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/building

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

NOTICE OF ACCEPTANCE (NOA)

ITW Buildex, a division of Illinois Tool Works, Inc.
155 Harlem Ave.
Glenview, IL 60025

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: Tapcon® Concrete and Masonry Anchors with Advanced Threadform Technology™

APPROVAL DOCUMENT: Drawing No. **23-61626**, titled "ITW Buildex Tapcon Concrete Anchors with Advanced Threadform Technology", sheets 1 and 3 of 3, dated 03/20/2023, with last revision dated 02/02/2024, 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 shall bear a permanent label with the manufacturer's name or logo, Roselle, IL or Addison, IL and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

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 No. 22-0524.04** and consists of this page 1 and evidence page E-1, E-2, E-3 and E-4, as well as approval document mentioned above.
The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**

MIAMI-DADE COUNTY APPROVED

04/18/24

NOA No. 24-0102.06
Expiration Date: August 31, 2026
Approval Date: April 25, 2024

ITW Buildex, a division of Illinois Tool Works, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's

A. DRAWINGS

1. Drawing No. **20-31425**, titled "Tapcon Concrete Anchors with Advanced Threadform Technology", sheets 1 and 2 of 2, dated 06/16/06, with revision dated 10/20/20, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.
(Submitted under NOA No. 21-0201.06)

B. TESTS

1. Tension and Shear Resistance Test of 3/16" SS Tapcon ATFT with Climashield per ASTM E 488, prepared by C.E.L Consulting, Report No. **71B153**, dated 01/31/07, signed and sealed by Lee W. Mattis, P.E.
(Submitted under NOA No. 07-0315.03)

2. Corrosion Resistance Test per ASTM G 85 as noted in TAS 114(E), prepared by PRI Construction Materials Technologies, Report No. **ITW-004-02-01**, dated 01/05/07, signed and sealed by Charles L. Thomas, P.E.
(Submitted under NOA No. 07-0315.03)

3. Test report on Tension and Shear Resistance, Report No. **4I131** for "Tapcon Concrete/Masonry Screw Anchors" per ASTM E 488, prepared by Cel Consulting on 04/29/05, signed and sealed by L. W. Mattis, P.E.
(Submitted under NOA No. 05-1020.01)

4. Test report on Tension and Shear Resistance, Report No. **4I131** with Supplement 6519 for Tapcon with Advanced Threadform Technology per ASTM E 488 prepared by Cel Consulting on 05/19/05, signed and sealed by L. W. Mattis, P.E.
(Submitted under NOA No. 05-1020.01)

5. Test report of corrosion resistance for fasteners, Project No. **ITW-003-02-01, 02, 03** & **04,** for fasteners with Tapcon Plus, Silver Climaseal, Silver Ultrashield and White Ultrashield per ASTM G85 as noted on TAS 114(E), prepared by Cel Consulting on 10/22/04 and 05/16/06, signed and sealed by C. L. Thomas, P.E.
(Submitted under NOA No. 05-1020.01)

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 24-0102.06
Expiration Date: August 31, 2026
Approval Date: April 25, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's (CONTINUED)

C. CALCULATIONS

1. Anchors allowable loads calculations prepared by Engineering Express, dated 08/14/12, signed and sealed by Frank L. Bennardo, P.E.
(Submitted under NOA No. 12-0816.06)

2. Calculations addendum on new stainless steel anchors, prepared by Engineering Express, dated 03/08/07, signed and sealed by Frank L. Bennardo, P.E.
(Submitted under NOA No. 07-0315.03)

3. Calculations of allowable loads for Tapcon with Advanced Threadform Technology, prepared by Engineering Express, dated 06/22/06, signed and sealed by Frank L. Bennardo, P.E. ***(Submitted under NOA No. 05-1020.01)***

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 7^{h} Edition (2020)** dated 01/07/21, issued by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.
(Submitted under NOA No. 21-0201.06)

2. Statement letter of no financial interest dated 01/07/21, issued by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.
(Submitted under NOA No. 21-0201.06)

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 24-0102.06
Expiration Date: August 31, 2026
Approval Date: April 25, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. EVIDENCE SUBMITTED UNDER NOA # 22-0524.04

