



MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

www.miamidade.gov/economy

DEWALT

701 East Joppa Road
Towson, MD 21286

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: DeWalt Ultracon and Ultracon+ Concrete and Masonry Screw Anchor

APPROVAL DOCUMENT: Technical Evaluation Report No. **23-62849**, titled “DeWalt Ultracon and Ultracon+ Concrete and Masonry Screw Anchor”, sheets 1 through 7 of 7, dated March 7, 2024, prepared by Engineering Express, signed and sealed by Richard Neet, 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, model/series 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 an product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comp 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 # 24-0117.10** and consists of page 1, evidence pages E-1, E-2, E-3, E-4, and E-5, as well as approval document mentioned above.

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



04/15/24

NOA No: 24-0312.07
Expiration Date: January 8, 2026
Approval Date: April 25, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. Evidence submitted under previous NOA's

A. DRAWINGS “Submitted under NOA # 17-1227.22”

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 12/20/2017, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.

B. TESTS “Submitted under NOA # 11-0406.01”

	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.



Carlos M. Utrera, P.E.
Product Control Examiner
NOA No: 24-0312.07
Expiration Date: January 8, 2026
Approval Date: April 25, 2024

DEWALT

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 “Submitted under NOA # 17-1227.22”

1. Statement letter of code conformance to 6th edition (2017) FBC, prepared by Engineering Express, dated 12/21/2017, signed and sealed by Frank L. Bennardo, P.E.



Carlos M. Utrera, P.E.
Product Control Examiner
NOA No: 24-0312.07
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NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. Evidence submitted under NOA # 19-0619.02

A. DRAWINGS

1. Drawing No. **19-7458b**, titled “5/16” Ultracon Concrete and Masonry Anchors”, sheets 1 through 2 of 2, dated 02/18/2019, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E. on 06/11/2019.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Drawing No. **19-7458b** statement of code conformance to 6th edition (2017) FBC, prepared by Engineering Express, dated 02/18/2019, signed and sealed by Frank L. Bennardo, P.E. on 06/11/2019.
2. Statement letter of no financial interest issued by Engineering Express, dated 05/02/2019, signed and sealed by Frank L. Bennardo, P.E.
3. Agreement for the sale and purchase of Infastech Limited of Asia Trading Holdings Limited and Black & Decker Global Holdings S.A R.L. and Stanley Black & Decker, Inc.
4. Certificate of merger of Powers Fasteners, Inc. into Black & Decker (U.S.) Inc.
5. DEWALT Industrial Tool Co. fictitious name registration owned by Black & Decker (U.S.) Inc.



Carlos M. Utrera, P.E.
Product Control Examiner
NOA No: 24-0312.07
Expiration Date: January 8, 2026
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DEWALT

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

3. Evidence submitted under NOA # 20-0427.13

A. DRAWINGS

1. Technical Evaluation Report No. **20-21685**, titled “DeWalt Ultracon and Ultracon+ Concrete and Masonry Screw Anchor”, sheets 1 through 6 of 6, dated 06/15/2020, prepared by Engineering Express, signed and sealed by Richard Neet, P.E.

B. TESTS

	Test Report	Standard	Date	Signature
1.	HETI-19-A3024	ASTM E488-18	10/01/19	Rafael E. Droz-Seda, P.E.
2.	HETI-19-A3005	ASTM E488-18	11/06/19	Rafael E. Droz-Seda, P.E.
3.	HETI-19-S321A	ASTM G85-11	10/01/19	Rafael E. Droz-Seda, P.E.
4.	HETI-19-S324A	ASTM G85-11	10/01/19	Rafael E. Droz-Seda, P.E.
5.	HETI-19-C106	ASTM C39-18	10/01/19	Rafael E. Droz-Seda, P.E.
6.	HETI-19-M551	ASTM F606-16	10/01/19	Rafael E. Droz-Seda, P.E.
7.	HETI-19-M552	ASTM F606-	10/01/19	Rafael E. Droz-Seda, P.E.

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C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of code conformance to 6th edition (2017) FBC, prepared by Engineering Express, dated 03/02/2020, signed and sealed by Richard Neet, P.E.
2. Statement letter of no financial interest issued by Engineering Express, dated 03/02/2020, signed and sealed by Richard Neet, P.E.



