

The following pages are an excerpt from the North American Product Technical Guide, Volume 1: Direct Fastening Technical Guide, Edition 22.

Please refer to the publication in its entirety for complete details on this product including data development, base materials, general suitability, installation, corrosion, and product specifications.

# Direct Fastening Technical Guide, Edition 22

To consult directly with a team member regarding our direct fastening products, contact Hilti's team of technical support specialists between the hours of 7:00am - 5:00pm CST.

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# 3.2.9 DRYWALL TRACK FASTENING SYSTEMS 3.2.9.1 PRODUCT DESCRIPTION

Hilti offers powder, gas and electromechanical (battery) actuated systems for attaching drywall track to concrete or steel. Powder-actuated fastening systems typically have more power than gas or battery actuated systems allowing for higher application limits with various base materials. Powderactuated fasteners range in length from 1/2" to 2-1/2" for a wide variety of applications such as drywall track attachment. Gas and battery actuated systems are focused on high volume repetitive fastenings such as drywall track to standard strength concrete or steel (1/2" to 1-5/8" fastener length).

#### **Product features**

Powder-actuated fasteners:

- Shank diameters\* of 0.138", 0.145" or 0.157" are available providing a variety of solutions depending on application requirements.
- Knurled shank fasteners available for steel applications.
- Full range of fasteners either collated or in single fastener configurations to maximize productivity.

Gas and electro-mechanical actuated fasteners:

- Shank diameter of 0.101", 0.108" and 0.118" provides ease of penetration in concrete and steel.
- Collated fastener offering for high productivity in high volume applications.
- Ideally suited for interior (drywall track), non-load bearing, nonstructural framing applications in concrete or steel.

3.2.9.1	Product description
3.2.9.2	Material specifications
3.2.9.3	Technical data
3.2.9.4	Ordering information



Collated track fasteners for concrete



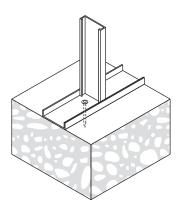
Collated track fasteners for steel

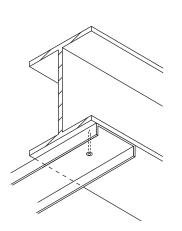


Track Fastener with Metal "Top Hat" Washer



Track Fastener with Plastic "Top Hat" Washer





# Listings/Approvals

### **ICC-ES (International Code Council)**

ESR-2269 with LABC/LARC Supplement (X-U and X-U 15)

ESR-1752 with LABC/LARC Supplement (X-S13, X-S16, X-C 22 P8TH and X-C 20 THP, X-C G2, X-C G3, X-P G2, X-P G3, X-C B3, X-P B3)

ESR-1663 with LABC/LARC Supplement (X-C, X-C 22 P8TH and X-C 20 THP)



<sup>\*</sup> X-U Universal Powder-Actuated fasteners with 0.157" shank diameter are also available for drywall track fastening and are discussed in more detail in Sections 3.2.6.