A. DRAWINGS

1. None.

B. TESTS

1. Test report on Corrosion Resistance (Salt Spray) per ASTM G 85-11, Annex A5, 140 cycles (280 hours) as detailed in TAS 114, Appendix E of: 3/16" x 2-3/4" & 1/4" x 2-3/4" Blue Tapcon, and 3/16" x 1-3/4" & 1/4" x 2-3/4" White Tapcon Flat Head Anchors, prepared by PRI Construction Materials Technologies, LLC, Test Report No. **PRI-2415T0001**, dated 10/14/21 thru 11/10/21 and signed and sealed by Duc Thanh Nguyen, P.E.

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. Name change request to legal enterprise name of Illinois Tool Works, Inc. of which Buildex was and is a wholly owned brand and division of Illinois Tool Works, Inc., dated January 20, 2023, signed by Henry Schniedermeier, Engineering Manager, ITW Construction – Residential & Renovation

2. Affidavit affirming that Illinois Tool Works, Inc. (the Company) is a Delaware corporation, having its shares traded at the New York Stock Exchange (NYSE) and that the assets and business operations known as ITW Buildex are owned directly by the Company and are referred to as: ITW Buildex, a division of Illinois Tool Works, Inc., dated January 25, 2023, signed by Phillip McGovern, Assistant Secretary, Illinois Tool Works, Inc.

3. Affidavit from ITW Commercial Construction North America stating that corrosion coatings tested are equivalent to the corrosion coatings listed in above NOA's, dated May 3, 2022, signed by Christopher Horst, Project Engineer, ITW Construction – Residential & Renovations, on behalf of ITW Commercial Construction North America.

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 24-0102.06
Expiration Date: August 31, 2026
Approval Date: April 25, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

3. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **23-61626**, titled "ITW Buildex Tapcon Concrete Anchors with Advanced Threadform Technology", sheets 1 and 3 of 3, dated 03/20/2023, with last revision dated 02/02/2024, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, 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 conformance, complying with the 8th edition (2023) of the FBC, issued by Engineering Express, dated 03/14/2024, signed and sealed by Frank L. Bennardo, P.E.

2. Statement letter of no financial interest, issued by Engineering Express, dated 03/14/2024, signed and sealed by Frank L. Bennardo, P.E.

3. Statement letter of corrosion color addition, issued by Engineering Express, dated 03/14/2024, signed and sealed by Frank L. Bennardo, P.E.

Carlos M. Utrera, P.E.
Product Control Examiner
NOA No. 24-0102.06
Expiration Date: August 31, 2026
Approval Date: April 25, 2024

ITW Buildex TAPCON® with ADVANCED THREADFORM TECHNOLOGY™

CONCRETE & MASONRY ANCHOR

VALID FOR USE INSIDE AND OUTSIDE THE HVHZ (SEE LIMITATIONS HEREIN)

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION.

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

FEBRUARY 1, 2024

FRANK L. BENNARDO LICENSE No PE0046549 STATE OF FLORIDA PROFESSIONAL ENGINEER

NOTE REGARDING USE OF THIS DOCUMENT & USE OUTSIDE FLORIDA:

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. THIS PRODUCT EVALUATION IS VALID FOR USE IN **FLORIDA ONLY**. USE OF THIS EVALUATION REQUIRES A REVIEW & CERTIFICATION BY A LOCAL DESIGN PROFESSIONAL WHO SHALL BE RESPONSIBLE FOR THE PROPER ADAPTATION OF THIS GENERAL PERFORMANCE EVALUATION TO ANY SITE-SPECIFIC PROJECT. CONTACT ENGINEERING EXPRESS FOR ASSISTANCE WITH YOUR PROJECT-SPECIFIC NEEDS & FOR ADAPTATION & CERTIFICATION OF THIS DOCUMENT OUTSIDE OF FLORIDA.

