



# ICC-ES Evaluation Report ESR-1530

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**DIVISION: 03 00 00—CONCRETE**  
**Section: 03 16 00—Concrete Anchors**

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

**DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES**  
**Section: 06 05 23—Wood, Plastic and Composite Fastenings**

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

**REPORT HOLDER:**

**BLUE POINT FASTENING, INC.**  
**dba BLUE POINT FASTENERS**

**EVALUATION SUBJECT:**

**BLUE POINT POWDER-ACTUATED FASTENERS AND CEILING CLIP ASSEMBLIES**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2021, 2018, 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2021, 2018, 2015, 2012 and 2009 *International Residential Code*® (IRC)

For evaluation for compliance with codes adopted by the Los Angeles Department of Building and Safety (LADBS), see [ESR-1530 LABC and LARC Supplement](#).

For evaluation for compliance with codes adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architects (DSA), see [ESR-1530 CBC and CRC Supplement](#).

**Property evaluated:**

Structural

**2.0 USES**

The Blue Point powder-actuated fasteners (PAFs) are used for general fastening of building components, including connecting naturally durable wood sill plates, to base materials of normalweight concrete, sand-lightweight concrete, steel deck filled with sand-lightweight concrete and structural steel. The PAFs are alternatives to the cast-

in-place anchors described in IBC Section 1901.3 (2012 IBC Section 1908; 2009 IBC Section 1911) for placement in concrete, and to the welds and bolts used to attach materials to structural steel, described in IBC Sections 2204.1 and 2204.2, respectively.

The ceiling clip assemblies are used as supporting hardware for suspended ceiling systems.

For structures regulated under the IRC, the PAFs and ceiling clip assemblies may be used when an engineered design is submitted in accordance with IRC Section R301.1.3.

**3.0 DESCRIPTION**

**3.1 PAFs:**

The PAFs are manufactured from carbon steel wire complying with ASTM A510, Grade 1060, heat-treated to a Rockwell C hardness of 52-57 and are galvanized. See Table 1 for shank type and fastener dimensions. 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.

**3.1.1 PD Series Fasteners:** PD Series fasteners have a 0.145-inch-diameter (3.7 mm) smooth shank. The shank has a ballistic point and is fitted with a plastic barrel guide.

**3.1.2 PD157 Series Fasteners:** PD157 Series fasteners have a 0.157-inch-diameter (4.0 mm) shank and a ballistic point. Products designated PD157-XXXF have a rubber flute on the shank for use in the driving tool. Products with designations ending in “NB” are supplied with a nitro-cellulose pill encapsulated onto the head of the fastener. The Actual Embedment (AE) fasteners (PD157-XXXAENB) are slightly longer than PD157-XXXF fasteners with the same nominal length and the heads of the AE fasteners are marked with the expected embedment depth in concrete when fastening cold-formed steel track. The Gold Actual Embedment fasteners (PD157-XXXGAENB) have an outer coating layer that is gold in color. The PD157-12PK and PD157-12PKAE fasteners have a knurled shank and a plastic washer.

**3.1.3 Ninja™ Fasteners:** Ninja™ fasteners have a 0.157-inch-diameter (4.0 mm) shank and a ballistic point. The fasteners have a unique cylindrical head with ridges to allow for use in a Ninja™ tool.

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### 3.2 Washered PAFs:

PD Series fasteners with premounted washers are described in Table 1.

### 3.3 Ceiling Clip Assemblies

See Table 1 for detailed descriptions of ceiling clip assemblies.

#### 3.3.1 PDAC Series Ceiling Clip Assemblies:

PDAC Series ceiling clip assemblies consist of a PD Series fastener, described in Section 3.1.1 of this report, fitted with a steel clip for attachment of a ceiling wire.

**3.3.2 PD157 Series Ceiling Clip Assemblies:** PD157 Series ceiling clip assemblies consist of a PD157 Series fastener, described in Section 3.1.2 of this report, fitted with a steel clip for attachment of a ceiling wire.

**3.3.3 Ninja™ Ceiling Clip Assemblies:** Ninja™ ceiling clip assemblies consist of a Ninja™ fastener, described in Section 3.1.3 of this report, fitted with a steel clip for attachment of a ceiling wire.

### 3.4 Substrate Materials:

**3.4.1 Concrete:** Normalweight and sand-lightweight concrete must be stone-aggregate and comply with 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 the tables in this report, as applicable.

**3.4.2 Steel Deck Panels:** Steel deck panels must conform to a code-referenced material standard, with the minimum thickness and yield strength noted in Tables 3 and 5. See Figure 5 for panel configuration requirements.

**3.4.3 Structural Steel:** Structural steel substrates must comply with the minimum requirements of ASTM A36 or ASTM A572 and have a thickness noted in Table 8.