Carlos M. Utrera, P.E.
Product Control Examiner
NOA No: 24-0312.07
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DEWALT

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

4. Evidence submitted under NOA # 24-0117.10 and new

A. DRAWINGS

1. Technical Evaluation Report No. **23-62849**, titled “DeWalt Ultracon and Ultracon+ Concrete and Masonry Screw Anchor”, sheets 1 through 6 of 6, dated March 7, 2024, prepared by Engineering Express, signed and sealed by Richard Neet, P.E.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of code conformance to 8th edition (2023) FBC, prepared by Engineering Express, dated 03/07/2024, signed and sealed by Richard Neet, P.E
2. Statement letter of no financial interest, issued by Engineering Express, dated 03/07/2024, signed and sealed by Richard Neet, P.E.

“Submitted under NOA # 24-0117.10”

3. Statement letter of code conformance to the 8th edition (2023) of the FBC, prepared by Engineering Express, dated 01/11/2024, signed and sealed by Richard Neet, P.E



Carlos M. Utrera, P.E.
Product Control Examiner
NOA No: 24-0312.07
Expiration Date: January 8, 2026
Approval Date: April 25, 2024

EVALUATION SUBJECT: **ULTRACON® & ULTRACON®+ CONCRETE & MASONRY SCREW ANCHOR** 23-62849

REPORT HOLDER:

DEWALT
701 EAST JOPPA ROAD
TOWNSON, MD 21286 USA
(800) 524-3244 | DEWALT.COM



SCOPE OF EVALUATION (compliance with the following codes):

THIS IS A STRUCTURAL PERFORMANCE EVALUATION ONLY. NO OTHER PERFORMANCE RATINGS OR CERTIFICATIONS ARE OFFERED OR IMPLIED HEREIN.

This Performance Evaluation is being issued in accordance with the requirements of the **Florida Building Code Eighth Edition (2023)** per FBC section 104.11.2, 1701.2, 1701.1, 1709.3 and 1901.3 for use within and outside the High Velocity Hurricane Zone (HVHZ). The product noted in this performance evaluation has been tested and/or evaluated as summarized herein.

SUBSTANTIATING DATA:

• **Product Evaluation Documents**

Substantiating documentation has been submitted to provide this performance evaluation and is summarized in the sections below.

• **Test Reports**

Testing has been performed to quality the following design criteria:

- Maximum allowable tension and shear capacities (per ACI 355.2 & ASTM E488)
- Corrosion resistance (per ASTM G85)

Test Report(s) by Hurricane Engineering & Testing, Inc.

HETI-03-1173, HETI-03-C6005, HETI-03-C6006, HETI-08-A414, HETI-08-A416, HETI-08-A417, HETI-08-A432, HETI-08-A434, HETI-08-C104, HETI-19-A3005, HETI-19-A3024, HETI-19-M551, HETI-19-M552, HETI-19-S321A, HETI-19-S324A, HETI-19-C106.

INSTALLATION:

Anchor installation shall be made in accordance with the manufacturer published installation instructions and this report.

- Drill holes at least 1/4" deeper than the anchor embedment.
- See drill bit schedule 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 concrete substrates as defined in ACI 355.2.

LIMITATIONS & CONDITIONS OF USE:

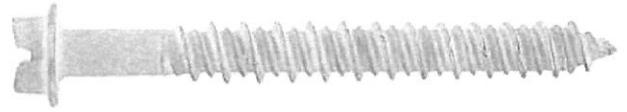
Use of the product(s) listed herein shall be in strict accordance with this product evaluation as noted herein and manufacturer-provided model specifications. Installation shall conform to the minimum standards stated in the referenced building code(s) in addition to the specifications and limitations stated herein. See herein for complete limitations & conditions of use.

OPTIONS:

This evaluation is valid for the DEWALT Ultracon® & Ultracon®+ anchor sizes listed herein.

Head Markings: DEWALT Ultracon®+ and Ultracon® Masonry Fasteners are identified with a "D+" in the case of 3/16" and 1/4" diameters 2 1/4" in length and over, and a "D" in the case of 3/16" and 1/4" diameters 1 3/4" in length and under, and the 5/16" diameter. Trimfit Flat Head styles are indicated with a single dot in the case of 1/4" diameter anchors, and 2 dots in the case of 5/16" diameter anchors.

Length Codes: All anchor heads are stamped with a length character referenced in this report. Length codes reference the distance from tip to surface below washer in the case of hex washer head styles, and the distance from tip to top of head for flat head styles.