GENERAL NOTES:

1. THIS PRODUCT HAS BEEN DESIGNED & TESTED IN ACCORDANCE WITH THE STRUCTURAL PROVISIONS OF THE FLORIDA BUILDING CODE EIGHTH EDITION (2023), FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE, AND THE FOLLOWING STANDARDS: ASTM E488, ASTM G85, & TAS 114.
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. CONCRETE BLOCK SHALL CONFORM TO ASTM C-90.
4. ANCHORS REPRESENTED IN TABLES 1-4 ARE MANUFACTURED FROM HEAT-TREATED STEEL WITH AN ALTERNATING HIGH-LOW ADVANCED THREADFORM TECHNOLOGY. ANCHOR YIELD STRENGTH Fy=100 KSI, ULTIMATE STRENGTH Fu=125 KSI. HEAT TREATED STEEL ANCHORS SHALL HAVE THE CORROSION-RESISTANT COATINGS AS DESCRIBED BELOW IN COMPLIANCE WITH THE FLORIDA BUILDING CODE:
   - SILVER & WHITE ULTRASHIELD
   - BLUE & SILVER CLIMASEAL
   - BLACK CLIMASEAL
5. ANCHOR CAPACITIES VALUES ON THIS APPROVAL ARE (ASD) ALLOWABLE DESIGN PRESSURES.
6. ANCHORS REPRESENTED IN TABLE 5 ARE OF 410 STAINLESS STEEL ALLOY WITH AN ALTERNATING HIGH-LOW ADVANCED THREADFORM TECHNOLOGY AND SHALL HAVE A CLIMASHIELD CORROSION-RESISTANT COATING IN COMPLIANCE WITH THE FLORIDA BUILDING CODE. ANCHOR YIELD STRENGTH Fy=100 KSI, ULTIMATE STRENGTH Fu=125 KSI.
7. PILOT HOLES FOR ALL INSTALLATIONS SHALL HAVE A DEPTH 1/4" LONGER THAN INDICATED EMBEDMENT DEPTH WITH THE FOLLOWING PILOT HOLE SPECIFICATIONS:
   - 7.1. 3/16" ANCHORS: 5/32" TAPCON DRILL BIT
   - 7.2. 1/4" ANCHORS: 3/16" TAPCON DRILL BIT
8. ALLOWABLE LOAD SHOWN=ULTIMATE LOAD DIVIDED BY 4.0 FOR SOLID NON-CRACKED CONCRETE SUBSTRATES, 5.0 FOR HOLLOW BLOCK SUBSTRATES. NO ALLOWABLE STRESS INCREASE HAS BEEN USED IN PREPARATION OF THIS DOCUMENT.
9. ANCHORS SHALL NOT BE INSTALLED IN CRACKED CONCRETED SUBSTRATES, AS DEFINED IN ACI 355.2.
10. ANCHOR EDGE DISTANCES, EMBEDMENTS, AND SPACINGS BELOW THOSE SHOWN IN DESIGN TABLES HEREIN ARE NOT ACCEPTABLE.
11. 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.
12. ANCHOR VALUES LISTED HEREIN ARE DETERMINED THROUGH TESTING REPORT DATA AND CHECKED FOR CONSISTENCY WITH EACH TEST PERFORMED.
13. REFERENCE THE FOLLOWING TEST REPORTS:
    - CEL CONSULTING
      - #4I131werc (4/29/2005)
      - #4I131werc SUPPLEMENT 6519 (5/19/2006)
      - #71B153 (01/31/2007)
    - PRI ASPHALT TECHNOLOGIES, INC.
      - #ITW-002-02-01 (12/1/2004)
      - #ITW-003-02-02 (6/15/2006)
      - #ITW-003-02-03 (6/15/2006)
      - #ITW-003-02-04 (6/15/2006)
    - PRI CONSTRUCTION MATERIALS TECHNOLOGIES, INC.
      - #ITW-004-02-01 (11/14/2006)
14. ENGINEER SEAL AFFIXED HERETO VALIDATE STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
15. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
16. ALTERATIONS ADDITIONS OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.

