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# ICC-ES Evaluation Report

# ESR-4076

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Issued 07/2017  
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SECTION: 09 22 16.23—FASTENERS

## REPORT HOLDER:

### DEWALT

701 EAST JOPPA ROAD  
TOWSON, MARYLAND 21286

## EVALUATION SUBJECT:

### CCN FASTENERS IN CONCRETE, MASONRY AND STEEL (DEWALT)



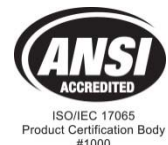
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# ICC-ES Evaluation Report

**ESR-4076**

Issued July 2017

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**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**  
 701 EAST JOPPA ROAD  
 TOWSON, MARYLAND 21286  
 (800) 524-3244  
[www.dewalt.com](http://www.dewalt.com)  
[engineering@powers.com](mailto:engineering@powers.com)

## EVALUATION SUBJECT:

**CCN FASTENERS IN CONCRETE, MASONRY AND STEEL (DEWALT)**

## 1.0 EVALUATION SCOPE

### Compliance with the following codes:

- 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2015, 2012 and 2009 *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 2015 IBC Section 1901.3 (2012 IBC Section 1908; 2009 IBC Section 1911) for placement in concrete; the embedded anchors described in Section 8.1.3 of TMS 402-13, referenced in Section 2107 of the 2015 IBC (Section 2.1.4 of TMS 402-11 and -08, referenced in Section 2107 of the 2012 and 2009 IBC) 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 1 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 be Type M or S complying with ASTM C270 when fasteners are installed into the horizontal mortar joint. 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 A1101, and have a thickness as described in Tables 5 and 6, as applicable.

**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 1 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 1 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 1.

The most critical applied loads, excluding seismic load effects, resulting from the load combinations in 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 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:

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

where:

- $\rho$  = 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 Tables 5 and 6 are used in connections of two steel elements in accordance with Section E5 of AISI S100-12, 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 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 E5.2.1 of AISI S100-12 using a value of 260,000 psi for  $F_{uh}$ .
- **Pull-out Strength:** See Table 5 or 6 for available pull-out strength, as applicable.
- **Pull-over Strength:** The available pull-over strengths must be calculated in accordance with Section E5.2.3 of AISI S100-12.

**4.1.4.2 Connection Strength—Shear:** To determine shear connection strength in accordance with 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 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 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 5 or 6, as applicable, or must be calculated in accordance with 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 E5.3.4 of AISI S100-12 and the shear strength limited by edge distance must be determined in accordance with 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 Tables 5 and 6, as applicable.
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 2 through 6, 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 E5 of AISI S100-12, calculations demonstrating that the available connection strength has been determined in accordance with 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 February 2016.

**7.0 IDENTIFICATION**

The CCN fasteners are identified by a “D” stamped onto the head of the fastener, except for the tapered model. Packages bear the company name, the product name, the fastener shank type, length and diameter, and the evaluation report number (ESR-4076).

**TABLE 1—CCN FASTENERS**

SHANK TYPE	SHANK DIAMETER (inch)	HEAD DIAMETER (inch)	MAXIMUM POINT LENGTH <sup>1</sup> (inch)	AVAILABLE LENGTHS (inch)	MIN. EFFECTIVE SHANK LENGTH <sup>2</sup> (inch)	FASTENER COATING	APPLICABLE BASE MATERIAL	APPLICABLE LOAD TABLES
Straight	0.102	0.25	0.15	<sup>3</sup> / <sub>4</sub> to 1 <sup>1</sup> / <sub>2</sub>	Length - 0.025	ASTM B695 Class 5, Type 1	Concrete Concrete-filled deck CMU	2, 3, 4
	0.145	0.25	0.27	<sup>3</sup> / <sub>4</sub>	0.85	ASTM B695 Class 5, Type 1	Concrete CMU	2, 4
Tapered	0.120	0.25	N/A	<sup>1</sup> / <sub>2</sub>	<sup>1</sup> / <sub>2</sub>	ASTM B695 Class 5, Type 1	Steel	5, 6

For SI: 1 inch = 25.4 mm.