# 3.2.9.2 MATERIAL SPECIFICATIONS

Fastener designation	Fastener material	Fastener plating	Base material	Powder, gas or electro-mechanical actuated
X-S13 THP	Carbon Steel	5 μm Zinc¹	Steel	Powder-Actuated
X-S16 P8TH	Carbon Steel	5 μm Zinc¹	Steel	Powder-Actuated
X-U 15	Carbon Steel	5 μm Zinc¹	Steel	Powder-Actuated
X-C	Carbon Steel	5 μm Zinc¹	Concrete or Masonry	Powder-Actuated
X-C 39 G2	Carbon Steel	5 μm Zinc¹	Concrete or Masonry	Gas-Actuated
X-C 39 G3	Carbon Steel	5 μm Zinc¹	Concrete or Masonry	Gas-Actuated
X-S 14 G2	Carbon Steel	8-to-16 µm Zinc	Steel	Gas-Actuated
X-S 14 G3	Carbon Steel	2-to-10 µm Zinc	Steel	Gas-Actuated
X-C G2	Carbon Steel	2-to-10 µm Zinc	Concrete or Masonry	Gas-Actuated
X-C G3	Carbon Steel	5 μm Zinc¹	Concrete or Masonry	Gas-Actuated
X-P G2	Carbon Steel	2-to-10 µm Zinc	High-Strength Concrete or Steel	Gas-Actuated
X-P G3	Carbon Steel	2-to-10 µm Zinc	High-Strength Concrete or Steel	Gas-Actuated
X-S14 B3	Carbon Steel	2-to-10 µm Zinc	Steel	Electro-mechanical-Actuated
X-C B3	Carbon Steel	5 μm Zinc¹	Concrete or Masonry	Electro-mechanical-Actuated
X-P B3	Carbon Steel	2-to-10 µm Zinc	High-Strength Concrete or Steel	Electro-mechanical-Actuated

 $\,$  ASTM B633, SC 1, Type III. Refer to Section 2.3.3.1 for more information.



# 3.2.9.3 TECHNICAL DATA

#### Allowable loads in normalweight concrete<sup>1,2</sup>

					Concrete comp	ressive strength			
Fastener	Shank diameter	Minimum embedment	2000	0 psi	4000	0 psi	6000 psi		
in. (mm)	in. (mm)	Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)	Tension lb (kN)	Shear lb (kN)		
X-C 22 P8TH	0.138 (3.5)	3/4 (19.0)	55 (0.24)	130 (0.58)	90 (0.40)	170 (0.76)	100 (0.44)	200 (0.89)	
X-C G2	0.108 (2.75)	3/4 (19.0)	110 (0.49)	190 (0.85)	110 (0.49)	190 (0.85)	110 (0.49)	190 (0.85)	
X-C G3 X-C B3	0.118 (3.0)	3/4 (19.0)	110 (0.49)	190 (0.85)	110 (0.49)	190 (0.85)	110 (0.49)	190 (0.85)	
X-C 39 G2	0.404 (0.6)	5/8 (16.0)	50 (0.22)	80 (0.36)	50 (0.22)	80 (0.36)	-	-	
X-C 39 G3	0.101 (2.6)	1 (25.0)	60 (0.27)	100 (0.44)	60 (0.27)	100 (0.44)	-	-	
X-P 17 G2		5/8 (16.0)	-	-	50 (0.22)	120 (0.53)	50 (0.22)	90 (0.40)	
X-P 20 G2 X-P G3 X-P B3	0.118 (3.0)	3/4 (19.0)	80 (0.36)	120 (0.53)	50 (0.22)	120 (0.53)	50 (0.22)	90 (0.40)	

<sup>1</sup> The tabulated allowable load values are for the low-velocity fasteners only, using a safety factor that is greater than or equal to 5.0, calculated in accordance with ICC-ES AC70. Wood or steel members connected to the substrate must be investigated in accordance with accepted design criteria.