PAGE INDEX:

SHEET INDEX

TERMINOLOGY:

THE FOLLOWING ABBREVIATIONS MAY APPEAR IN THIS APPROVAL:

"ADDTL." FOR "ADDITIONAL", "AHJ" FOR "AUTHORITY HAVING JURISDICTION", "ALUM" FOR "ALUMINUM, "ASD" FOR "ALLOWABLE STRESS DESIGN", "BO" FOR "BUILD-OUT", "CS" FOR "CARBON STEEL", "EA." FOR "EACH", "E.D."/"EDGE"/"EDGE DIST." FOR "EDGE DISTANCE", "ELEV" FOR "ELEVATION", "EMBED" FOR "EMBEDMENT", "EQ"/"EQUIV." FOR "EQUIVALENT", "EXT" FOR "EXTERIOR", "FBC" FOR "FLORIDA BUILDING CODE", "ft" OR " ' " FOR "FEET", "G" FOR "SPECIFIC GRAVITY", "GA" FOR "GAUGE", "GALV" FOR "GALVANIZED", "GFB" FOR "GROUT-FILLED BLOCK", "GR" FOR "GRADE", "HOLLOW" FOR "HOLLOW BLOCK", "HORIZ" FOR "HORIZONTAL", "HVHZ" FOR "HIGH-VELOCITY HURRICANE ZONE", "in" OR " " " FOR "INCHES", "INT" FOR "INTERIOR", "KSI" FOR "1,000 lb / in^2", "L" FOR "LENGTH", "LB" FOR "POUND", "MAX" FOR "MAXIMUM, "MIN" FOR "MINIMUM", "N.T.S." FOR "NOT TO SCALE", "O.C." FOR "ON-CENTER", "P.E." FOR "PROFESSIONAL ENGINEER", "PERP" FOR "PERPENDICULAR", "PSF" FOR "POUNDS PER SQUARE FOOT (lb/ft^2)", "PSI" FOR "POUNDS PER SQUARE INCH (lb/in^2)", "QTY" FOR "QUANTITY", "REF." FOR "REFERENCE", "SCHED." FOR "SCHEDULE", "SDS" FOR "SELF-DRILLING SCREWS", "SMS" FOR "SHEET METAL SCREWS", "SPECS" FOR "SPECIFICATIONS", "SS" FOR "STAINLESS STEEL", "SUB" FOR "SUBMITTAL", "TAS" FOR "TESTING APPLICATION STANDARD", "TYP." FOR "TYPICAL", "ULT" FOR "ULTIMATE LOADS", "U.N.O." FOR "UNLESS NOTED OTHERWISE", "UTS" OR "Fu" FOR "ULTIMATE TENSILE STRENGTH/STRESS", "VERT" FOR "VERTICAL", "WLL" FOR "WORKING LOAD LIMIT", "W/" FOR "WITH", "W/O" FOR "WITHOUT", "YS" FOR "YIELD STRENGTH", "#" FOR "NUMBER", "&" FOR "AND", AND "Ø" FOR "DIAMETER".

CONTACT ENGINEERING EXPRESS FOR ADDITIONAL ABBREVIATION/TERMINOLOGY CLARIFICATIONS.

PRODUCT REVISED
as complying with the Florida Building Code
NOA–No. 24–0102.06
Expiration Date 08/31/2026
By _____
Miami–Dade Product Control

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

ITW Buildex
Buildex Division of Illinois Tool Works, Inc.
155 HARLEM AVENUE
GLENVIEW, IL 60025

ITW BUILDEX TAPCON WITH ADVANCED THREADFORM TECHNOLOGY
CONCRETE & MASONRY ANCHOR
FBC 8TH ED (2023) | MIAMI-DADE COUNTY (NOA)