## 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 required length. The required fastener length must be determined as follows:

- For installation into concrete and concrete-filled steel deck, the minimum effective shank length given in Table 1 must equal or exceed the sum of the thickness of the attached material and the minimum embedment depth shown in the applicable tables in this report.
- For installation through steel base material, 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 the Blue Point PAFs and ceiling clip assemblies 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 Section 2.4 of ASCE 7-16/S1 (referenced in 2021 IBC Section 1605.1) or 2021 IBC Section 1605.2 (Section 1605.3.1 or 1605.3.2 of the 2018, 2015, 2012 and 2009 IBC) must not exceed the allowable loads described in this section. For fasteners which are subjected to seismic loads, see Section 4.1.6 for

additional information. The stress increases and load reductions described in 2021 IBC Section 1605.2 (2018, 2015, 2012 and 2009 IBC Section 1605.3) are not allowed.

The allowable shear and tension (pullout) values in the tables of this report are for use in allowable stress design (ASD). The allowable loads apply to the interaction between the fasteners and the specified base materials only. Limit states such as pull-over and lateral shear bearing, 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. When designing the connection of wood members to the base material, the bending yield strength of the PAFs can be assumed to be the same as that of a nail with the same shank diameter.

**4.1.3 Combined Loading:** For fasteners subjected to both shear and tension 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 the fastener, lbf (N).
- $P_a$  = Allowable tension load for the fastener, lbf (N).
- $v$  = Actual applied shear load on the fastener, lbf (N).
- $V_a$  = Allowable shear load for the fastener, lbf (N).

**4.1.4 Sill Plate to Foundation Connections:** Washered PAFs listed in Table 6 may be used to attach naturally durable wood sill plates to concrete for structural walls in Seismic Design Categories A and B. Allowable loads for the fasteners, based on shear and tension testing of fasteners installed in concrete, are provided in Table 6. Bearing area and thickness of the washers are also given in Table 6. For shear loads, spacing of fasteners must be determined considering the lesser of allowable shear load from Table 6 and the allowable load on the wood sill plate, determined in accordance with the NDS, with a fastener bending yield strength,  $F_{yb}$ , of 90,000 psi (621 MPa) and a concrete dowel bearing strength,  $F_e$ , of 7,500 psi (52 MPa). For tension loads, spacing of fasteners must be determined considering the lesser of allowable tension load from Table 6 and the pull-through capacity of the wood sill plate, determined in accordance with Section 3.10 of the NDS, using the washer bearing area from Table 6.

Blue Point Washered PAFs listed in Table 7 may be used to attach naturally durable wood sill plates to concrete for interior, nonstructural walls [maximum horizontal transverse load on the wall must not exceed 5 psf (0.24 kN/m<sup>2</sup>)] in Seismic Design Categories A through F, when installation is as described in Table 7.

**4.1.5 Steel-to-steel Connections:** When the fasteners listed in Table 8 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, 2012 and 2009 IBC), connection capacity must be determined in accordance with Sections 4.1.5.1 and 4.1.5.2, as applicable.

**4.1.5.1 Connection Strength - Tension:** To determine tensile connection strength in accordance with Section J5.2 of AISI S100 (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 8 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).

**4.1.5.2 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 8, 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:** These limit states have not been considered in the determination of allowable loads in this report and must be addressed in the calculations submitted to the code official. 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).

#### 4.1.6 Seismic Considerations:

The Blue Point PAFs and ceiling clip assemblies are recognized for use when subjected to seismic loads as follows:

1. The fasteners and assemblies may be used with 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 and ceiling clip assemblies fastened to concrete may be used to support acoustical tile or lay-in panel suspended ceiling systems, distributed systems and distribution systems where the service load on any individual fastener or ceiling clip assembly does not exceed the lesser of 90 lbf (400 N) or the published allowable load shown in Tables 2A, 2B, 3, 4 or 5, 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 load shown in Table 8.
4. The washered PAFs may be used to attach sill plates to concrete as described in Section 4.1.4.
5. For interior, nonstructural walls that are not subject to sustained tension loads and are not a bracing application, the 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 load established in this report for the concrete or steel base material.

## 4.2 Installation:

**4.2.1 General:** Installation of the Blue Point powder-actuated fasteners and ceiling clip assemblies must comply with the manufacturer's published installation instructions. A copy of these instructions must be available at the jobsite at all times during installation.

Fastener placement requires the use of a low-velocity powder-actuated tool used in accordance with the Blue Point Fastening, Inc., published installation instructions. For fasteners installed into concrete, the fasteners must not be driven until the concrete has reached the designated compressive strength.

**4.2.2 Use with Treated Lumber:** The Blue Point PAFs may be used in contact with fire-retardant-treated wood in dry, interior locations only, in accordance with IBC Section 2304.10.6.4 (2018 and 2015 IBC Section 2304.10.5.4, 2012 and 2009 IBC Section 2304.9.5.4), and Blue Point's recommendations. Use of fasteners in contact with preservative-treated wood, or in contact with fire-retardant-treated wood in exterior applications, is outside the scope of this report.