NOTE: THE GRAPHICAL DEPICTIONS IN THIS EVALUATION ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER IN APPEARANCE.

STRUCTURAL PERFORMANCE:

For maximum allowable anchor tension/shear capacities (for single anchor) reference the design schedule herein. Allowable loads listed = ultimate tested load divided by minimum safety factors (4.0 for non-cracked concrete only and 5.0 for hollow and grout-filled block substrates). No allowable stress increase has been used in the preparation of this document.

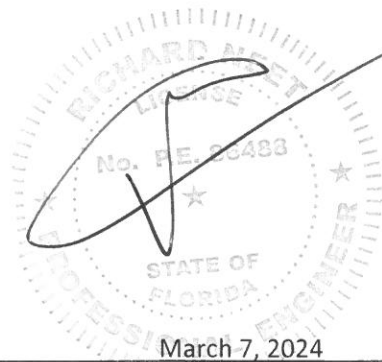
MATERIAL:

Carbon Steel. Anchor yield strength $F_y = 177$ ksi (3/16" diameter), $F_y = 148$ ksi (1/4" diameter), 155 ksi (5/16" diameter). Anchor ultimate tensile strength $F_{ut} = 164$ ksi (3/16" and 1/4" diameter), 177 ksi (5/16" diameter)

FINISH:

DEWALT Ultracon & Ultracon+ is a corrosion resistant concrete and masonry fastener finished with Stalgard coating.

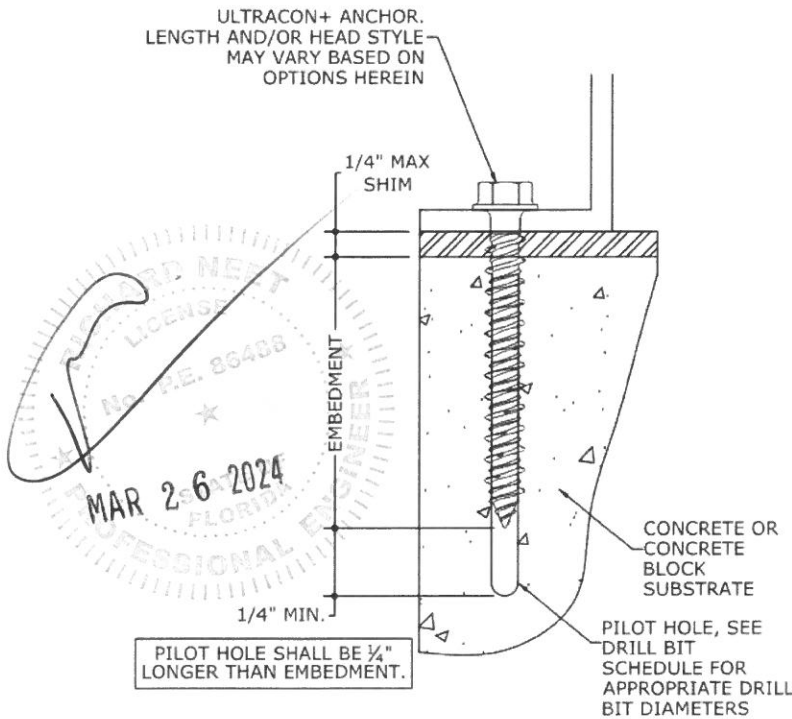
Engineer Signature & Seal:



Richard Neet, P.E.
ENGINEERING EXPRESS®
FL PE #86488 FLCA #9885

SECTION 2: ANCHOR INSTALLATION

PRODUCT REVISED
 as complying with the Florida
 Building Code
NOA-No. 24-0312.07
Expiration Date 01/08/2026
 By *[Signature]*
 Miami-Dade Product Control



1 TYPICAL SECTION
 2 NTS SECTION

DRILL BIT SCHEDULE:

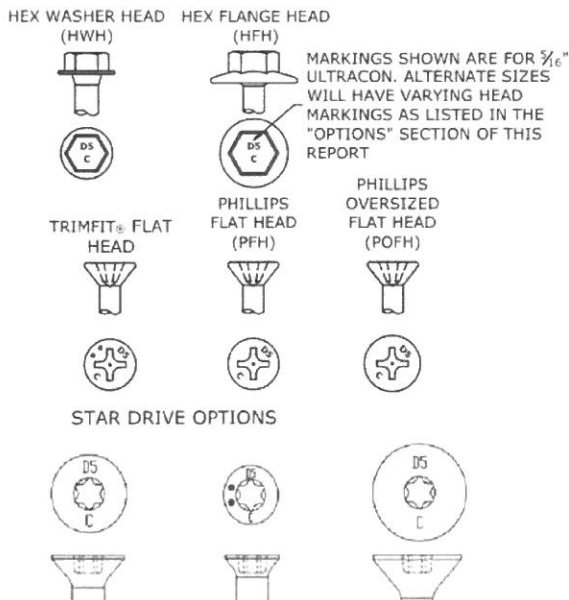
SCREW-ANCHOR DIAMETER	DRILL BIT
5/16"	1/4" DIAMETER DEWALT ULTRACON BIT
1/4"	3/16" DIAMETER DEWALT ULTRACON+ BIT
3/16"	5/32" DIAMETER DEWALT ULTRACON+ BIT

1. INSTALLATION SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND THIS MIAMI-DADE COUNTY, 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.

WASHER HEAD (HWH & HFH) DIMENSIONS:

HEAD STYLE	WASHER DIAMETER
5/16" HWH	0.415"
5/16" HFH	0.543"
1/4" HWH	0.415"
1/4" HFH	0.615"
3/16" HWH	0.335"

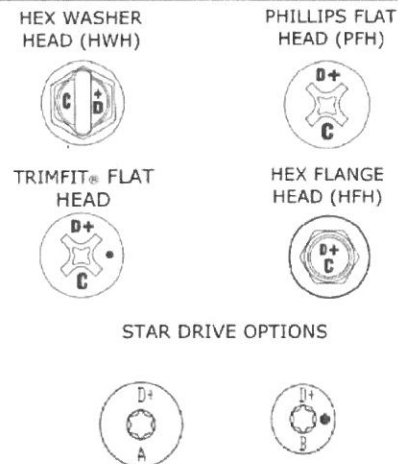
SECTION 3: HEAD STYLES & DIMENSIONS



2 HEAD STYLES (5/16"Ø)
 2 NTS

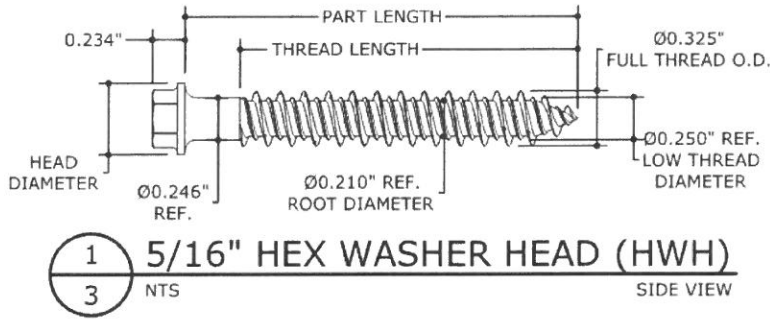
FLAT HEAD DIMENSIONS:

HEAD STYLE	HEAD DIAMETER
5/16" PFH/SFH	0.543"
5/16" POFH/SOFH	0.695"
5/16" TRIMFIT/STAR TRIMFIT	0.414"
1/4" PFH/SFH	0.485"
1/4" TRIMFIT/STAR TRIMFIT	0.415"
3/16" PFH/SFH	0.370"