#### Allowable loads in minimum f' = 3000 psi structural lightweight concrete<sup>1,3</sup>

Fastener	Shank diameter in. (mm)	Minimum embedment in. (mm)		Allowable loads lb (kN)							
_					Installed	through steel d	eck panel into	concrete <sup>2</sup>	concrete thickness		
۲	astener locatio	n:	installed in	to concrete	Upper flute Lower flute Upper flute Lower flut			Lower flute	above deck panel		
	Load direction		Tension	Shear	Tension Shear		in.				
X-C20 THP	0.138 (3.5)	5/8 (16)	55 (0.24)	110 (0.49)	-	45 (0.20)	285 (1.27)	285 (1.27)	3-1/4		
X-C22P8TH	0.138 (3.5)	3/4 (19)	120 (0.53)	220 (0.98)	120 (0.53)	95 (0.42)	260 (1.16)	260 (1.16)	3-1/4		
X-C G2	0.100 (0.75)	3/4 (19)	110 (0.49)	140 (0.62)	75 (0.33)	85 (0.38)	175 (0.78)	215 (0.96)	2-1/2		
X-C G2	0.108 (2.75)	1 (25)	170 (0.76)	220 (0.98)	155 (0.69)	160 (0.71)	255 (1.13)	315 (1.40)	3		
X-C G3	0.110 (2.0)	3/4 (19)	115 (0.51)	140 (0.62)	75 (0.33)	85 (0.38)	175 (0.78)	215 (0.96)	2-1/2		
X-C B3	0.118 (3.0)	1 (25)	170 (0.76)	220 (0.98)	155 (0.69)	160 (0.71)	255 (1.13)	315 (1.40)	3-1/4		
X-P 17 G2 X-P 20 G2 X-P G3 X-P B3	0.118 (3.0)	5/8 (16)	60 (0.27)	140 (0.62)	60 (0.27)	60 (0.27)	175 (0.78)	215 (0.96)	2-1/2		

<sup>1</sup> The tabulated allowable load values are for the low-velocity fasteners only, using a safety factor that is greater than or equal to 5.0, calculated in accordance with ICC-ES AC70. Wood or steel members connected to the substrate must be investigated in accordance with accepted design criteria.

<sup>2</sup> Multiple fasteners are recommended for any attachment.

<sup>2</sup> The steel deck profile is 3" deep composite floor deck with a thickness of 20 gauge (0.0358"). Figure 1 (Section 3.2.1.6) shows the nominal flute dimensions, fastener locations, and load orientations for the deck profile.

<sup>3</sup> Multiple fasteners are recommended for any attachment.



# Allowable loads in minimum $f'_c$ = 3000 psi structural lightweight concrete over 1-1/2" deep, B-type steel deck<sup>1,3</sup>

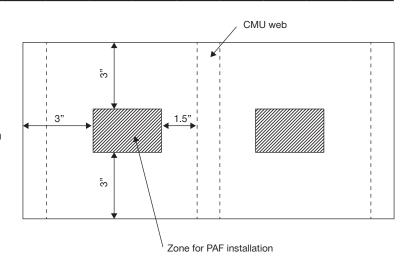
Fastener⁴	Shank diameter* in. (mm)	Minimum embedment in. (mm)		Allowable loads lb (kN)						
			Instal	led through steel d	leck panel into con	crete²	concrete thickness above			
	Fastener location:		Upper flute	Lower flute	Upper flute	Lower flute	deck panel in.			
	Load direction:			sion	Sh					
X-C22P8TH	0.138 (3.5)	3/4 (19)	90 (0.40)	110 (0.49)	295 (1.31)	295 (1.31)	2-1/2			
X-C G2	0.100 (0.75)	3/4 (19)	75 (0.33)	85 (0.38)	175 (0.78)	215 (0.96)	2-1/2			
X-U G2	0.108 (2.75)	1 (25)	155 (0.96)	160 (0.71)	255 (1.13)	270 (1.20)	3-1/4			
X-C G3	0.110 (2.0)	3/4 (19)	75 (0.33)	85 (0.38)	175 (0.78)	215 (0.96)	2-1/2			
X-C B3	0.118 (3.0)	1 (25)	155 (0.96)	160 (0.71)	255 (1.13)	315 (1.40)	3-1/4			
X-P 17 G2 X-P 20 G2 X-P G3 X-P B3	0.118 (3.0)	5/8 (16)	60 (0.27)	60 (0.27)	175 (0.78)	215 (0.96)	2-1/2			

<sup>1</sup> The tabulated allowable load values are for the low-velocity fasteners only, using a safety factor that is greater than or equal to 5.0, calculated in accordance with ICC-ES AC70. Wood or steel members connected to the substrate must be investigated in accordance with accepted design criteria.

