www.icc-es.org | (800) 423-6587 | (562) 699-0543 *A Subsidiary of the International Code Council®*

ICC-ES Evaluation Report
ESR-4076

Reissued July 2023
This report is subject to renewal July 2024.

DIVISION: 03 00 00—CONCRETE
Section: 03 15 00—Concrete Accessories
Section: 03 16 00—Concrete Anchors

DIVISION: 04 00 00—MASONRY
Section: 04 05 19.16—Masonry Anchors

DIVISION: 05 00 00—METALS
Section: 05 05 23—Metal Fastenings

DIVISION: 09 00 00—FINISHES
Section: 09 22 16.23—Fasteners

REPORT HOLDER:

DEWALT

EVALUATION SUBJECT:

CCN FASTENERS IN CONCRETE, MASONRY AND STEEL (DEWALT)

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, and 2012 *International Building Code*® (IBC)
- 2021, 2018, 2015, and 2012 *International Residential Code*® (IRC)

Property evaluated:

Structural

2.0 USES

CCN fasteners are used to attach building elements, such as light-gage cold-formed steel and non-structural components to base materials of uncracked, normalweight and sand-lightweight concrete, steel deck with sand-lightweight concrete fill, concrete masonry units (CMUs) and structural steel. The fasteners are alternatives to the cast-in-place anchors described in IBC Section 1901.3 (2012 IBC Section 1908) for placement in concrete; the embedded anchors described in Section 8.1.3 of TMS 402, referenced in Section 2107 of the IBC, respectively (Section 2.1.4 of TMS 402-11, referenced in Section 2107 of the 2012IBC) for placement in masonry; and the welds and bolts used to attach materials to steel described in IBC Sections 2204.1 and 2204.2, respectively. For structures regulated under the IRC, the fasteners may be used where an engineered design is submitted in accordance with IRC Section R301.1.3.

3.0 DESCRIPTION

3.1 CCN Fasteners:

CCN fasteners are low-velocity power-actuated fasteners (PAFs) manufactured from hardened steel complying with the manufacturer's quality documentation. See Table A for shank type, fastener dimensions, coating and applicable base materials. Maximum point length is the maximum specified length from the tip of the fastener to the location where the diameter of the shank becomes constant. Minimum effective shank length is the minimum specified length from the underside of the fastener head to the tip of the fastener.

3.2 Substrate Materials:

3.2.1 Concrete: Normalweight and sand-lightweight concrete must conform to IBC Chapter 19 or IRC Section R402.2, as applicable. The minimum concrete compressive strength at the time of fastener installation must be as noted in Tables 2 and 3.

3.2.2 Concrete Masonry: Concrete masonry units (CMUs) must be minimum 8-inch-thick (203 mm), lightweight blocks conforming to ASTM C90. Mortar must comply with ASTM C270. See Table 4 for applicable mortar type. Grout must be coarse grout complying with ASTM C476. Concrete masonry walls must have a minimum compressive strength, f'_m, of 2,000 psi (13.8 MPa).

3.2.3 Steel Substrates: Structural steel must comply with the minimum requirements of ASTM A36, A572 Grade 50, A992 or A1011, and have a thickness as described in Table 1.

3.2.4 Steel Deck Panels: Steel deck panel properties and configurations must be as described in the footnotes to Table 3 and Figures 2A and 2B, as applicable.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 General: Selection of fasteners must take into consideration the applicable base material and the length of the fastener. The minimum fastener length must be determined as follows:

- For installation into concrete, concrete-filled steel deck panels, concrete masonry and steel base materials, the minimum effective shank length shown in Table A must equal or exceed the sum of the thickness of the attached material and the minimum embedment depth (penetration) shown in the applicable tables in this report.
- For installation through steel base materials, the minimum effective shank length shown in Table A must equal or exceed the sum of the following: the thickness of the attached material, the thickness of the base material and the required point penetration shown in the applicable tables in this report.

4.1.2 Allowable Loads: The applicable allowable load tables for CCN fasteners driven into different base materials may be determined by referencing Table A.