N/A = Not applicable.

<sup>1</sup>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.

<sup>2</sup>Unless otherwise noted, minimum effective shank length is the minimum specified length from the underside of the fastener head to the tip of the fastener.

**TABLE 2—ALLOWABLE LOADS FOR CCN FASTENERS DRIVEN INTO NORMALWEIGHT CONCRETE<sup>1,2,3</sup>**

SHANK TYPE	SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inch)	MINIMUM SPACING (inches)	MIN. EDGE DISTANCE (inches)	ALLOWABLE LOADS (lbf)					
					<i>f</i> <sub>c</sub> = 2,500 psi		<i>f</i> <sub>c</sub> = 3,000 psi		<i>f</i> <sub>c</sub> = 4,000 psi	
Concrete Compressive Strength:					Tension	Shear	Tension	Shear	Tension	Shear
Straight	0.102	<sup>3</sup> / <sub>4</sub>	4	3 <sup>1</sup> / <sub>4</sub>	155	155	175	175	195	170
			4	2	125	135	145	155	140	170
	0.145	<sup>3</sup> / <sub>4</sub>	4	3 <sup>1</sup> / <sub>4</sub>	125	125	145	145	140	180
			4	2	120	125	140	145	140	180

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

<sup>1</sup>Fasteners must not be driven until the concrete has reached the tabulated compressive strength.

<sup>2</sup>Concrete thickness must be a minimum of three times the embedment depth of the fastener.

<sup>3</sup>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.

**TABLE 3—ALLOWABLE LOADS FOR CCN FASTENERS DRIVEN INTO MINIMUM 3,000 psi SAND-LIGHTWEIGHT CONCRETE AND SAND-LIGHTWEIGHT CONCRETE-FILLED STEEL DECK<sup>1,5</sup>**

SHANK TYPE	SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inch)	ALLOWABLE LOADS (lbf)										TOP COVER (inches)
			Fastener Location:		Installed Directly into Concrete <sup>2</sup>				Installed through 3-inch Deep Steel Deck Panel into Concrete <sup>3</sup>		Installed through 1 1/2-inch Deep Steel Deck into Concrete <sup>4</sup>		
Load Direction:			Tension	Shear	Tension		Shear		Tension		Shear		
Straight	0.102	3/4	145	160	125	105	260	240	105	105	245	240	2

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

<sup>1</sup>Fasteners must not be driven until the concrete has reached the tabulated compressive strength.

<sup>2</sup>For fasteners installed directly into concrete, fastener edge distance must be 3.25 inches minimum and fastener spacing must be 4 inches minimum.

<sup>3</sup>The steel deck must have a minimum base material thickness of 0.035 inch, minimum yield strength,  $F_y$ , of 33 ksi, a minimum tensile strength of 45 ksi, and conform to the profile requirements as shown in Figure 2A of this report. Fastener edge distance (lower flute locations) must be a minimum of 1 1/8 inches. Fastener spacing must be a minimum of 4 inches.

<sup>4</sup>The steel deck must have a minimum base material thickness of 0.035 inch, minimum yield strength,  $F_y$ , of 33 ksi, a minimum tensile strength of 45 ksi, and conform to the profile requirements as shown in Figure 2B. 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.

<sup>5</sup>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.

**TABLE 4—ALLOWABLE LOADS FOR CCN FASTENERS DRIVEN INTO CONCRETE MASONRY UNITS<sup>1,2,6</sup>**

SHANK TYPE	SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inch)	MIN. END AND EDGE DISTANCE (inches)	ALLOWABLE LOADS (lbf)									
				Masonry Type:				HOLLOW CMU		GROUTED CMU			
Fastener Location:				Face Shell		Horizontal Mortar Joint <sup>7</sup>		Face Shell <sup>3</sup>		Horizontal Mortar Joint <sup>7</sup>		Top and Center of Grouted Cell	
Load Direction:				Tension	Shear	Tension	Shear	Tension	Shear <sup>4</sup>	Tension	Shear <sup>5</sup>	Tension	Shear <sup>4</sup>
Straight	0.102	7/8	3 3/4	70	145	55	115	85	110	60	100	140	120
	0.145	3/4	3 3/4	105	65	65	55	-	-	-	-	-	-

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

<sup>1</sup>Concrete masonry units (CMU) must be lightweight units conforming to ASTM C90. 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.