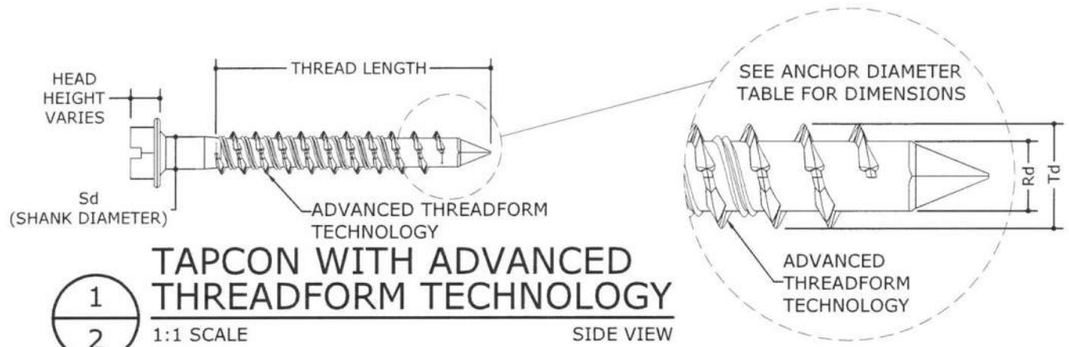
REMARKS	DRWN	CHK'D	DATE
PREV. SUBMITTAL (20-31425)	MRT	RVM	03/20/23
2023 FBC UPDATE	MRT	EPR	12/12/23
ADDING COATING OPTION	MRT	EPR	02/02/24
-	-	-	-
-	-	-	-

23-61626

SCALE: NTS UNLESS NOTED

01 OF 3

ANCHOR INSTALLATION INSTRUCTIONS



1/2 TAPCON WITH ADVANCED THREADFORM TECHNOLOGY

1:1 SCALE SIDE VIEW

ANCHOR DIAMETER					
ANCHOR TYPE	D (NOMINAL DIAMETER)	Sd (SHANK DIAMETER)	MINIMUM BASE PLATE CLEARANCE HOLE DIAMETER	Td (THREAD DIAMETER)	Rd (ROOT DIAMETER)
3/16" TAPCON	0.1875"	0.145"	0.250"	CONTACT ITW BUILDEX FOR SPECIFIC ANCHOR DIAMETER INFORMATION	
1/4" TAPCON	0.250"	0.190"	0.3125"		

HEAD STYLE OPTIONS

SLOTTED HEX WASHER HEAD

PHILLIPS FLAT HEAD

PHILLIPS PAN HEAD

HEX HEAD MARKINGS

STAR FLAT HEAD (SFH) MARKINGS (1/4")

MAXI-SET HEX WASHER HEAD

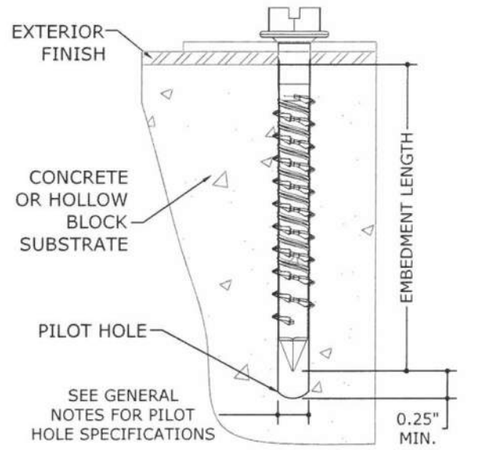
SCOTS STAINLESS STEEL HEAD WITH WASHER

PHILLIPS HEAD MARKINGS

STAR FLAT HEAD (SFH) MARKINGS (3/16")

ANCHOR HEAD DIMENSION		
HEAD STYLE	HEAD HEIGHT	HEAD DIAMETER
3/16" PFH & SFH	0.120"	0.357"
#12 PFH	0.148"	0.414"
1/4" PFH & SFH	0.148"	0.471"

ANCHOR HEAD DIMENSION			
HEAD STYLE	HEAD HEIGHT	ACROSS FLAT	WASHER DIAMETER
3/16" HWH	0.140"	0.246"	0.355"
1/4" HWH	0.180"	0.308"	0.415"
1/4" MAXISET	0.225"	0.308"	0.630"
1/4" SCOTS	0.280"	0.308"	0.587"



2/2 TYPICAL SECTION

1:1 SCALE SIDE VIEW

ANCHOR LENGTH		
PART LENGTH	THREAD LENGTH	
	3/16" TAPCON	1/4" TAPCON
1-1/4"	FULL THREAD	FULL THREAD
1-3/4"	1-5/8"	1-5/8"
2-1/4"	1-5/8"	1-5/8"
2-3/4"	1-5/8"	1-5/8"
3-1/4"	1-5/8"	1-5/8"
3-3/4"	1-5/8"	1-5/8"
4"	1-5/8"	1-5/8"
5"		1-5/8"
6"		1-5/8"