#### Allowable loads in concrete masonry units<sup>1,2,3,4,5,7,10</sup>

Fastener	Shank diameter in. (mm)	Minimum embedment in. (mm)	CMU type, mortar type					Allowable loads lb (kN)					
	Masonry type:					CMU				Grout fil	led CMU		
	Fastener location:					Morta	r joint	Face shell <sup>6</sup> Mortar			r joint	joint Top of grouted cell <sup>8</sup>	
Load direction:			Tension	Shear <sup>9</sup>	Tension	Shear <sup>7</sup>	Tension	Shear <sup>9</sup>	Tension	Shear <sup>7</sup>	Tension	Shear <sup>9</sup>	
X-C G2	0.108	3/4	Normal weight,	75 (0.33)	140 (0.62)	60 (0.27)	80 (0.36)	100 (0.44)	170 (0.76)	100 (0.44)	160 (0.71)	80 (0.36)	130 (0.58)
X-C G2	(2.75)	(19.0)	Type N minimum	110 (0.49)	190 (0.85)	70 (0.31)	145 (0.64)	135 (0.60)	195 (0.87)	125 (0.56)	165 (0.73)	110 (0.49)	145 (0.64)
X-C 39 G2 X-C 39 G3	0.101 (2.6)	5/8 (16.0)	Normal weight, Type N minimum	60 (0.27)	110 (0.49)	45 (0.20)	65 (0.29)	85 (0.38)	110 (0.49)	55 (0.24)	105 (0.47)	-	-
X-C G3	0.118	3/4 (19.0)	Normal weight, Type N minimum	145 (0.64)	190 (0.85)	80 (0.36)	80 (0.36)	155 (0.69)	195 (0.87)	110 (0.49)	135 (0.60)	105 (0.47)	145 (0.64)
X-C B3	(3.0)	1 (25)	Normal weight, Type S minimum	185 (0.82)	205 (0.91)	105 (0.47)	105 (0.47)	205 (0.91)	215 (0.96)	135 (0.60)	190 (0.85)	120 (0.53)	150 (0.67)
X-P 17 G2 X-P 20 G2 X-P G3	0.118 (3.0)	5/8 (16.0)	Normal weight, Type S minimum	40 (0.18)	80 (0.36)	15 (0.07)	40 (0.18)	90 (0.40)	100 (0.44)	40 (0.18)	80 (0.36)	60 (0.27)	85 (0.38)

- 1 The tabulated allowable load values are for the low-velocity fastener only, using a safety factor of 5.0 or higher calculated in accordance with ICC-ES AC70. Wood or steel members connected to the substrate must be investigated in accordance with accepted design criteria.
- 2 The tabulated allowable load values are for low-velocity fasteners installed in normal weight or lightweight concrete masonry units conforming to ASTM CON
- 3 The tabulated allowable load values are for low-velocity fasteners installed in concrete masonry units with mortar conforming to ASTM C270, Type N.
- 4 The tabulated allowable load values are for low-velocity fasteners installed in concrete masonry units with grout conforming to ASTM C476, as coarse grout.
- 5 The tabulated allowable load values are for one low-velocity fastener installed in an individual masonry unit cell and at least 8" from the edge of the wall. Unless otherwise noted, multiple fasteners in a bed joint must be spaced a minimum of 8 inches.
- 6 Applicable placement zone of fastener located on the face shell is shown in the figure to the right.
- 7 Shear direction can be horizontal or vertical (Bed Joint or T-Joint) along the CMU wall plane.
- 8 Fastener located in center of grouted cell installed vertically.
- 9 Shear can be in any direction.
- 10 Multiple fasteners are recommended for any attachment.



<sup>2</sup> Steel deck profiles are 1-1/2" deep, B-type deck with a thickness of 20 gauge (0.0358"). Fasteners may be installed through the metal deck into lightweight concrete having both nominal and inverted deck profile orientations with a minimum lower flute width of 1-3/4" or 3-1/2", respectively. Fasteners shall be placed at centerline of deck flutes. Refer to Figures 2 and 3 (Section 3.2.1.6) for additional flute dimensions, fastener locations, and load orientations for both deck orientations.