## 5.0 CONDITIONS OF USE

The Blue Point PAFs and ceiling clip assemblies 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 and ceiling clip assemblies are manufactured and identified in accordance with this report.
- 5.2 Fasteners and ceiling clip assemblies are installed in accordance with this report and Blue Point Fastening, Inc., instructions. In the event of a conflict between this report and the Blue Point Fastening, Inc., 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. 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.
- 5.4 See Section 4.2.2 regarding fasteners in contact with preservative-treated and fire-retardant-treated lumber.
- 5.5 See Section 4.1.6 for seismic considerations.
- 5.6 Installation must be limited to dry, interior locations, which include exterior walls which are protected by an exterior wall envelope.
- 5.7 The minimum concrete thickness is three times the fastener embedment in concrete.
- 5.8 Use is limited to uncracked concrete. Cracking occurs when  $f_t > f_r$  due to service loads or deformations.

5.9 The Blue Point powder-actuated fasteners and ceiling clip assemblies 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 Packages of fasteners and ceiling clip assemblies are labeled with the company name (BLUEPOINT Fasteners), company address, the product designation, the fastener head and shank diameters or clip type, as applicable, and the evaluation report

number (ESR-1530). In addition, the fastener heads are marked as shown in Figure 3.

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

**BLUE POINT FASTENING, INC.,**  
**dba BLUEPOINT FASTENERS**  
**14728 YORBA COURT**  
**CHINO, CALIFORNIA 91710**  
**(877) 779-2583**  
[www.bpfasteners.com](http://www.bpfasteners.com)

TABLE 1—BLUE POINT FASTENERS PAFS AND ASSEMBLIES

FASTENERS (see Figure 1)							
FASTENER MODEL NUMBER <sup>1</sup>	SHANK TYPE	SHANK DIAMETER (inch)	NOMINAL HEAD DIAMETER (inch)	MAXIMUM POINT LENGTH (inch)	MINIMUM EFFECTIVE SHANK LENGTH (inch)	APPLICABLE BASE MATERIALS	APPLICABLE LOAD TABLES
PDXXF10	Smooth shank with rubber flute	0.145	0.300	n/a	(XX - 0.1)/25.4	Concrete	2A
PD157-XX(X)F	Smooth shank with rubber flute	0.157	0.315	n/a	XX(X) - 0.04	Concrete	2B, 3
PD157-XX(X)FAE					XX(X) + 0.03		
PD157-XX(X)NB	Smooth shank with encapsulated nitro cellulose charge	0.157	0.315	n/a	XX(X) - 0.04		
PD157- XX(X)AENB					XX(X) + 0.03		
PD157- XX(X)GAENB					XX(X) + 0.03		
PD157-12PK	Knurled shank with plastic washer	0.157	0.315	0.33	0.460	Steel	8
PD157-12PKAE					0.531		
NC100-01	Smooth shank with ridged head	0.157	0.307	n/a		See NC100 assembly	
N125S-01	Stepped shank with ridged head	0.157/0.169	0.307			See NC125S assembly	
FASTENERS WITH PREMOUNTED FLAT WASHERS (see Figure 2)							
ASSEMBLY MODEL NUMBER	FASTENER	FASTENER SHANK DIAMETER (inch)	WASHER DESCRIPTION			APPLICABLE BASE MATERIAL	APPLICABLE TABLES
PDW25-76F10	PD76F10	0.145	1 inch diameter, 0.073 inch thick steel			Concrete	6, 7
CEILING CLIP ASSEMBLIES (see Figure 4)							
ASSEMBLY MODEL NUMBER <sup>1</sup>	FASTENER	FASTENER SHANK DIAMETER (inch)	CLIP DESCRIPTION		APPLICABLE BASE MATERIAL	APPLICABLE LOAD TABLES	
PDAC90-32F10	PD32F10	0.145	3/4" wide, 0.071 inch thick, 90° clip angle, 1/4" dia. hole		Concrete Conc.-filled deck	4, 5	
PDAC120-32F10	PD32F10	0.145	3/4" wide, 0.071 inch thick, 120° clip angle, 5/16" dia. hole		Conc.-filled deck	5	
PD157-XX(X)HNC	PD157-XX(X)F	0.157	3/4" wide, 0.071 inch thick, compound angle, 5/16" dia. hole		Concrete Conc.-filled deck	4, 5	
PD157-XX(X)AEHNC	PD157-XX(X)FAE						
PD157-XX(X)HNCNB	PD157-XX(X)NB	0.157	3/4" wide, 0.071 inch thick, compound angle, 5/16" dia. hole		Concrete Conc.-filled deck	4, 5	
PD157-XX(X)AEHNCNB	PD157-XX(X)AENB						
PD157-XX(X)GAEHNCNB	PD157-XXGAENB						
NC100	N100-01	0.157	3/4" wide, 0.071 inch thick, compound angle, 5/16" dia. hole		Concrete Conc.-filled deck	4	
NC125S	N125S-01					4, 5	

For SI: 1 inch = 25.4 mm.