The most critical applied loads, excluding seismic load effects, resulting from the load combinations in Section 2.4 of ASCE 7-16/S1 (referenced in 2021 IBC Section 1605.1) or 2021 IBC Section 1605.2 (2018, 2015, and 2012 IBC Section 1605.3.1 or 1605.3.2) must not exceed these allowable loads. For fasteners which are subjected to seismic loads, see Section 4.1.5 for additional information. The stress increases and load reductions described in 2021 IBC Section 1605.2 (2018, 2015, and 2012 IBC Section 1605.3) are not allowed.

The allowable tension (pull-out) and shear loads listed in this report apply only to the connection of the fastener to the base materials. Other limit states applicable to the design of a connection, such as fastener pull-through (pull-over) and lateral bearing on the attached material, which are governed by the properties of attached materials, are outside the scope of this report. Design of the connection to the attached material must comply with the applicable requirements of the IBC.

4.1.3 Combined Loading: For fasteners subjected to tension and shear loads, compliance with the following interaction equation must be verified:

$$(p/P_a) + (v/V_a) \leq 1$$

where:

p = Actual applied tension load on fastener, lbf (N).

P_a = Allowable tension load on fastener, lbf (N).

v = Actual applied shear load on fastener, lbf (N).

V_a = Allowable shear load on fastener, lbf (N).

4.1.4 Steel-to-steel Connections: When the CCN fasteners listed in Table 1 are used in connections of two steel elements in accordance with Section J5 of AISI S100 (Section E5 of AISI S100-12 for the 2015 and 2012 IBC), connection capacity must be determined in accordance with Sections 4.1.4.1 and 4.1.4.2, as applicable.

4.1.4.1 Connection Strength - Tension: To determine tensile connection strength in accordance with Section J5.2 of AISI S100 (Section E5.2 of AISI S100-12), the fastener tension strength, pull-out strength and pull-over strength must be known. These characteristics must be determined as follows:

- **PAF Tensile Strength:** The available tension strengths must be calculated in accordance with Section J5.2.1 of AISI S100 (Section E5.2.1 of AISI S100-12) using a value of 260,000 psi for F_{uh}.
- **Pull-out Strength:** See Table 1 for available pull-out strength.
- **Pull-over Strength:** The available pull-over strengths must be calculated in accordance with Section J5.2.3 of AISI S100 (Section E5.2.3 of AISI S100-12).

4.1.4.2 Connection Strength—Shear: To determine shear connection strength in accordance with Section J5.3 of AISI S100 (Section E5.3 of AISI S100-12), the fastener shear strength, bearing and tilting strength, pull-out strength in shear, net section rupture strength and shear strength limited by edge distance must be known. These characteristics must be determined as follows:

- **PAF Shear Strength:** The available shear strengths must be calculated in accordance with Section J5.3.1 of AISI S100 (Section E5.3.1 of AISI S100-12) using a value of 260,000 psi for F_{uh}.
- **Bearing and Tilting Strength:** The available bearing and tilting strengths must be calculated in accordance with Section J5.3.2 of AISI S100 (Section E5.3.2 of AISI S100-12).
- **Pull-out Strength in Shear:** The available pull-out strength in shear must be the applicable allowable shear strength from Table 1 or must be calculated in accordance with Section J5.3.3 of AISI S100 (Section E5.3.3 of AISI S100-12).
- **Net Section Rupture Strength and Shear Strength Limited by Edge Distance:** The net section rupture strength must be determined in accordance with Section J5.3.4 of AISI S100 (Section E5.3.4 of AISI S100-12) and the shear strength limited by edge distance must be determined in accordance with Section J5.3.5 of AISI S100 (Section E5.3.5 of AISI S100-12).