<sup>2</sup>Only one PAF may be installed at 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.

<sup>3</sup>PAF must be installed a minimum of 3 3/4 inches from the vertical mortar joints.

<sup>4</sup>Shear loads for fasteners installed in the face shell or top of grouted cells can be applied in any direction.

<sup>5</sup>Shear direction can be horizontal or vertical along the CMU wall plane.

<sup>6</sup>The fasteners listed in the table above 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.

<sup>7</sup>Mortar must be Type M or S complying with ASTM C270 when fasteners are installed into the horizontal mortar joint.

**TABLE 5—ALLOWABLE LOADS FOR CCN FASTENERS DRIVEN INTO ASTM A36/A1101 STEEL<sup>1,5</sup>**

SHANK TYPE	SHANK DIAMETER (inch)	MINIMUM SPACING (inch)	MIN. EDGE DISTANCE (inch)	ALLOWABLE LOADS (lbf)							
				Steel Thickness (inch):		3/8 <sup>(3)</sup>		1/2 <sup>(4)</sup>			
Load Direction:				Tension <sup>6</sup>		Shear		Tension		Shear	
Tapered	0.120	1	1/2	170		315		165		265	

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

<sup>1</sup>Steel base material must have minimum yield and tensile strengths ( $F_y$  and  $F_u$ ) equal to 36 ksi and 58 ksi, respectively.

<sup>2</sup>Fasteners must be driven to where the full point length of the fastener penetrates through the steel base material.

<sup>3</sup>Fastener point penetration is not necessary provided a minimum embedment depth of 0.295 inch is achieved.

<sup>4</sup>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.

<sup>5</sup>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.

<sup>6</sup>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 6—ALLOWABLE LOADS FOR CCN FASTENERS INSTALLED IN ASTM A572 GRADE 50 OR ASTM A992 STEEL<sup>1,5</sup>

SHANK TYPE	SHANK DIAMETER (inch)	MINIMUM SPACING (inch)	MIN. EDGE DISTANCE (inch)	ALLOWABLE LOADS (lbf)					
				<sup>1/4</sup> (2)		<sup>3/8</sup> (3)		<sup>1/2</sup> (4)	
Steel Thickness (inch):				Tension <sup>6</sup>	Shear	Tension	Shear	Tension	Shear
Tapered	0.120	1	<sup>1/2</sup>	185	340	165	270	160	230

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

<sup>1</sup>Steel base material must have minimum yield and tensile strengths ( $F_y$  and  $F_u$ ) equal to 50 ksi and 65 ksi, respectively.

<sup>2</sup>Fasteners must be driven to where the full point length of the fastener penetrates through the steel base material.

<sup>3</sup>Fastener point penetration is not necessary provided a minimum embedment depth of 0.295 inch is achieved.

<sup>4</sup>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 <sup>1/2</sup> inch and greater.

<sup>5</sup>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.

<sup>6</sup>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.