<sup>1</sup>XX(X)" in fastener and assembly model numbers designate fastener length in fractional inches. For instance, PD157-114F has a nominal length of 1 1/4 inches.



**TABLE 2A—ALLOWABLE TENSION AND SHEAR VALUES FOR BLUEPOINT FASTENERS PD SERIES PAFS INSTALLED IN NORMALWEIGHT CONCRETE <sup>1,2</sup>**

FASTENER	SHANK DIAMETER (inch)	EMBEDMENT DEPTH (inches)	ALLOWABLE LOADS (lbf)									
			2,500 psi		3,000 psi		3,500 psi		4,000 psi		4,500 psi	
Concrete Compressive Strength:			Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
PD Series	0.145	1	121	230	140	230	160	235	180	240	200	245
	0.145	1 <sup>5</sup> / <sub>32</sub>	230	230	215	230	200	235	185	240	175	245

For SI: 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.45 N.

<sup>1</sup>The fasteners shall not be driven until the concrete has reached the designated minimum compressive strength. Minimum concrete thickness is three times the fastener embedment into the concrete.

<sup>2</sup>The minimum fastener spacing is 4 inches center-to-center, and the minimum edge and end distances are 3 inches.

**TABLE 2B—ALLOWABLE TENSION AND SHEAR VALUES FOR BLUEPOINT FASTENERS PD157 SERIES PAFS INSTALLED IN NORMALWEIGHT CONCRETE <sup>1,2</sup>**

FASTENER	SHANK DIAMETER (inch)	EMBEDMENT DEPTH (inches)	ALLOWABLE LOADS (lbf)					
			2,500 psi		4,000 psi		6,000 psi	
Concrete Compressive Strength:			Tension	Shear	Tension	Shear	Tension	Shear
PD157 Series	0.157	3/4	90	180	160	275	120	175
		1	195	410	275	370	265	270
		1 <sup>1</sup> / <sub>4</sub>	230	535	330	615	410	430
		1 <sup>1</sup> / <sub>2</sub>	410	590	515	615	530	465

For SI: 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.45 N.

<sup>1</sup>The fasteners shall not be driven until the concrete has reached the designated minimum compressive strength. Minimum concrete thickness is three times the fastener embedment into the concrete.

<sup>2</sup>The minimum fastener spacing is 5.1 inches center-to-center, and the minimum edge and end distances are 3.5 inches.

**TABLE 3—ALLOWABLE TENSION AND SHEAR VALUES FOR BLUE POINT PAFS INSTALLED INTO 3,000 psi SAND-LIGHTWEIGHT CONCRETE AND THROUGH STEEL DECK INTO 3,000 psi SAND-LIGHTWEIGHT CONCRETE (lbf)<sup>1</sup>**

FASTENER	INSTALLATION INTO CONCRETE <sup>2,3</sup>			INSTALLATION THROUGH STEEL DECK <sup>4,5</sup>		
	Embedment Depth	Tension	Shear	Minimum Concrete Thickness Above Deck (inches)	LOWER FLUTE	
					Tension	Shear
PD157 Series	3/4	135	205	2 <sup>1</sup> / <sub>4</sub>	55	235
	1	255	265		115	235
	1 <sup>1</sup> / <sub>4</sub>	330	535		160	235

For SI: 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.45 N.

<sup>1</sup>The fasteners shall not be installed until the concrete has reached the designated minimum compressive strength.

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

<sup>3</sup>The minimum fastener spacing is 5.1 inches center-to-center, and the minimum edge and end distances are 3.5 inches.

<sup>4</sup>The steel deck panels must be 3-inch-deep (76 mm) composite deck panels and must have a minimum base-metal thickness of 0.035 inch, a minimum yield strength of 40 ksi and a minimum tensile strength of 55 ksi. See Figure 5 for steel deck panel configuration requirements.

<sup>5</sup>The minimum fastener spacing parallel to the deck flute and the minimum end distance is 5.1 inches center-to-center. Minimum distance to the edge of the deck flute is 1<sup>1</sup>/<sub>8</sub> inches, as shown in Figure 5.