4.1.5 Seismic Considerations: The CCN fasteners are recognized for use when subjected to seismic loads as follows:

1. The fasteners may be used for attachment of nonstructural components listed in Section 13.1.4 of ASCE 7, which are exempt from the requirements of ASCE 7.
2. Concrete base materials: The fasteners installed in concrete may be used to support acoustical tile or lay-in panel suspended ceiling systems, distributed systems and distribution systems where the service loads on any individual fastener does not exceed the lesser of 90 lbf (400 N) or the published allowable loads in Tables 2 and 3, as applicable.
3. Steel base materials: The fasteners installed in steel may be used where the service load on any individual fastener does not exceed the lesser of 250 lbf (1112 N) or the published allowable loads shown in Table 1.
4. For interior, nonstructural walls that are not subject to sustained tension loads and are not a bracing application, the power-driven fasteners may be used to attach steel track to concrete or steel in all Seismic Design Categories. In Seismic Design Categories D, E, and F, the allowable shear load due to transverse pressure must be no more than 90 pounds (400 N) when attaching to concrete; or 250 pounds (1,112 N) when attaching to steel. Substantiating calculations must be submitted addressing the fastener-to-base-material capacity and the fastener-to-attached-material capacity. Interior nonstructural walls are limited to locations where bearing walls, shear walls or braced walls are not required by the approved plans. The design load on the fastener must not exceed the allowable loads established in this report for the concrete or steel base material.

4.2 Installation:

Fasteners must be installed with a power-actuated fastening tool (electro-mechanically actuated; commonly also

known as 'cordless') in accordance with DEWALT's recommendations. Installers of electro-mechanical-driven fasteners do not require an operator's license.

The fasteners must be installed in accordance with the manufacturer's published installation instructions. A copy of these instructions must be available on the jobsite at all times during fastener installation.

The fastener size, minimum embedment depth or penetration, minimum spacing and edge distances must comply with Tables 1 through 4, as applicable. For fasteners installed into concrete, the fasteners must not be driven until the concrete has reached the designated concrete compressive strength.

5.0 CONDITIONS OF USE

The CCN fasteners described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The fasteners must be manufactured and identified in accordance with this report.

5.2 The fasteners must be installed in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict between the instructions in this report and the manufacturer's published installation instructions, the more restrictive requirements govern.

5.3 Calculations demonstrating that the applied loads are less than the allowable loads described in this report must be submitted to the code official for approval. The calculations must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is constructed.

5.4 For steel-to-steel connections that meet the applicability requirements of Section J5 of AISI S100 (Section E5 of AISI S100-12 for the 2015 and 2012 IBC), calculations demonstrating that the available connection strength has been determined in accordance with Section J5 of AISI S100 (Section E5 of AISI S100-12) and Section 4.1.4 of this report, and equals or exceeds the applied loads, must be submitted to the code official. The calculations must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.5 For fasteners installed in concrete, the concrete must have a minimum thickness of three times the fastener embedment depth, unless noted otherwise.

5.6 The use of fasteners in concrete or masonry is limited to installation in uncracked concrete or masonry. Cracking occurs when $f_t > f_r$ due to service loads or deformations.

5.7 The use of the fasteners in this report is limited to installation in dry, interior environments, which include exterior walls which are protected by an exterior wall envelope.

5.8 See Section 4.1.5 for seismic considerations.

5.9 The products addressed in this report are manufactured under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Power-actuated Fasteners Driven into Concrete, Steel, and Masonry Elements (AC70), dated December 2019 (editorially revised January 2021).

7.0 IDENTIFICATION

7.1 The CCN fasteners are identified by a "D" stamped onto the head of the fastener, except for the tapered model, which does not have a head marking. Packages bear the company name (DEWALT), the product name (CCN), the fastener shank type, length and diameter, and the evaluation report number (ESR-4076).