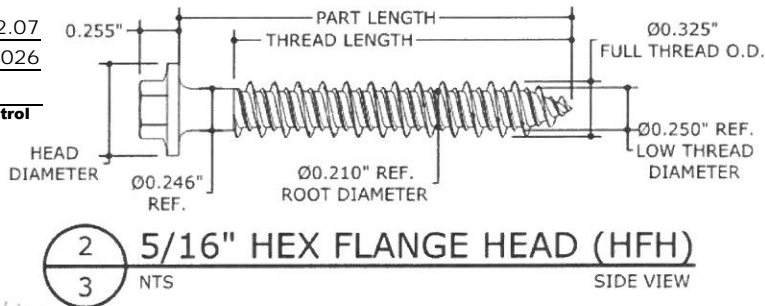
3 HEAD STYLES (1/4"Ø & 3/16"Ø)
 2 NTS

SECTION 4: ANCHOR OPTIONS

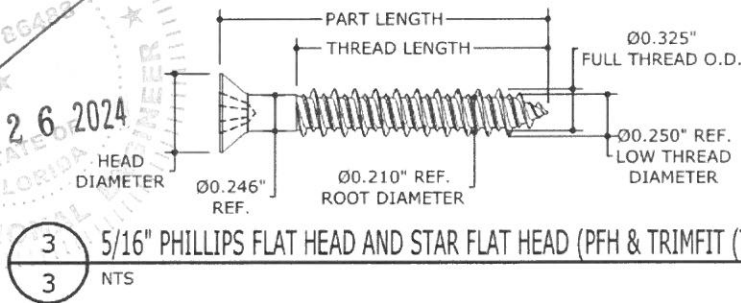


LENGTH CODE	PART LENGTH	THREAD LENGTH
A	1-3/4"	1.563"
B	2-1/4"	2.000"
C	2-3/4"	2.000"
D	3-1/4"	2.000"
E	3-3/4"	2.000"

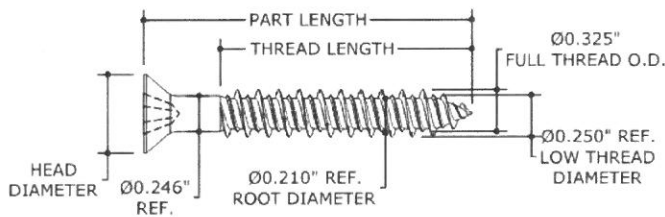
PRODUCT REVISED
 as complying with the Florida Building Code
 NOA-No. 24-0312.07
 Expiration Date 01/08/2026
 By *[Signature]*
 Miami-Dade Product Control



LENGTH CODE	PART LENGTH	THREAD LENGTH
A	1-3/4"	1.563"
B	2-1/4"	2.000"
C	2-3/4"	2.000"
D	3-1/4"	2.000"
E	3-3/4"	2.000"
F	4"	2.000"
G	5"	2.000"
H	6"	2.000"



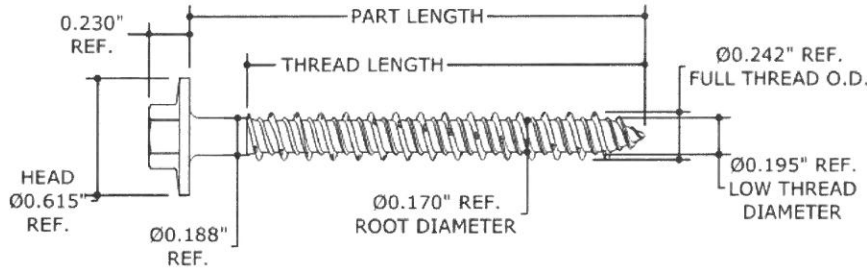
LENGTH CODE	PART LENGTH	THREAD LENGTH (PFH)	THREAD LENGTH (TFH)
B	2-1/4"	1.750"	1.750"
C	2-3/4"	1.750"	1.750"
D	3-1/4"	1.750"	1.750"
E	3-3/4"	1.750"	2.000"
F	4"	1.750"	2.000"
G	5"	1.750"	2.000"



LENGTH CODE	PART LENGTH	THREAD LENGTH
C	3"	1.750"
F	4"	1.750"
G	5"	1.750"
H	6"	1.750"

IN ALL CONDITIONS IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO ENSURE THE HOST STRUCTURE IS CAPABLE OF WITHSTANDING THE LOAD RATING HEREIN. NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS OFFERED BY ENGINEERING EXPRESS AS TO THE INTEGRITY OF THE HOST STRUCTURE TO CARRY DESIGN FORCE LOADS INCURRED BY THIS PRODUCT.

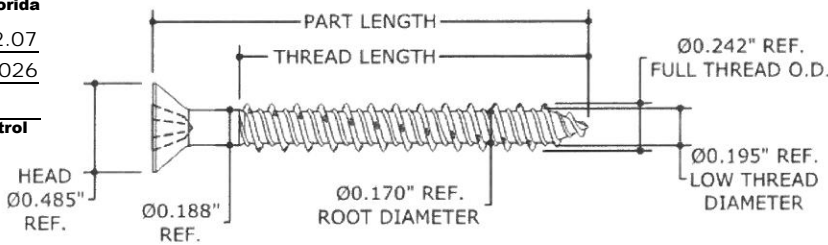
SECTION 4: ANCHOR OPTIONS (CONTINUED)



LENGTH CODE	PART LENGTH	THREAD LENGTH
□	1-1/4"	1.000"
A	1-3/4"	1.625"
B	2-1/4"	1.875"
C	2-3/4"	1.875"
D	3-1/4"	1.875"