LONG THREAD ANCHOR LENGTH		
PART LENGTH	THREAD LENGTH	
	3/16" TAPCON	1/4" TAPCON
1-3/4"	FULL THREAD	FULL THREAD
2-1/4"	2-1/8"	2-1/8"
2-3/4"	2-1/8"	2-1/8"
3-1/4"	2-1/8"	2-1/8"
3-3/4"	2-1/8"	2-1/8"
4"	2-1/8"	2-1/8"
5"		2-1/8"
6"		2-1/8"

- DESIGNATES UNAVAILABLE LENGTHS

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

FEBRUARY 1, 2024

FRANK L. BENNARDO LICENSE No PE0046549 STATE OF FLORIDA PROFESSIONAL ENGINEER

PRODUCT REVISED
as complying with the Florida Building Code
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Expiration Date 08/31/2026
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ENGINEERING EXPRESS®
POSTAL ADDRESS:
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ENGINEERINGEXPRESS.COM

ITW Buildex
Buildex Division of Illinois Tool Works, Inc.
155 HARLEM AVENUE
GLENVIEW, IL 60025

ITW BUILDEX TAPCON WITH ADVANCED THREADFORM TECHNOLOGY CONCRETE & MASONRY ANCHOR FBC 8TH ED (2023) | MIAMI-DADE COUNTY (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-31425)	MRT	RWN	03/20/23
2023 FBC UPDATE	MRT	EPR	12/12/23
ADDING COATING OPTION	MRT	EPR	02/02/24
-	-	-	-
-	-	-	-

23-61626

SCALE: NTS UNLESS NOTED

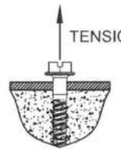
02 OF 3

ANCHOR ALLOWABLE CAPACITY (ASD)

STEEL ANCHORS TO NORMAL WEIGHT CONCRETE

1a TENSION CAPACITIES

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING
FOR **SINGLE** ANCHORS



ANCHOR DIAM	EMBED	EDGE DIST	2000 PSI CONC (S=16D)	3000 PSI CONC (S>16D)	4000 PSI CONC (S≥16D)	5000 PSI CONC (S≥16D)
3/16"	1"	1"	125 lb	125 lb	141 lb	141 lb
		1 7/8"	136 lb	164 lb	168 lb	210 lb
	1 1/2"	1"	243 lb	243 lb	279 lb	318 lb
		1 7/8"	268 lb	278 lb	279 lb	327 lb
	1 3/4"	1"	327 lb	358 lb	360 lb	390 lb
		1 7/8"	327 lb	390 lb	401 lb	433 lb
1/4"	1"	1 1/4"	171 lb	174 lb	194 lb	237 lb
		2 1/2"	171 lb	188 lb	199 lb	237 lb
	1 1/2"	1 1/4"	313 lb	313 lb	449 lb	519 lb
		2 1/2"	346 lb	346 lb	454 lb	545 lb
	1 3/4"	1 1/4"	443 lb	465 lb	543 lb	543 lb
		2 1/2"	443 lb	508 lb	594 lb	707 lb