7.2 The report holder's contact information is the following:

DEWALT
701 EAST JOPPA ROAD
TOWSON, MARYLAND 21286
(800) 524-3244
www.DEWALT.com
anchors@DEWALT.com

TABLE A—CCN FASTENERS

SHANK TYPE	SHANK DIAMETER (inch)	HEAD DIAMETER (inch)	MAXIMUM POINT LENGTH (inch)	AVAILABLE LENGTHS (inch)	MIN. EFFECTIVE SHANK LENGTH (inch)	FASTENER COATING	APPLICABLE BASE MATERIAL	APPLICABLE LOAD TABLES
Straight	0.102	0.25	0.15	$^3/_4$ to $1^1/_2$	Length - 0.025	ASTM B695 Class 5, Type 1	Concrete Concrete-filled deck CMU	2, 3, 4
	0.145	0.25	0.27	$^3/_4$	0.85	ASTM B695 Class 5, Type 1	Concrete CMU	2, 4
Tapered	0.120	0.25	Not applicable	$^1/_2$	0.50	ASTM B695 (2 µm)	Steel	1
				$^3/_4$	0.75	ASTM B695 (2 µm)	Concrete Concrete-filled deck CMU	2, 3, 4

For **SI:** 1 inch = 25.4 mm.

0.102-inch-diameter (2.6 mm) straight shank fasteners

0.145-inch-diameter (3.7 mm) straight shank fasteners

0.120-inch-diameter (3.0 mm) tapered shank fasteners

0.120-inch-diameter (3.0 mm) tapered shank fasteners for steel

FIGURE 1—CCN FASTENERS

TABLE 1—ALLOWABLE LOADS FOR CCN FSTENERS DRIVEN INTO STEEL[1,5]

SHANK TYPE	SHANK DIAMETER (inch)	MINIMUM SPACING (inch)	MIN. EDGE DISTANCE (inch)	ALLOWABLE LOADS (lbf) IN ASTM A36/A1011 GRADE 36						ALLOWABLE LOADS (lbf) IN ASTM A572 GRADE 50/ASTM A992					
Steel Thickness (inch):				$^1/_4$ [2]		$^3/_8$ [3]		$^1/_2$ [4]		$^1/_4$ [2]		$^3/_8$ [3]		$^1/_2$ [4]	
Load Direction:				Tension[6]	Shear	Tension	Shear	Tension	Shear	Tension[6]	Shear	Tension	Shear	Tension	Shear
Tapered	0.120	1	$^1/_2$	170	315	165	265	155	220	185	340	165	270	160	230

For **SI:** 1 lbf = 4.4 N, 1 inch = 25.4 mm.

[1]Steel base material must have minimum yield and tensile strengths (F_y and F_u) equal to 36 ksi and 58 ksi, respectively, for A36/A1011 steel and equal to 50 ksi and 65 ksi, respectively, for A572 Grade 50 or A992 steel.
[2]Fasteners must be driven to where the point of the fastener penetrates through the steel base material a minimum of 0.085 inch.
[3]Fastener point penetration is not necessary provided a minimum embedment depth of 0.295 inch is achieved.
[4]Fastener point penetration is not necessary provided a minimum embedment depth of 0.295 inch is achieved. Allowable load value applies to steel base material with thickness of $^1/_2$ inch and greater.
[5]The fasteners listed in the table above may be used for static load conditions and for the seismic load conditions described in Section 4.1.5, as applicable. The tabulated allowable loads apply to static load conditions. For seismic load conditions, the allowable loads must be limited in accordance with Section 4.1.5, Items 3 and 4 of this report, as applicable.
[6]For steel-to-steel connections designed in accordance with Section 4.1.4, the tabulated allowable load may be increased by a factor of 1.25, and the design strength may be taken as the tabulated allowable load multiplied by a factor of 2.0.

TABLE 2—ALLOWABLE LOADS FOR CCN FASTENERS DRIVEN INTO NORMALWEIGHT CONCRETE [1,2,3]

SHANK TYPE	SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inch)	MINIMUM SPACING[4] (inches)	MIN. EDGE DISTANCE (inches)	ALLOWABLE LOADS (lbf)							
Concrete Compressive Strength:					*f'c* = 2,500 psi		*f'c* = 3,000 psi		*f'c* = 4,000 psi		*f'c* = 6,000 psi	
Load Direction:					Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
Straight	0.102	$^3/_4$	4	$3^1/_4$	155	155	175	175	195	170	–	–
			4	2	125	135	145	155	140	170	–	–
	0.145	$^3/_4$	4	$3^1/_4$	125	125	145	145	140	180	–	–
			4	2	120	125	140	145	140	180	–	–
Tapered	0.120	$^5/_8$	$3^1/_4$ | 4	$3^1/_4$	150	120	170	135	170	145	75	135
			$2^3/_4$ | 4		150	120	170	135	165	135	75	135
			2 | 4		150	90	170	100	160	100	75	95

For **SI:** 1 lbf = 4.4 N, 1 inch = 25.4 mm, 1 psi = 6.895 kPa.