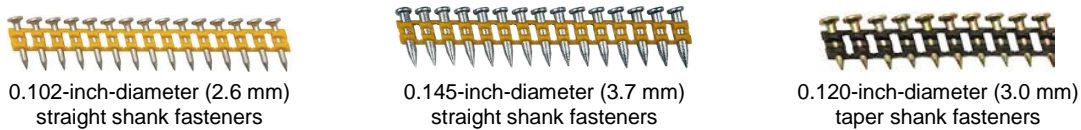


FIGURE 1—CCN FASTENERS

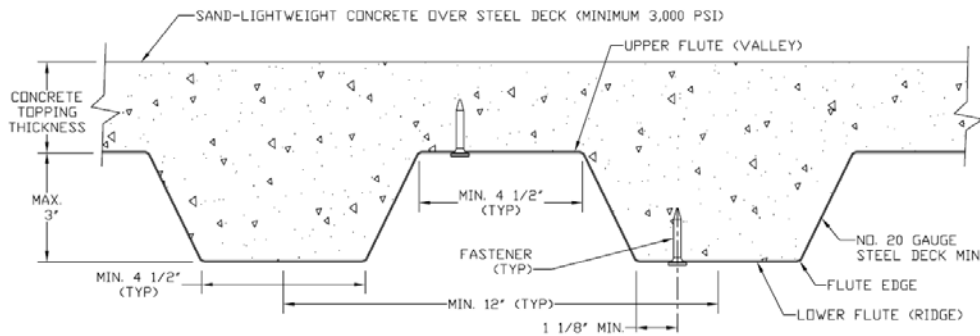


FIGURE 2A—FASTENER INSTALLATION LOCATION THROUGH THE SOFFIT OF 3-INCH-DEEP CONCRETE-FILLED COMPOSITE STEEL DECK FLOOR AND ROOF ASSEMBLIES

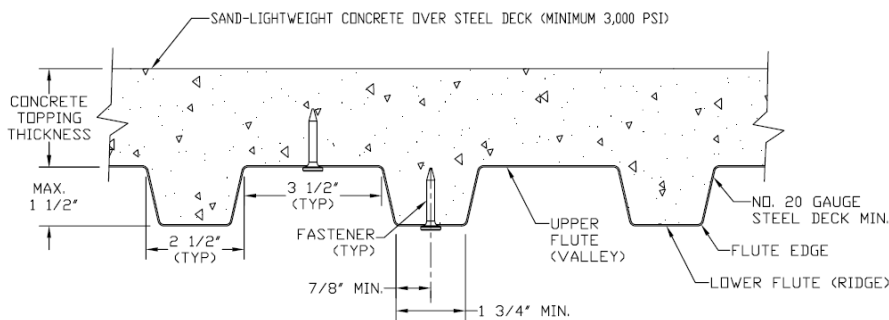


FIGURE 2B—FASTENER INSTALLATION LOCATION THROUGH THE SOFFIT OF 1 1/2-INCH-DEEP CONCRETE-FILLED COMPOSITE STEEL DECK FLOOR AND ROOF ASSEMBLIES (INVERTED DECK PROFILE ALSO SUITABLE)

## ICC-ES Evaluation Report

## ESR-4076 FBC Supplement

Issued July 2017

This report is subject to renewal July 2018.

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### REPORT HOLDER:

DEWALT  
701 EAST JOPPA ROAD  
TOWSON, MARYLAND 21286  
(800) 524-3244  
[www.dewalt.com](http://www.dewalt.com)  
[engineering@powers.com](mailto:engineering@powers.com)

### 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, recognized in ICC-ES master report ESR-4076, have also been evaluated for compliance with the codes noted below.

##### Applicable code editions:

- 2014 *Florida Building Code—Building* (FBC-B)
- 2014 *Florida Building Code—Residential* (FBC-R)

#### 2.0 CONCLUSIONS

The fasteners, described in Sections 2.0 through 7.0 of the master evaluation report ESR-4076, comply with the *Florida Building Code—Building* and *Florida Building Code—Residential*, provided the design and installation are in accordance with the 2012 *International Building Code*® provisions noted in the master report and the following conditions.

1. Design wind loads must be based on Section 1609 of the *Florida Building Code—Building* or Section 301.2.1.1 of the *Florida Building Code—Residential*, as applicable.
2. Load combinations must be in accordance with Section 1605.2 or Section 1605.3 of the *Florida Building Code—Building*, as applicable.

Use of the power-driven 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* under the following conditions:

- Use of the power-driven fasteners for attachment to steel as a means of attachment of wood blocking, as defined in Section 2330.1.1 of the *Florida Building Code—Building*, in a roof assembly in the High-Velocity Hurricane Zone, is prohibited.
- Design wind loads must be based on Section 1620 of the *Florida Building Code—Building*, as applicable.
- The fasteners have not been evaluated for use as cast-in-place anchors for compliance with the High-Velocity Hurricane Zone provision and the use is outside the scope of this evaluation report.

For products falling under Florida Rule 9N-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 master report, issued July 2017.