<sup>3</sup> Multiple fasteners are recommended for any attachment.

<sup>4</sup> X-U Universal Powder-Actuated fasteners and X-P high performance Powder-Actuated fasteners for concrete base materials with 0.157" shank diameters are also available for drywall track fastening and are discussed in more detail in Section 3.2.6.

#### Allowable loads for fasteners driven into steel1,2,3,4,9,11,12

Fastener	Shank diameter in. (mm)		Allowable loads lb (kN)										
Steel thickness	(inch):	1/8 3/16		16	1/	<b>'</b> 4	3/8		1/2		3/4		
Load directi	on:	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
X-S13 THP	0.145 (3.7)	140 <sup>10</sup> (0.62)	300 (1.33)	300 <sup>10</sup> (1.33)	450 (2.00)	300 <sup>10</sup> (1.33)	450 (2.00)	300 <sup>10</sup> (1.33)	450 (2.00)	-	-	-	-
X-S16P8TH <sup>13</sup>	0.145 (3.7)	-	-	315 (1.40)	480 (2.14)	315 (1.40)	480 (2.14)	315 (1.40)	530 (2.36)	315 (1.40)	480 (2.14)	-	-
X-U 15	0.145 (3.7)	-	-	155 (0.69)	395 (1.76)	230 (1.02)	395 (1.76)	420 (1.87)	450 (2.00)	365 <sup>7</sup> (1.62)	500 <sup>7</sup> (2.22)	365 <sup>7</sup> (1.62)	400 <sup>7</sup> (1.78)
X-S 14 G3 X-S 14 B3	0.118 (3.0)	140 (0.62)	230 (1.02)	220 (0.98)	245 (1.09)	225 (1.00)	290 (1.29)	280 (1.25)	330 (1.47)	280 (1.25)	330 (1.47)	280 (1.25)	330 (1.47)
X-S 14 G3 <sup>5, 6</sup> X-S 14 B3 <sup>5, 6</sup>	0.118 (3.0)	-	-	220 (0.98)	295 (1.31)	260 (1.16)	355 (1.58)	280 (1.25)	385 (1.71)	280 (1.25)	385 (1.71)	280 (1.25)	385 (1.71)
X-P G3 X-P B3	0.118 (3.0)	125 <sup>10</sup> (0.56)	230 (1.02)	170 <sup>10</sup> (0.76)	245 (1.09)	200 <sup>10</sup> (0.89)	230 (1.02)	250 <sup>10</sup> (1.11)	255 (1.13)	-	-	-	-
X-P 17 G2	0.118 (3.0)	-	-	140 (0.62)	220 (0.98)	180 (0.80)	200 (0.89)	225 (1.00)	220 (0.98)	-	-	-	-
X-S 14 G2	0.118 (3.0)	-	-	-	-	215 (0.96)	290 (1.29)	150 <sup>8</sup> (0.67)	195 <sup>8</sup> (0.87)	130 <sup>8</sup> (0.58)	150 <sup>8</sup> (0.67)	130 <sup>8</sup> (0.58)	150 <sup>8</sup> (0.67)

- The tabulated allowable load values are for the low-velocity fasteners only, using a safety factor that is greater than or equal to 5.0, calculated in accordance with ICC-ES AC70. Wood or steel members connected to the substrate must be in investigated in accordance with accepted design criteria.
- Unless otherwise noted, allowable loads are applicable to static and seismic loads in accordance with Annex A of ICC-ES AC70.
- Low-velocity fasteners shall be driven to where the point of the fastener penetrates through the steel base material in accordance with Section 3.2.2.3, except as noted in this table.
- Unless otherwise noted, steel base material must have minimum yield and tensile strengths (F, and Fu) equal to 36 ksi and 58 ksi, respectively.
- Steel base material must have minimum yield and tensile strengths (F<sub>v</sub> and F<sub>u</sub>) equal to 50 ksi and 65 ksi, respectively.
- Fasteners installed into 3/8" or thicker base steel require 0.320" minimum penetration depth.
- Based upon minimum penetration depth into the steel of 15/32".
- Based upon minimum penetration depth into the steel of 1/4".
- Refer to guidelines for fastening to steel, Section 3.2.2, for application limits.
- For steel-to-steel connections designed in accordance with Section J5 of AISI S100, the tabulated allowable load may be increased by a factor of 1.25. 10
- Refer to guidelines for fastening to steel, Section 3.2.2, for application limits. 11
- Multiple fasteners are recommended for any attachment.
- Published values may vary from values in ICC-ESR