[1]Fasteners must not be driven until the concrete has reached the tabulated compressive strength.
[2]Concrete thickness must be a minimum of three times the embedment depth of the fastener or 2 inches, whichever is greater.
[3]The fasteners listed in the table above may be used for static load conditions and for the seismic load conditions described in Section 4.1.5 of this report, as applicable. The tabulated allowable loads apply to static load conditions. For seismic load conditions, the allowable loads must be limited in accordance with Section 4.1.5, Items 2 and 4, as applicable.
[4]Where two values are reported, the first value applies to spacing of fasteners subject to tension only and also to spacing of fasteners in a row subject to tension and/or shear loading perpendicular to the row; the second value applies to the fastener spacing for all other conditions.

TABLE 3—ALLOWABLE LOADS FOR CCN FASTENERS DRIVEN INTO MINIMUM 3,000 psi SAND-LIGHTWEIGHT CONCRETE AND SAND-LIGHTWEIGHT CONCRETE-FILLED STEEL DECK[1,5]

SHANK TYPE	SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inch)	ALLOWABLE LOADS (lbf)										TOP COVER (inches)
Fastener Location:			Installed Directly into Concrete[2]		Installed through 3-inch Deep Steel Deck Panel into Concrete[3]				Installed through $1^1/_2$-inch Deep Steel Deck into Concrete[4]				Minimum Required Concrete Topping Thickness Above Deck Panel
					Upper Flute	Lower Flute	Upper Flute	Lower Flute	Upper Flute	Lower Flute	Upper Flute	Lower Flute	
Load Direction:			Tension	Shear	Tension		Shear		Tension		Shear		
Straight	0.102	$^3/_4$	145	160	125	105	260	240	105	105	245	240	2
Tapered	0.120	$^5/_8$	120	140	95[6]	80[6]	205[6]	185[6]	100[6]	90[6]	205[6]	200[6]	2

For **SI:** 1 lbf = 4.4 N, 1 inch = 25.4 mm, 1 psi = 6.895 kPa.

[1]Fasteners must not be driven until the concrete has reached the tabulated compressive strength.
[2]For straight shank fasteners installed directly into concrete (e.g. top of concrete-filled steel deck), fastener edge distance must be $3^1/_4$ inches minimum and fastener spacing must be 4 inches minimum. For tapered shank fasteners installed directly into concrete, fastener edge distance must be 3 inches minimum and fastener spacing must be $3^1/_4$ inches minimum.
[3]The steel deck must have a minimum base material thickness of 0.035 inch and conform to the profile requirements as shown in Figure 2A of this report. For the straight shank fasteners, the steel deck must have a minimum yield strength, F_y, of 33 ksi and a minimum tensile strength of 45 ksi. For the tapered shank fasteners, the steel deck must have a minimum yield strength, F_y, of 50 ksi and a minimum tensile strength of 65 ksi. Fastener edge distance (lower flute locations) must be a minimum of $1^1/_8$ inches. Fastener spacing must be a minimum of 4 inches for straight shank fasteners and a minimum of $3^1/_4$ inches for tapered shank fasteners.
[4]The steel deck must have a minimum base material thickness of 0.035 inch and must conform to the profile requirements as shown in Figure 2B. . For the straight shank fasteners, the steel deck must have a minimum yield strength, F_y, of 33 ksi and a minimum tensile strength of 45 ksi. For the tapered shank fasteners, the steel deck must have a minimum yield strength, F_y, of 50 ksi and a minimum tensile strength of 65 ksi. Fasteners may be installed in an inverted deck profile provided the requirements of the fastener installation locations are followed. Fastener edge distance (lower flute locations) must be a minimum of $^7/_8$ inch. Fastener spacing must be a minimum of 4 inches for straight shank fasteners and a minimum of $3^1/_4$ inches for tapered shank fasteners.
[5]The fasteners listed in the table above may be used for static load conditions and for the seismic load conditions described in Section 4.1.5, as applicable. The tabulated allowable loads apply to static load conditions. For seismic load conditions, the allowable loads must be limited in accordance with Section 4.1.5, Items 2 and 4 of this report, as applicable.
[6]The tapered shank fasteners may be installed in 2,500 psi sand-lightweight concrete provided the allowable loads are multiplied by a factor of 0.87.