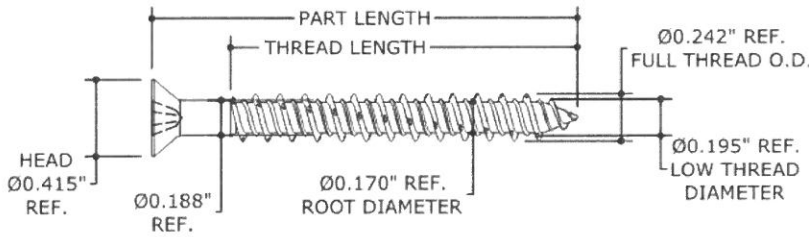
1 / 4" HEX FLANGE HEAD (HFH)
4 NTS SIDE VIEW

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 24-0312.07
Expiration Date 01/08/2026
By *[Signature]*
Miami-Dade Product Control



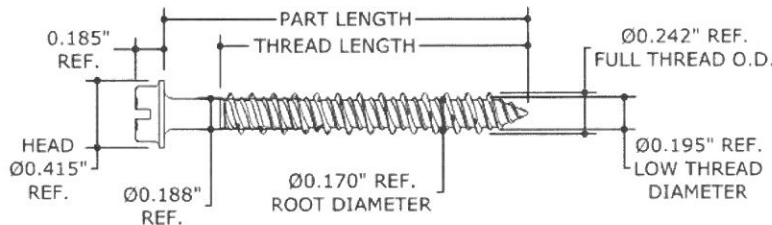
LENGTH CODE	PART LENGTH	THREAD LENGTH
□	1-1/4"	1.000"
A	1-3/4"	1.500"
B	2-1/4"	1.875"
C	2-3/4"	1.875"
D	3-1/4"	1.875"
E	3-3/4"	1.875"
F	4"	1.875"
H	5"	1.875"
J	6"	1.875"

2 / 4" PHILLIPS FLAT HEAD (PFH) AND STAR FLAT HEAD (SFH)
4 NTS SIDE VIEW



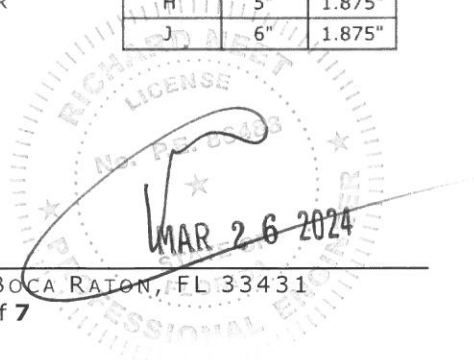
LENGTH CODE	PART LENGTH	THREAD LENGTH
□	1-1/4"	1.000"
A	1-3/4"	1.500"
B	2-1/4"	1.875"
C	2-3/4"	1.875"
D	3-1/4"	1.875"
E	3-3/4"	1.875"
F	4"	1.875"

3 / 4" TRIMFIT FLAT HEAD (TFH) AND STAR TRIMFIT FLAT HEAD (STFH)
4 NTS SIDE VIEW

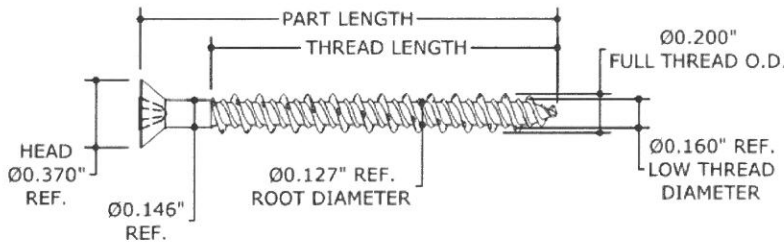


LENGTH CODE	PART LENGTH	THREAD LENGTH
□	1-1/4"	1.000"
A	1-3/4"	1.625"
B	2-1/4"	1.875"
C	2-3/4"	1.875"
D	3-1/4"	1.875"
E	3-3/4"	1.875"
F	4"	1.875"
H	5"	1.875"
J	6"	1.875"