#### Allowable tensile pullover and shear bearing load capacities for steel framing with power-driven fasteners<sup>1,2,3,4</sup>

	Observato	Head						Sheet	steel thi	ckness	lb (kN)					
Fastener	Shank diameter	diameter	14 (	ga.	16 (	ga.	180	ga.	20 (	ga.	22 (	ga.	24 (	ga.	25/20	6 ga.
	in. (mm)	in. (mm)	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear
X-C G3 X-C B3 X-S 14 G3 X-S 14 B3 X-P G3 X-P B3	0.118 (3.0)	0.276 (7.0)	-	-	-	-	325 (1.45)	390 (1.73)	265 (1.18)	335 (1.49)	250 (1.11)	235 (1.05)	170 (0.76)	185 (0.82)	100 (0.44)	125 (0.56)
X-C 22 P8TH X-C 20 THP	0.138 (3.5)	0.322 (8.2)	-	860 (3.83)	685 (3.05)	715 (3.18)	490 (2.18)	465 (2.07)	360 (1.60)	375 (1.67)	300 (1.33)	265 (1.18)	205 (0.91)	200 (0.89)	120 (0.53)	130 (0.58)
X-S13 THP	0.145 (3.7)	0.322 (8.2)	-	985 (4.38)	685 (3.05)	720 (3.20)	490 (2.18)	515 (2.29)	360 (1.60)	440 (1.96)	300 (1.33)	310 (1.38)	205 (0.91)	235 (1.05)	120 (0.53)	145 (0.64)
X-S16P8TH X-U 15	0.145 (3.7)	0.322 (8.2)	-	-	940 (4.18)	940 (4.18)	785 (3.49)	685 (3.05)	625 (2.78)	550 (2.45)	510 (2.27)	465 (2.07)	390 (1.73)	365 (1.62)	335 (1.49)	315 (1.40)

- Allowable load values are based on a safety factor of 3.0.
- Allowable pullover capacities of sheet steel should be compared to the allowable fastener tensile load capacities in concrete, steel, and masonry to determine controlling resistance load.
- Allowable shear bearing capacities of sheet steel should be compared to allowable fastener shear capacities in concrete, steel or masonry to determine controlling resistance load. Data is based on the following minimum sheet steel properties, F<sub>y</sub> = 33 ksi, F<sub>u</sub> = 45 ksi (ASTM A653 material).



# 3.2.9.4 ORDERING INFORMATION

# Powder-actuated (concrete)

Fastener description	Shank length in.(mm)	Shank diameter in.(mm)	Washer diameter	Packaging quantity
X-C 20 THP	3/4 (20)	0.138 (3.5)	8 mm plastic tophat	1000 pcs/box
X-C 22 TH	7/8 (22)	0.138 (3.5)	8 mm metal tophat	1000 pcs/box
X-C 20 MX	3/4 (20)	0.138 (3.5)	Collated	1000 pcs/box