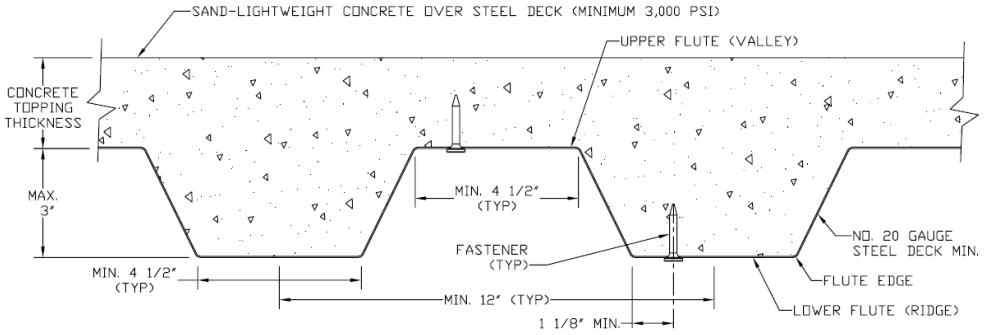

FIGURE 2A—FASTENER INSTALLATION LOCATION THROUGH THE SOFFIT OF 3-INCH-DEEP CONCRETE-FILLED COMPOSITE STEEL DECK FLOOR AND ROOF ASSEMBLIES

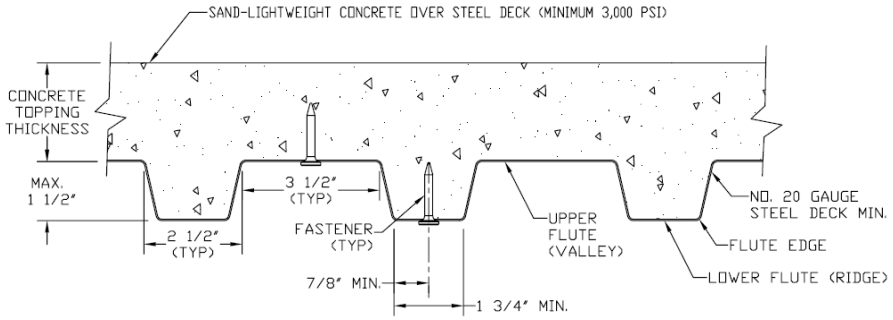

FIGURE 2B—FASTENER INSTALLATION LOCATION THROUGH THE SOFFIT OF $1^1/_2$-INCH-DEEP CONCRETE-FILLED COMPOSITE STEEL DECK FLOOR AND ROOF ASSEMBLIES (INVERTED DECK PROFILE ALSO SUITABLE)

TABLE 4—ALLOWABLE LOADS FOR CCN FASTENERS DRIVEN INTO CONCRETE MASONRY UNITS [1,2,7]

SHANK TYPE	SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inch)	MIN. END AND EDGE DISTANCE[3] (inches)	APPLICABLE MORTAR TYPE	ALLOWABLE LOADS (lbf)									
Masonry Type:					HOLLOW CMU				GROUTED CMU					
Fastener Location:					Face Shell[4]		Horizontal Mortar Joint		Face Shell[4]		Horizontal Mortar Joint		Top and Center of Grouted Cell[8]	
Load Direction:					Tension	Shear	Tension	Shear	Tension	Shear[5]	Tension	Shear[6]	Tension	Shear[5]
Straight	0.102	7/8	3 3/4	M or S[9]	70	145	55	115	85	110	60	100	140	120
	0.145	3/4	3 3/4	N	105	65	65	55	-	-	-	-	-	-
Tapered	0.120	5/8	3 3/4	N	45	65	-	-	50	70	60	80	135	95

For **SI:** 1 lbf = 4.4 N, 1 inch = 25.4 mm.

