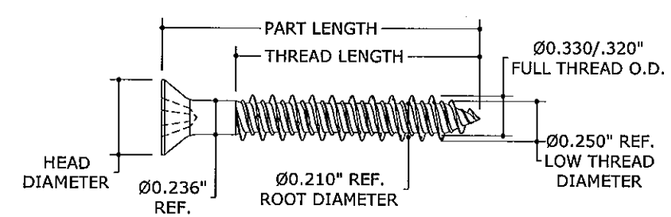
1'-0" = 1'-0" SIDE VIEW



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 — 5/16" HEX FLANGE HEAD (HFH)

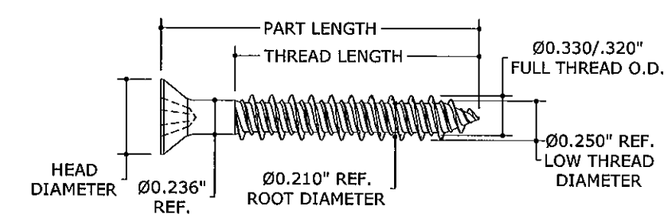
1'-0" = 1'-0" SIDE VIEW



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 — 5/16" PHILLIPS FLAT HEAD (PFH)

1'-0" = 1'-0" SIDE VIEW



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 — 5/16" TRIMFIT

1'-0" = 1'-0" SIDE VIEW

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 11-0906.01
Expiration Date 01/08/2016
By
Miami Dade Product Control

FRANK L. BENNARDO, P.E.
PE0046549
LICENSED
01/30/2012
STATE OF FLORIDA
PROFESSIONAL ENGINEER
ENGINEERING EXPRESS, INC.
160 SW 12th AVENUE, SUITE 110
DEERFIELD BEACH, FL 33442
Ph: (954) 354-0660 FAX: (954) 354-0943
WWW.ENGEXP.COM
CERT OF AUTH #6685
A. FRANK L. BENNARDO, 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

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
ADDITIONAL HEAD STYLE	KL	FLB	01/18/12
ADD'L REVIEWER COMMENTS	KL	FLB	01/30/12

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01/30/2012 - 2:34pm keithl F:\01 Project Files\Elco Construction Products-Infastech (ECP)\2011\11-ECP-0001 Ultracon Concrete Anchor (NOA)\05 Additional Review\11-ECP-0001_05a Ultracon Concrete Anchor (NOA).dwg

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	135
		4-1/2"	24d	2-1/4"	220	195
HOLLOW BLOCK	1"	6"	32d	1-1/4"	80	105
	2-1/2"	1-1/8"	6d		85	75
		2-1/4"	12d		85	115
		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
		4"	16d	1"	150	155
				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
		4"	16d	1"	200	285
				1-3/8"	375	395
				1-3/4"	475	445
2,730 P.S.I CONCRETE*†	2-1/2"	4"	16d	1-3/4"	-	315
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
	2-1/2"	1-1/2"	6d		140	100
		3"	12d		140	150
		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 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
				1-3/4"	525	330
	2-3/16"	5"	16d	1"	205	375
				1-3/4"	600	785
	3-1/8"	1-7/8"	6d	2"	300	120
		3-3/4"	12d	2"	455	710
		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
	3-1/8"	1-7/8"	6d		130	175
		3-3/4"	12d		140	175
		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 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"	5/32" DIAMETER ELCO ULTRACON BIT
1/4"	3/16" DIAMETER ELCO ULTRACON BIT
5/16"	1/4" DIAMETER ELCO ULTRACON BIT

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

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 11-0406.01
Expiration Date 01/08/2016
By
Miami Dade Product Control

FRANK L. BENNARDO, P.E.
PE0046540
STATE OF FLORIDA
LICENSE
01/30/2012
PROFESSIONAL ENGINEER
ENGINEERING EXPRESS, INC.
160 SW 12th AVENUE, #106
DEERFIELD BEACH, FL 33442
Ph: (954) 354-0660 Fax: (954) 354-0443
WWW.ENGEXP.COM
CERT OF AUTH #9885
A. FRANK L. BENNARDO, 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

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