# Powder-actuated (steel)

Fastener description	Shank length in.(mm)	Shank diameter in.(mm)	Washer diameter	Packaging quantity
X-S13 THP	1/2 (13)	0.145 (3.7)	8 mm plastic tophat	100 or 1000 pcs/box
X-S13 MX	1/2 (13)	0.145 (3.7)	Collated	1000 pcs/box
X-S16 TH	5/8 (16)	0.145 (3.7)	8 mm metal tophat	1000 pcs/box
X-U 15 TH	5/8 (16)	0.145 (3.7)	8 mm metal tophat	1000 pcs/box
X-U 15 MX	5/8 (16)	0.145 (3.7)	Collated	1000 pcs/box

# Gas-actuated (concrete)

Fastener description	Shank length in.(mm)	Shank diameter in.(mm)	Washer diameter	Packaging quantity
X-C 20 G2 MX	3/4 (20)	0.108 (2.75)	Collated	1100 pcs/box
X-C 27 G2 MX	1 (27)	0.108 (2.75)	Collated	1100 pcs/box
X-C 32 G2 MX	1-1/4 (32)	0.108 (2.75)	Collated	1100 pcs/box
X-C 39 G2 MX	1-1/2 (39)	0.102 (2.6)	Collated	1100 pcs/box
X-C 20 G3 MX	3/4 (20)	0.118 (3.0)	Collated	900 pcs/box
X-C 27 G3 MX	1 (27)	0.118 (3.0)	Collated	900 pcs/box
X-C 32 G3 MX	1-1/4 (32)	0.118 (3.0)	Collated	900 pcs/box
X-C 39 G3 MX	1-1/2 (39)	0.102 (2.75)	Collated	900 pcs/box
X-P 17 G2 MX	11/16 (17)	0.118 (3.0)	Collated	1100 pcs/box
X-P 20 G2 MX	3/4 (20)	0.118 (3.0)	Collated	1100 pcs/box
X-P 17 G3 MX	11/16 (17)	0.118 (3.0)	Collated	900 pcs/box
X-P 20 G3 MX	3/4 (20)	0.118 (3.0)	Collated	900 pcs/box

# Gas-actuated (Steel)

Fastener description	Shank length in.(mm)	Shank diameter in.(mm)	Washer diameter	Packaging quantity
X-S 14 G3 MX	1/2 (14)	0.118 (3.0)	Collated	1000 pcs/box
X-P 17 G3 MX	11/16 (17)	0.118 (3.0)	Collated	900 pcs/box
X-P 20 G3 MX	3/4 (20)	0.118 (3.0)	Collated	900 pcs/box
X-S 14 G2 MX	1/2 (14)	0.118 (3.0)	Collated	1100 pcs/box
X-P 17 G2 MX	11/16 (17)	0.118 (3.0)	Collated	1100 pcs/box

# **Electro-Mechanical Actuated (Concrete)**

Fastener description	Shank length in.(mm)	Shank diameter in.(mm)	Washer diameter	Packaging quantity
X-C 20 B3 MX	3/4 (20)	0.118 (3.0)	Collated	1000 pcs/box
X-C 24 B3 MX	15/16 (24)	0.118 (3.0)	Collated	1000 pcs/box
X-P 17 B3 MX	11/16 (17)	0.118 (3.0)	Collated	400 or 1000 pcs/box
X-P 20 B3 MX	3/4 (20)	0.118 (3.0)	Collated	400 or 1000 pcs/box
X-P 24 B3 MX	15/16 (24)	0.118 (3.0)	Collated	400 or 1000 pcs/box

# **Electro-Mechanical Actuated (Steel)**

Fastener description	Shank length in.(mm)	Shank diameter in.(mm)	Washer diameter	Packaging quantity
X-S 14 B3 MX	1/2 (14)	0.118 (3.0)	Collated	400 or 1000 pcs/box
X-P 17 B3 MX	11/16 (17)	0.118 (3.0)	Collated	400 or 1000 pcs/box
X-P 20 B3 MX	3/4 (20)	0.118 (3.0)	Collated	400 or 1000 pcs/box
X-P 24 B3 MX	15/16 (24)	0.118 (3.0)	Collated	400 or 1000 pcs/box