**TABLE 4—ALLOWABLE TENSION, SHEAR AND OBLIQUE TENSION VALUES FOR BLUE POINT CEILING CLIP ASSEMBLIES INSTALLED IN NORMALWEIGHT CONCRETE <sup>1,2</sup>**

CEILING CLIP ASSEMBLY	PAF SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inch)	ALLOWABLE LOADS (lbf)						
			2,500 psi			4,000 psi		6,000 psi	
Concrete Compressive Strength:			Vertical Tension	Shear	Oblique Tension	Vertical Tension	Shear	Vertical Tension	Shear
PDAC90-32F10	0.145 <sup>(3)</sup>	1	154	239	197	–	–	–	–
PD157-100HNC PD157-114HNC PD157-100HNCNB PD157-114HNCNB	0.157 <sup>(4)</sup>	7/8	–	–	–	165	245	165	215
PD157-100AEHNC PD157-100AEHNCNB PD157-100GAEHNCNB		1	–	–	–	175	245	180	215
PD157-114AEHNC PD157-114AEHNCNB PD157-114GAEHNCNB		1 1/4	–	–	–	205	260	180	255
NC100	0.157 <sup>(4)</sup>	1	–	–	–	–	–	200	170
NC125S		1 1/4	240	300	–	270	305	265	315

For **SI**: 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.45 N.

<sup>1</sup>The fasteners shall not be installed until the concrete has reached the designated minimum compressive strength. Minimum concrete thickness is three times the fastener embedment into the concrete.

<sup>2</sup>The oblique tension load is applied at a 45-degree angle; vertical tension load is applied at a 90-degree angle to the substrate (parallel to the fastener); shear load is applied parallel to the substrate (perpendicular to the fastener).

<sup>3</sup>The minimum fastener spacing is 4 inches center-to-center, and the minimum edge and end distances are 3 inches.

<sup>4</sup>The minimum fastener spacing is 5.1 inches center-to-center, and the minimum edge and end distances are 3.5 inches.

**TABLE 5—ALLOWABLE TENSION AND SHEAR VALUES FOR BLUE POINT CEILING CLIP ASSEMBLIES INSTALLED THROUGH STEEL DECK INTO 3,000 psi SAND-LIGHTWEIGHT CONCRETE (lbf)<sup>1,2,3</sup>**

CEILING CLIP ASSEMBLY	PAF SHANK DIAMETER (inch)	MINIMUM EMBEDMENT DEPTH (inch)	MINIMUM CONCRETE THICKNESS ABOVE DECK (inches)	LOWER FLUTE		UPPER FLUTE	
				Tension	Shear	Tension	Shear
PDAC90-32F10	0.145 <sup>(3)</sup>	1	3 1/4	150	255	170	260
PDAC120-32F10		1		145	255	195	230
PD157-100HNC PD157-114HNC PD157-100HNCNB PD157-114HNCNB	0.157 <sup>(4)</sup>	7/8	2 1/4	55	195	–	–
PD157-100AEHNC PD157-100AEHNCNB PD157-100GAEHNCNB		1		70	225	–	–
PD157-114AEHNC PD157-114AEHNCNB PD157-114GAEHNCNB		1 1/4		125	265	–	–
NC125S	0.157 <sup>(4)</sup>	1 1/4	2 1/4	250	290	–	–

For **SI**: 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.45 N.

<sup>1</sup>The fasteners shall not be installed until the concrete has reached the designated minimum compressive strength.

<sup>2</sup>The steel deck panels must be 3-inch-deep (76 mm) composite deck panels and must have a minimum base-metal thickness of 0.035 inch, a minimum yield strength of 40 ksi and a minimum tensile strength of 55 ksi. See Figure 5 for steel deck panel configuration requirements.

<sup>3</sup>The minimum fastener spacing parallel to the deck flute and the minimum end distance is 4 inches center-to-center. Minimum distance to the edge of the deck flute is 1 1/8 inches, as shown in Figure 5.

<sup>4</sup>The minimum fastener spacing parallel to the deck flute and the minimum end distance is 5.1 inches center-to-center. Minimum distance to the edge of the deck flute is 1 1/8 inches, as shown in Figure 5.

**TABLE 6—DESIGN INFORMATION FOR WOOD SILL PLATE ANCHORAGE TO NORMALWEIGHT CONCRETE FOOTING OR SLAB<sup>1,2,4</sup>**

FASTENER	SHANK DIAMETER (inch)	FASTENER LENGTH (inches)	WASHER DIAMETER (inch)	WASHER THICKNESS (inch)	WASHER BEARING AREA (in <sup>2</sup> )	EMBEDMENT (inches)	ALLOWABLE LOAD (lbf) <sup>3</sup>	
							Tension	Shear
PDW25-76F10	0.145	3	1	0.073	0.77	1½	195	175

For **SI**: 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.45 N.

<sup>1</sup>The fasteners must not be driven until the concrete has reached a minimum compressive strength of 2,500 psi. Minimum concrete thickness must be three times the fastener embedment into the concrete.

<sup>2</sup>Minimum edge distance is 1¾ inches (44 mm).

<sup>3</sup>Wood members connected to the substrate must be investigated for compliance with the applicable code in accordance with referenced design criteria, for both lateral resistance and fastener pull-through.

<sup>4</sup>Walls must have fasteners placed at 6 inches from ends of sill plates with maximum spacing as shown in this table.