1b SHEAR CAPACITIES

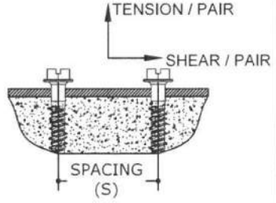
BASED ON EMBEDMENT, EDGE DISTANCE & SPACING
FOR **SINGLE** ANCHORS

ANCHOR DIAM	EMBED	EDGE DIST	2000 PSI CONC (S=16D)	3000 PSI CONC (S>16D)	4000 PSI CONC (S≥16D)	5000 PSI CONC (S≥16D)
3/16"	1"	1 1/8"	126 lb	126 lb	150 lb	150 lb
		2 1/4"	176 lb	181 lb	181 lb	226 lb
	1 1/2"	1 1/8"	186 lb	186 lb	186 lb	186 lb
		2 1/4"	196 lb	215 lb	226 lb	226 lb
	1 3/4"	1 1/8"	204 lb	204 lb	204 lb	204 lb
		2 1/4"	218 lb	218 lb	251 lb	260 lb
1/4"	1"	1 1/2"	196 lb	196 lb	310 lb	310 lb
		3"	237 lb	237 lb	340 lb	359 lb
	1 1/2"	1 1/2"	232 lb	232 lb	346 lb	416 lb
		3"	351 lb	368 lb	417 lb	417 lb
	1 3/4"	1 1/2"	303 lb	303 lb	346 lb	500 lb
		3"	421 lb	421 lb	492 lb	500 lb

2 TENSION, SHEAR CAPACITIES (REDUCED)

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING
FOR **PAIRS** OF ANCHORS*

ANCHOR DIAM	EMBED	SPACING (S)	EDGE DIST	2000 PSI CONC OR GREATER TENSION	2000 PSI CONC OR GREATER SHEAR
3/16"	1"	1 1/2"	3"	220 lb	352 lb
		2"		237 lb	352 lb
	1 1/2"	1 1/2"		443 lb	358 lb
		2"		474 lb	369 lb
	1 3/4"	1 1/2"		641 lb	445 lb
		2"		645 lb	455 lb
1/4"	1"	2"	4"	261 lb	447 lb
		3"		302 lb	474 lb
	1 1/2"	2"		533 lb	628 lb
		3"		637 lb	665 lb
	1 3/4"	2"		811 lb	1117 lb
		3"		848 lb	1131 lb



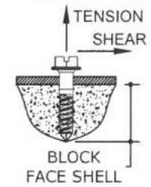
*REFER TO EDGE DISTANCE AND SPACING DETAIL FOR DEPICTION OF ANCHOR SPACING & EDGE DISTANCE REQUIREMENTS FOR PAIRS OF ANCHORS

STEEL ANCHORS TO HOLLOW BLOCK

3 TENSION & SHEAR CAPACITIES

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING
FOR **SINGLE** ANCHORS

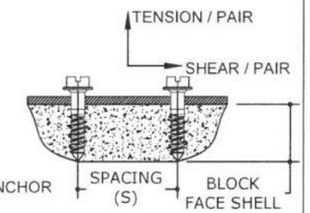
ANCHOR DIAM	EMBED	EDGE DIST	LIGHT-WEIGHT CMU BLOCK (S≥16D) TENSION	LIGHT-WEIGHT CMU BLOCK (S≥16D) SHEAR	MEDIUM-WEIGHT CMU BLOCK (S≥16D) TENSION	MEDIUM-WEIGHT CMU BLOCK (S≥16D) SHEAR
3/16"	1"	2"	43 lb	83 lb	68 lb	135 lb
		4"	45 lb	83 lb		147 lb
1/4"	1"	2"	43 lb	108 lb	118 lb	161 lb
		4"	56 lb	125 lb		202 lb



4 TENSION & SHEAR CAPACITIES

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING
FOR **PAIRS** OF ANCHORS*

ANCHOR DIAM	EMBED	SPACING (S)	EDGE DIST	LIGHT-WEIGHT CMU BLOCK TENSION	LIGHT-WEIGHT CMU BLOCK SHEAR
3/16"	1"	1 1/2"	3"	103 lb	202 lb
		3"		103 lb	202 lb
1/4"	1"	2"	4"	84 lb	212 lb
		4"		136 lb	224 lb



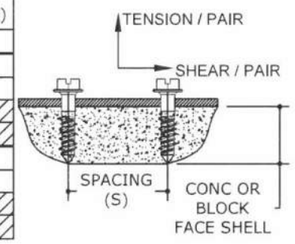
*REFER TO EDGE DISTANCE AND SPACING DETAIL FOR DEPICTION OF ANCHOR SPACING & EDGE DISTANCE REQUIREMENTS FOR PAIRS OF ANCHORS

STAINLESS STEEL ANCHORS

5 TENSION & SHEAR CAPACITIES

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING
FOR **PAIRS** OF ANCHORS*