4 / 4" HEX WASHER HEAD (HWH)
4 NTS SIDE VIEW

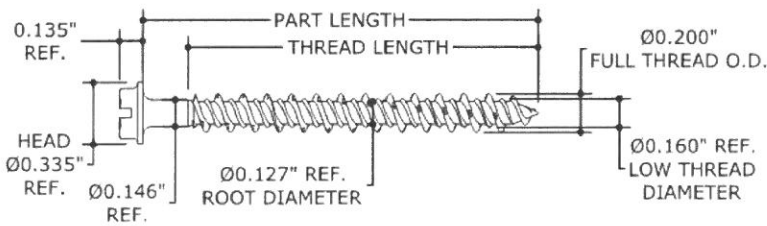


SECTION 4: ANCHOR OPTIONS (CONTINUED)



1 3/16" PHILIPS FLAT HEAD (PFH) AND STAR FLAT HEAD (SFH)
5 NTS SIDE VIEW

LENGTH CODE	PART LENGTH	THREAD LENGTH
□	1-1/4"	1.000"
A	1-3/4"	1.500"
B	2-1/4"	1.875"
C	2-3/4"	1.875"
D	3-1/4"	1.875"
E	3-3/4"	1.875"
F	4"	1.875"



2 3/16" HEX WASHER HEAD (HWH)
5 NTS SIDE VIEW

LENGTH CODE	PART LENGTH	THREAD LENGTH
□	1-1/4"	1.125"
A	1-3/4"	1.625"
B	2-1/4"	1.875"
C	2-3/4"	1.875"
D	3-1/4"	1.875"
E	3-3/4"	1.875"
F	4"	1.875"

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SECTION 5: ANCHOR CAPACITIES

5/16"Ø ULTRACON ALLOWABLE LOAD CAPACITIES:

	EDGE DISTANCE	SPACING	EMBEDMENT**	TENSION (LB)	SHEAR (LB)	
3,500 P.S.I. CONCRETE*	1-1/4"	1-7/8"	2"	205	120	
		3-3/4"	2"	290	120	
		5"	1"	180	215	
	2-3/16"	5"	1-3/4"	1"	205	375
			1-3/4"	1"	600	785
			1-3/4"	1"	300	120
	3-1/8"	1-7/8"	2"	455	710	
			2"	210	450	
		5"	1-3/4"	660	850	
			2"	835	850	
GROUT FILLED BLOCK	2-1/2"	5"	1-3/4"	230	370	
			2-1/4"	290	375	
HOLLOW BLOCK	1-9/16"	6"	1-1/4"	130	140	
				1-7/8"	130	175
	3-1/8"	3-3/4"		140	175	
		6"		225	290	

CAPACITY TABLE NOTES (ALL SIZE OPTIONS):

- ALLOWABLE LOAD CAPACITIES LISTED HEREIN ARE NOT VALID FOR CRACKED CONCRETE SUBSTRATES.
- 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.
- UN-CRACKED CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH (f_c) AS LISTED IN TABLES.
- ALL HOLLOW AND GROUT-FILLED BLOCK SHALL BE PER ASTM C-90.
- ANCHOR EDGE DISTANCES, EMBEDMENTS AND SPACINGS SMALLER THAN THOSE SHOWN IN DESIGN TABLES ARE NOT ACCEPTABLE.



SECTION 5: ANCHOR CAPACITIES (CONTINUED)

1/4"Ø ULTRACON+ ALLOWABLE LOAD CAPACITIES:

	EDGE DISTANCE	SPACING	EMBEDMENT	TENSION (LB)	SHEAR (LB)	
3000 P.S.I. CONCRETE	1"	1"	1-3/4"	340	90	
		1-1/2"	1-3/4"	340	100	
		3"	1-3/4"	460	110	
		4"	1"	1"	205	130
			1-3/8"	1-3/4"	295	170
	2-1/2"	1-1/2"	1-3/4"	590	425	
			3"	1-3/4"	590	435
		4"	1"	1"	215	335
			1-3/8"	1-3/4"	470	435
			1-3/4"	1-3/4"	615	435
HOLLOW BLOCK	1"	1-1/2"	1-1/4"	155	95	
		3"	1-1/4"	155	160	
	2-1/2"	1-1/2"	1-1/4"	160	240	
		3"	1-1/4"	175	290	
GROUT FILLED BLOCK	1"	1-1/2"	1-3/4"	370	100	
		4"	1-3/4"	370	205	
	2-1/2"	4"	1-3/4"	395	290	
		4"	2-1/4"	625	315	
		4-1/2"	2-1/4"	625	330	

SEE SHEET 5 FOR CAPACITY TABLE NOTES

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3/16"Ø ULTRACON+ ALLOWABLE LOAD CAPACITIES:

	EDGE DISTANCE	SPACING	EMBEDMENT	TENSION (LB)	SHEAR (LB)	
3000 P.S.I. CONCRETE	1"	1"	1-3/4"	140	80	
		1-1/8"	1-3/4"	340	80	
		2-1/4"	1-3/4"	360	155	
		3"	1"	1"	150	115
			1-3/8"	1-3/4"	215	120
		3-3/8"	1-3/4"	360	155	
	2-1/2"	1-1/8"	1-3/4"	385	315	
			2-1/4"	1-3/4"	385	315
		3"	1"	1"	150	165
			1-3/8"	1-3/4"	300	190
		3-3/8"	1-3/4"	385	315	
		HOLLOW BLOCK	1"	1-1/2"	1-1/4"	145
3"	1-1/4"			150	115	
2-1/2"	1-1/8"		1-1/4"	155	185	
	2-1/4"		1-1/4"	155	185	
GROUT FILLED BLOCK	1"	1-1/2"	1-3/4"	195	85	
		3-3/8"	1-3/4"	280	85	
		4-1/2"	2-1/4"	415	150	
	2-1/2"	3-3/8"	1-3/4"	280	220	
		3-9/16"	1-3/4"	295	250	
4-1/2"	2-1/4"	415	250			

SEE SHEET 5 FOR CAPACITY TABLE NOTES



TERMINOLOGY, CONTINUED

The following abbreviations may appear in this report: "Addtl." for "additional", "AHJ" for "Authority Having Jurisdiction", "alum" for "aluminum", "ASCE" for "American Society of Civil Engineers", "ASD" for "Allowable Stress Design", "ASTM" for "American Society for Testing and Materials", "EA." for "each", "E.D." for edge distance, "EDDS" for "extra deep drawing steel", "e.g." for "exempli gratia" or "for example", "equiv." for "equivalent", "FBC" for "Florida Building Code", "FEA" for "Finite Element Analysis", "FLCA" for "Florida Certificate of Authorization", "FS" for "Florida Statutes", "Fu" for "ultimate tensile strength" or "ultimate tensile stress", "Fy" for "yield strength" or "yield stress" "GA" for "gauge", "GR." or "Gr." for "grade", "HVAC" for "heating, ventilation, and air conditioning", "HVHZ" for "High-Velocity Hurricane Zone", "i.e." for "id est" or "in other words", "in" for "inch", "lb" for "pound (force)", "max." for "maximum", "min." for "minimum", "mm" for "millimeter", "NTS" for "not to scale", "O.C." for "on center", "OD" for "outer diameter", "pcf" for "pounds (force) per cubic foot", "PE" for "Professional Engineer", "qty" for "quantity", "SAE" for "Society of Automotive Engineering", "SMS" for "sheet metal screws", "SS" for "stainless steel", "TER" for "Technical Evaluation Report", "typ." for "typical", "ult" for "ultimate loads", "U.N.O." for "unless noted otherwise", "UTS" for "ultimate tensile strength" or "ultimate tensile stress", "WLL" for "working load limit", "w/o" for "without", "YS" for "yield strength" or "yield stress", "#" for "number", "&" for "and", and "Ø" for "diameter". For additional abbreviation/terminology clarifications, please contact this office.

Note: The term "Thru-Bolt" or through bolt, if used herein, refers to a bolt passing through the member(s) in contact and is fastened by a nut at the end opposite the screw head. Nut shall be equivalent to or exceed the strength of the bolt U.N.O. Nut shall be sized to accommodate the same nominal diameter as the bolt U.N.O. See diagram above-right for a sample thru-bolt configuration.

Note: For instances herein which list material specifications as "[material type] or stronger": U.N.O. herein, the term "stronger" refers to a material with a UTS value equal to or greater than the UTS value of the stated material type. Consult appropriate literature for established material UTS values.

Note: Equivalent steel gauge thicknesses as used in this evaluation, U.N.O., are as follows: 22 GA (.030"), 20 GA (.036"), 18 GA (.048"), 16 GA (.060"), 14 GA (.075"), 12 GA (.098").



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Proj. #	Remarks	By	Checked	Date	Proj. #	Remarks	By	Checked	Date
20-21685	Initial Issue	RWN	RWN	02/12/2020					
23-62489	2023 FBC Update & Star Drive Options Addition	MRT	RWN	11/16/2023					