**TABLE 7—SPACING REQUIREMENTS FOR WOOD SILL PLATE ANCHORAGE OF INTERIOR NONSTRUCTURAL WALLS<sup>1,2,3,4,5,6,7</sup>**

FASTENER	NOMINAL FASTENER SHANK DIAMETER (inch) <sup>2</sup>	FASTENER LENGTH (inches)	EMBEDMENT (inches)	CONCRETE EDGE DISTANCE (inches)	MAXIMUM SPACING (feet)	MAXIMUM WALL HEIGHT (feet)
PDW25-76F10	0.145	3	1½	1¾	3	14

For **SI**: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 psi = 6.89 kPa.

<sup>1</sup>Fasteners shall not be driven until the concrete has reached a minimum concrete compressive strength of 2,500 psi.

<sup>2</sup>Interior nonstructural walls are limited to locations where bearing walls, shear walls or braced walls are not required by the approved plans.

<sup>3</sup>Fasteners shall be driven into the center of the sill plate and be at least 1¾ inch from the concrete edge.

<sup>4</sup>Walls shall have fasteners placed at 6 inches from ends of sill plates with maximum spacing between, as shown in this table.

<sup>5</sup>Walls shall be laterally supported at the top and the bottom.

<sup>6</sup>Sill or bottom plates shall comply with IBC Section 2304 and be of lumber with a specific gravity of 0.50 or greater.

<sup>7</sup>Minimum spacing shall be 4 inches on center or shall comply with the NDS to prevent splitting of the wood.

**TABLE 8—ALLOWABLE LOADS FOR BLUE POINT PAFS DRIVEN INTO STEEL<sup>1,2</sup>**

FASTENER MODEL NUMBER	SHANK DIAMETER (inch)	MINIMUM EDGE DISTANCE (inch)	MINIMUM SPACING (inches)	ALLOWABLE LOADS (lbf)					
				Steel Thickness (inch):		3/8		1/2	
Load Direction:				Tension	Shear	Tension	Shear	Tension	Shear
<b>ASTM A36</b>									
PD157-12PK PD157-12PKAE	0.157	0.5	1.0	465 <sup>(3)</sup>	660	435 <sup>(4)</sup>	605 <sup>(4)</sup>	375 <sup>(5)</sup>	645 <sup>(5)</sup>
<b>ASTM A572</b>									
PD157-12PK PD157-12PKAE	0.157	0.5	1.0	500 <sup>(3)</sup>	710	470 <sup>(4)</sup>	655 <sup>(4)</sup>	405 <sup>(5)</sup>	695 <sup>(5)</sup>

For **SI**: 1 inch = 25.4 mm, 1 lbf = 4.45 N.

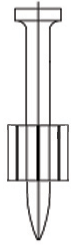
<sup>1</sup>The entire pointed portion of the fastener must penetrate through the steel to obtain the tabulated values, unless otherwise noted.

<sup>2</sup>The fasteners listed in the table above may be used for static load conditions and for the seismic load conditions described in Section 4.1.6, 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 4.1.6, Items 3 and 5, as applicable.

<sup>3</sup>The fastener point must penetrate through the steel a minimum of 0.27 inch.

<sup>4</sup>The fastener point must penetrate through the steel a minimum of 0.15 inch.

<sup>5</sup>The fastener point must penetrate through the steel a minimum of 0.03 inch.



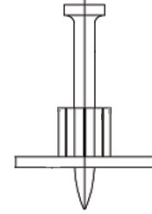
**PDXX(X)F Series and  
PD157-XX(X)F Series**



**PD157-12PK and  
PD157-12PKAE**



**PD157-XX(X)NB  
PD157-XX(X)AENB  
PDF157-XX(X)GAENB**



**FIGURE 1—POWDER-ACTUATED FASTENERS**

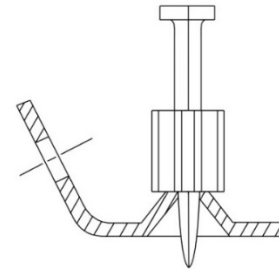
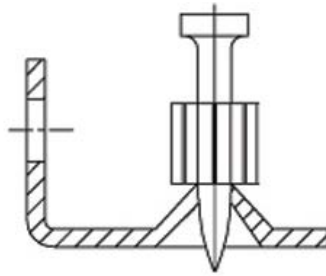
**FIGURE 2—WASHERED PAF**