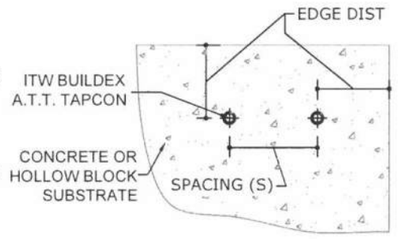
ANCHOR DIAM	EMBED	EDGE DIST	3000 PSI CONCRETE (S≥16D) TENSION	3000 PSI CONCRETE (S≥16D) SHEAR	MEDIUM-WEIGHT CMU BLOCK (S≥16D) TENSION	MEDIUM-WEIGHT CMU BLOCK (S≥16D) SHEAR
3/16"	1"	1"	164 lb	150 lb	54 lb	58 lb
		2 1/2"	164 lb	284 lb	54 lb	99 lb
	1 3/4"	1"	336 lb	169 lb		
		2 1/2"	379 lb	364 lb		
1/4"	1"	1"	187 lb	126 lb	68 lb	51 lb
		2 1/2"	220 lb	301 lb	77 lb	134 lb
	1 3/4"	1"	344 lb	214 lb		
		2 1/2"	473 lb	516 lb		



*REFER TO EDGE DISTANCE AND SPACING DETAIL FOR DEPICTION OF ANCHOR SPACING & EDGE DISTANCE REQUIREMENTS FOR PAIRS OF ANCHORS

CAPACITY TABLE NOTES:

1. ALLOWABLE LOAD SHOWN=ULTIMATE LOAD DIVIDED BY 4.0 FOR SOLID NON-CRACKED CONCRETE SUBSTRATES, 5.0 FOR CONCRETE MASONRY SUBSTRATES. EMBEDMENT VALUES LISTED CONSIDER FULL EMBEDMENT INTO THE CONCRETE OR HOLLOW BLOCK SUBSTRATE. EMBEDMENT DEPTHS DO NOT CONSIDER THE THICKNESS OF WOOD BUCKS, STUCCO OR ANY EXTERIOR FINISHES. ALL FINISHES SHALL BE BY OTHERS AND SHALL NOT EXCEED 1/8" MAXIMUM, OTHERWISE THEY SHALL BE SEPARATELY CERTIFIED TO TRANSFER ALL LOADING TO THE PROJECT SUPERSTRUCTURE.
2. ANCHORS SHALL BE INSTALLED WITH THE MINIMUM CENTER TO CENTER SPACING FOR ANCHOR CAPACITY AS LISTED IN TABLES. NO FURTHER SPACING REDUCTIONS MAY BE APPLIED TO THE VALUES LISTED HEREIN.
3. LINEAR INTERPOLATION MAY BE USED FOR EDGE DISTANCE AND SPACING BETWEEN MINIMUM AND MAXIMUM DISTANCES SHOWN IN TABLES.
4. HAMMER DRILL NOT ALLOWED FOR HOLLOW BLOCK INSTALLATIONS.
5. HOLLOW CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C90 SPECIFICATIONS AND SHALL HAVE DENSITIES AS DEFINED BELOW:
   - "LIGHT WEIGHT" CMU: DENSITY > 95 PCF
   - "MEDIUM WEIGHT" CMU: DENSITY > 117 PCF
6. ▨ DESIGNATES CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.



EDGE DIST & SPACING:
"PAIRS OF ANCHORS"

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885
FEBRUARY 1, 2024

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. 24-0102.06
Expiration Date 08/31/2026
By
Miami-Dade Product Control

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

ITW Buildex
Buildex Division of Illinois Tool Works, Inc.
155 HARLEM AVENUE
GLENVIEW, IL 60025

ITW BUILDEX TAPCON WITH ADVANCED THREADFORM TECHNOLOGY
CONCRETE & MASONRY ANCHOR
FBC 8TH ED (2023) | MIAMI-DADE COUNTY (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-31425)	MRT	RWN	03/20/23
2023 FBC UPDATE	MRT	EPR	12/12/23
ADDING COATING OPTION	MRT	EPR	02/02/24
-	-	-	-
-	-	-	-
-	-	-	-

23-61626

SCALE: NTS UNLESS NOTED

03 OF 3