[1]Concrete masonry units (CMU) must be lightweight units conforming to ASTM C90, unless otherwise noted. The minimum nominal size of the CMU must be 8 inches high by 8 inches wide by 16 inches long, with a minimum 1 1/4-inch-thick face shell thickness.
[2]Only one PAF may be installed in each cell. Allowable loads for fasteners installed in vertical mortar joints including the intersection of the head joint and bed joint are outside the scope of this report.
[3]Refers to wall end and edge distance. See Figure 3.
[4]PAF must be installed a minimum of 2 inches from the vertical mortar joints.
[5]Shear loads for fasteners installed in the face shell or top of grouted cells can be applied in any direction.
[6]Shear direction can be horizontal or vertical along the CMU wall plane.
[7]The fasteners listed in the table may be used for static load conditions and for the seismic load conditions described in Item 1 of Section 4.1.5 of this report.
[8]CMU may be lightweight or normalweight units conforming to ASTM C90.
[9]For fasteners installed into the face shell or top and center of grouted cell, the mortar may be Type N.

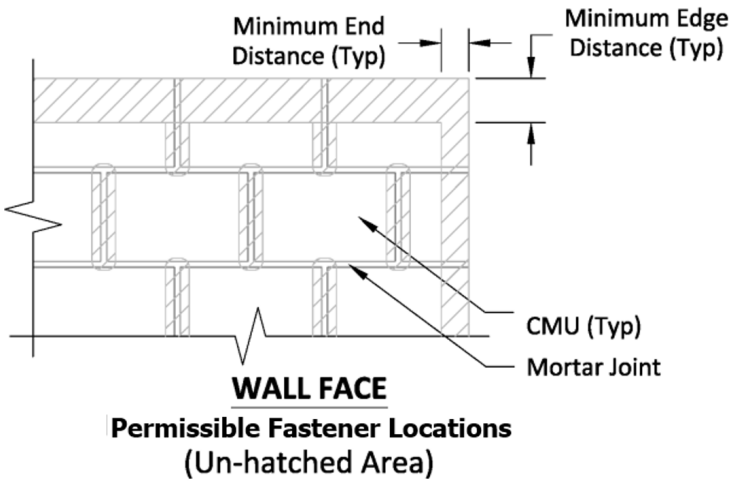

FIGURE 3—CCN FASTENERS INSTALLED INTO HOLLOW OR GROUT-FILLED CONCRETE MASONRY UNITS (AS APPLICABLE)

DIVISION: 03 00 00—CONCRETE
Section: 03 15 00—Concrete Accessories
Section: 03 16 00—Concrete Anchors

DIVISION: 04 00 00—MASONRY
Section: 04 05 19.16—Masonry Anchors

DIVISION: 05 00 00—METALS
Section: 05 05 23—Metal Fastenings

DIVISION: 09 00 00—FINISHES
Section: 09 22 16.23—Fasteners

REPORT HOLDER:

DEWALT

EVALUATION SUBJECT:

CCN FASTENERS IN CONCRETE, MASONRY AND STEEL (DEWALT)

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the fasteners, described in ICC-ES evaluation report ESR-4076, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2020 *Florida Building Code—Building*
- 2020 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The CCN fasteners, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-4076, comply with the *Florida Building Code—Building and Florida Building Code—Residential*, provided the design requirements are determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4076 for the 2018 *International Building Code®* meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the CCN fasteners has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential,* with the following conditions:

a) CCN fasteners shall not be used in wood blocking attachment in accordance with *Florida Building Code—Building* Section 2330.1.10.

b) For anchorage of wood members, the connections subject to uplift must be designed for no less than 700 pounds (3114 N).

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued July 2023.