**Typical Head Marking**



**Sample AE Head Marking**



**FIGURE 3—HEAD MARKINGS**

**PDAC90**

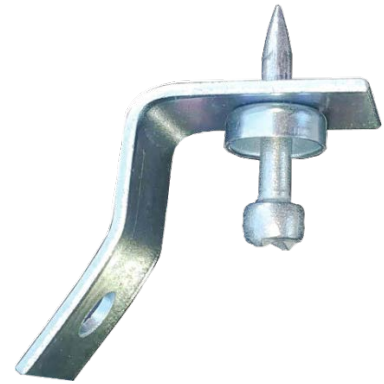
**PDAC120**



**PD157-XXXHNC**



**PD157-XXXHNCNB**



**NCXXX**

**FIGURE 4—CEILING CLIP ASSEMBLIES**



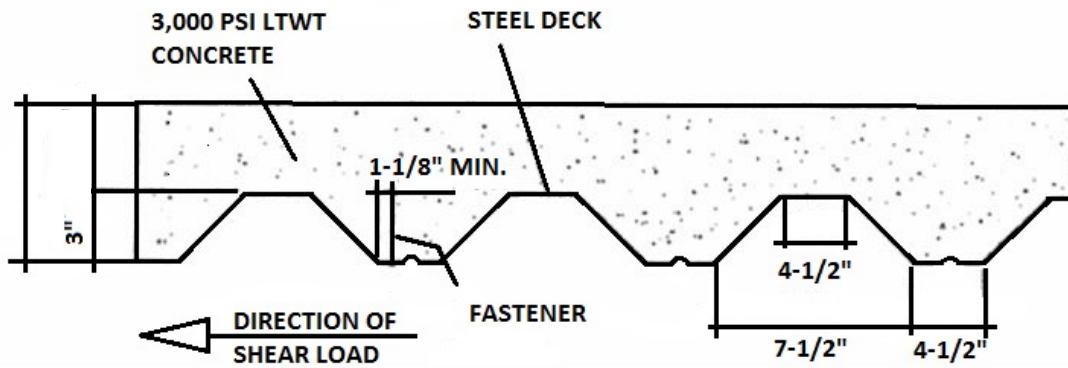


FIGURE 5—INSTALLATION THROUGH STEEL DECK PANELS INTO SAND-LIGHTWEIGHT CONCRETE  
See Tables 3 and 5 for required concrete thickness above deck panel.

**DIVISION: 03 00 00—CONCRETE**

Section: 03 16 00—Concrete Anchors

**DIVISION: 05 00 00—METALS**

Section: 05 05 23—Metal Fastenings

**DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES**

Section: 06 05 23—Wood, Plastic and Composite Fastenings

**DIVISION: 09 00 00—FINISHES**

Section: 09 22 16.23—Fasteners

**REPORT HOLDER:**

BLUE POINT FASTENING, INC. DBA BLUE POINT FASTENERS

**EVALUATION SUBJECT:**

BLUE POINT POWDER-ACTUATED FASTENERS AND CEILING CLIP ASSEMBLIES

**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies, described in ICC-ES evaluation report [ESR-1530](#), have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

**Applicable code editions:**

- 2020 *City of Los Angeles Building Code* (LABC)
- 2020 *City of Los Angeles Residential Code* (LARC)

**2.0 CONCLUSIONS**

The Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies, described in Sections 2.0 through 7.0 of the evaluation report [ESR-1530](#), comply with the LABC Chapters 19, and the LARC, and are subjected to the conditions of use described in this supplement.

**3.0 CONDITIONS OF USE**

The Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies described in this evaluation report must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-1530](#).
- The design, installation, conditions of use and identification of the Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-1530](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- Under the LARC, an engineered design in accordance with LARC Section R301.1.3 must be submitted.
- The allowable load values listed in the evaluation report are for the connection of the fasteners or ceiling clip assemblies to normalweight concrete, and lightweight concrete over metal decks. The connection between the fasteners/ceiling clip assemblies and the connected members must be checked for capacity (which may govern).

This supplement expires concurrently with the report, reissued September 2021.

**DIVISION: 03 00 00—CONCRETE**

Section: 03 16 00—Concrete Anchors

**DIVISION: 05 00 00—METALS**

Section: 05 05 23—Metal Fastenings

**DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES**

Section: 06 05 23—Wood, Plastic and Composite Fastenings

**DIVISION: 09 00 00—FINISHES**

Section: 09 22 16.23—Fasteners

**REPORT HOLDER:**

BLUE POINT FASTENING, INC. DBA BLUE POINT FASTENERS

**EVALUATION SUBJECT:**

BLUE POINT POWDER-ACTUATED FASTENERS AND CEILING CLIP ASSEMBLIES

**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies, described in ICC-ES evaluation report ESR-1530, have also been evaluated for compliance with the codes noted below.

**Applicable code editions:**

- 2019 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of the State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2019 *California Residential Code* (CRC)

**2.0 CONCLUSIONS****2.1 CBC:**

The Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies, described in Sections 2.0 through 7.0 of the evaluation report ESR-1530, comply with CBC Chapter 19, 22 and 23 provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report, and the additional design and inspection requirements of CBC Chapters 16, and 17, as applicable.

**2.1.1 OSHPD:**

The Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies, described in Sections 2.0 through 7.0 of the evaluation report ESR-1530, comply with CBC amended Chapters 19 and 22 [OSHPD 1R, 2 & 5], Chapters 19A and 22A [OSHPD 1 & 4] and amended Chapter 23 [OSHPD 1, 1R, 2, 4 and 5], provided the design and installation are in accordance with the 2018 IBC provisions noted in the evaluation report, and the additional requirements in Sections 2.1.1.1 and 2.1.1.2 of this supplement:

**2.1.1.1 Verification Test Requirements:** The installation verification test loads, frequency and acceptance criteria shall be in accordance with Section 1901.3.4 [OSHPD 1R, 2 & 5] or 1910A.5 [OSHPD 1 & 4] of the CBC, as applicable.

**2.1.1.2 Conditions of Use:**

- 1 Use of power-actuated fasteners in seismic shear applications shall be in accordance with Section 1901.3.1 [OSHPD 1R, 2 & 5] or Section 1617A.1.20 [OSHPD 1 & 4].
- 2 Sill plates under nonbearing interior partitions on concrete floor slabs shall be in accordance with Section 2304.3.4 of the CBC, Item 2, Second Paragraph [OSHPD 1, 2 & 4].

**2.1.2 DSA:**

The Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies, described in Sections 2.0 through 7.0 of the evaluation report ESR-1530, comply with CBC amended Chapters 19 and 22 [DSA-SS/CC], Chapter 19A and 22A [DSA-SS] and amended Chapter 23 [DSA-SS and DSA-SS/CC], provided the design and installation are in accordance with the 2018 IBC provisions noted in the evaluation report, and the additional requirements in Sections 2.1.2.1 and 2.1.2.2 of this supplement:

**2.1.2.1 Verification Test Requirements:** The installation verification test loads, frequency and acceptance criteria shall be in accordance with Section 1909.2.7 [DSA-SS/CC] or 1910A.5 [DSA-SS] of the CBC, as applicable.

**2.1.2.2 Conditions of Use:**

- 1 Use of power-actuated fasteners in seismic shear applications shall be in accordance with Section 1617A.1.20 [DSA-SS].
- 2 Sill plates under nonbearing interior partitions on concrete floor slabs shall be in accordance with Section 2304.3.4 of the CBC, Item 2, Second paragraph [DSA-SS and DSA-SS/CC].

**2.2 CRC:**

The Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies, described in Sections 2.0 through 7.0 of the evaluation report ESR-1530, comply with the CRC, provided the design and installation are in accordance with the 2018 *International Residential Code*<sup>®</sup> (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued September 2021.

**DIVISION: 03 00 00—CONCRETE**  
**Section: 03 16 00—Concrete Anchors**

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

**DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES**  
**Section: 06 05 23—Wood, Plastic and Composite Fastenings**

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

**REPORT HOLDER:**

**BLUE POINT FASTENING, INC. DBA BLUE POINT FASTENERS**

**EVALUATION SUBJECT:**

**BLUE POINT POWDER-ACTUATED FASTENERS AND CEILING CLIP ASSEMBLIES**

**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that Blue Point power-actuated fasteners (PAFs) and ceiling clip assemblies, described in ICC-ES evaluation report [ESR-1530](#), have also been evaluated for compliance with the Chicago Construction Codes (Title 14 of the Chicago Municipal Code) as noted below.

**Applicable code editions:**

- 2019 *Chicago Building Code* (Title 14B)

**2.0 CONCLUSIONS**

The Blue Point PAFs and ceiling clip assemblies, described in Sections 2.0 through 7.0 of the evaluation report [ESR-1530](#), comply with Title 14B, and are subject to the conditions of use described in this supplement.

**3.0 CONDITIONS OF USE**

The Blue Point PAFs and ceiling clip assemblies described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-1530](#).
- The design, installation, conditions of use and identification of the Blue Point PAFs and ceiling clip assemblies are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-1530](#).
- The design, installation and inspection are in accordance with additional requirements of Chapters 16 and 17 of Title 14B, as applicable.

This supplement expires concurrently with the evaluation report, reissued September 2021.



**DIVISION: 03 00 00—CONCRETE**  
**Section: 03 16 00—Concrete Anchors**

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

**DIVISION: 06 00 00—WOODS, PLASTICS AND COMPOSITES**  
**Section: 06 05 23—Wood, Plastic and Composite Fastenings**

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

**REPORT HOLDER:**

**BLUE POINT FASTENING, INC. DBA BLUE POINT FASTENERS**

**EVALUATION SUBJECT:**

**BLUE POINT POWDER-ACTUATED FASTENERS AND CEILING CLIP ASSEMBLIES**

**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that the Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies, described in ICC-ES evaluation report ESR-1530, have also been evaluated for compliance with the codes noted below.

**Applicable code editions:**

- 2017 *Florida Building Code—Building*
- 2017 *Florida Building Code—Residential*

**2.0 CONCLUSIONS**

The Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-1530, 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-1530 for the 2015 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the Blue Point Powder-Actuated Fasteners and Ceiling Clip Assemblies has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and *Florida Building Code—Residential*.

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 September 2021.