



# Hilti X-P P8 Universal Nails

## Submission Folder

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## High-performance single nail for use with powder-actuated tools on concrete X-P P8

### APPLICATIONS

- Fastening on hard concrete
- Fastening wood to concrete
- Setting up formwork and safety barriers
- Installing suspended components, e.g. ceiling frames or pipes, on hard concrete
- Fastening installation channels on roof beams and ceilings
- Fastening flexible conduits, rigid conduits and cables to ceilings, walls and floors

### ADVANTAGES

- Best driving success and holding rate on hard concrete, for higher productivity and cost savings
- Highest hardness (59 HRC) for best penetration in hard concrete
- Long conical nail tip designed for best drivability in hard concrete
- Highest load-bearing performance on hard concrete
- Optimised for use with Hilti tools - helps secure sufficient energy for driving deeply, e.g. up to 1 1/2" embedment
- Available in lengths up to 72 mm (2 13/16")

### Technical data

<b>Material coating/plating/finish</b>	Zinc-plated, min. 5 microns
<b>Material composition</b>	Carbon steel HRC 59
<b>Point type</b>	Hammered
<b>For use with</b>	DX 2, DX 5, DX 351

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## High performance nail X-P P8



Ordering designation	Fastener shank length	Sales pack quantity	Item number
X-P 22 P8	22 mm	100 pc	2150366
X-P 27 P8	27 mm	100 pc	2150367
X-P 34 P8	34 mm	100 pc	2150368
X-P 40 P8	40 mm	100 pc	2150369
X-P 47 P8	47 mm	100 pc	2173875
X-P 52 P8	52 mm	100 pc	2173876 <sup>1)</sup>
X-P 57 P8	57 mm	100 pc	2173877 <sup>1)</sup>
X-P 62 P8	62 mm	100 pc	2173878 <sup>1)</sup>
X-P 72 P8	72 mm	100 pc	2173879 <sup>1)</sup>

<sup>1)</sup> For detailed stock availability and lead time information please contact your Hilti representative.

Please visit [Hilti website](#) for the latest item numbers and related products

## Powder-actuated tool DX 5 **NEW**



### APPLICATIONS

- Fastening wood to concrete, sand-lime block or steel
- Fastening sheet metal to concrete, sand-lime block or steel
- Attaching drainage foils and membranes to concrete or CMU block
- Installing wall or brick ties
- Fastening various items such as cable conduits and cable ties to steel and concrete in electrical installation work

### ADVANTAGES

- Easy to use and maintain
- Compact, sleek design allows access in narrow spaces
- Ergonomically designed grip and tool nose
- Maximum nail length 62 mm, or 72 mm for wood-to-concrete applications

### Technical data

<b>Power (max.)</b>	325 J
<b>Weight</b>	3.37 kg
<b>Base materials</b>	Concrete, Steel
<b>Automatic piston return</b>	Yes
<b>Noise (pressure) level at work station: LpA, 1s<sup>1)</sup></b>	101 dB (A)
<b>Dimensions (LxWxH)</b>	478 x 72 x 180 mm
<b>Max. fastener driving rate</b>	450 / h
<b>Cartridge type</b>	6.8/11 M10
<b>Fastener intake</b>	Single
<b>Fastener length range</b>	12 - 72 mm

<sup>1)</sup> Declared measured values of noise characteristics according to 2006/42/EC Machinery Directive in conjunction with E DIN EN 15895



2

3

3

Fleet Management

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Ordering designation	Package contents	Sales pack quantity	Item number
DX 5 F8	1x Basic unit DX 5_01, 1x Fastener guide X-5-460-F8 assy, 1x Piston X-5-460-P8, 1x Cleaning kit X-5-460-Clean, 1x Case	1 pc	3612972

Please visit Hilti website for the latest item numbers and related products

## DX cartridge 6.8/11 M10

### APPLICATIONS

- For use with DX 2, DX 5, DX 460, DX 351, DX 450, DX 36, DX A40, DX A41



















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Ordering designation	Cartridge type	Cartridge power level	Sales pack quantity	Item number
6.8/11 M10 red	.27 calibre short	Heavy	100 pc	416474
6.8/11 M10 yellow	.27 calibre short	Medium-light	100 pc	416473

Please visit Hilti website for the latest item numbers and related products

## Accessories for DX 460 &amp; DX 5

Ordering designation		Sales pack quantity	Item number
Buffer X-5-460-B		1 pc	373330 <sup>1)</sup>
Fastener guide X-5-460-F10		1 pc	373319 <sup>1)</sup>
Fastener guide X-5-460-F8		1 pc	304529
Fastener guide X-5-460 F8GR		1 pc	386012 <sup>1)</sup>
Fastener guide X-5-460 F8N15		1 pc	304530 <sup>1)</sup>
Fastener guide X-5-460-F8S12		1 pc	373317 <sup>1)</sup>
Fastener guide X-5-460-F8SS		1 pc	373318 <sup>1)</sup>
Piston X-5-460-P10		1 pc	373300 <sup>1)</sup>
Piston X-5-460-P8		1 pc	373297
Piston X-5-460-P8W		1 pc	373298 <sup>1)</sup>
Piston X-5-460-PGR		1 pc	305448 <sup>1)</sup>
Protective cap X-SGF		1 pc	304416
Washer holder X-5-460-WH23/36 packed		1 pc	373331 <sup>1)</sup>
Pole Tool X-PT 7ft for DX 5		1 pc	3579594
Receptacle X-PT 5 assy		1 pc	2150263
Cleaning kit DX-5-460		1 pc	372810

<sup>1)</sup> For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

## Powder-actuated tool DX 351



### APPLICATIONS

- Quick and convenient for fastening applications such as drywall track attachment, electrical, plumbing and HVAC installation work
- Installing threaded studs to concrete or steel
- Fastening suspended ceilings

### ADVANTAGES

- Automatic piston return and cartridge advance
- Very user-friendly: light, low recoil, low noise
- Pole tool available for overhead applications



Fleet Management

### Technical data

Power (max.)	245 J
Weight	2.2 kg
Base materials	Concrete, Steel
Automatic piston return	Yes
Noise (pressure) level at work station: LpA, 1s <sup>1)</sup>	99 dB (A)
Dimensions (LxWxH)	404 x 56 x 164 mm
Max. fastener driving rate	700 / h
Cartridge type	6.8/11 M10
Fastener intake	Single
Fastener length range	12 - 47 mm

<sup>1)</sup> Declared measured values of noise characteristics according to 2006/42/EC Machinery Directive in conjunction with E DIN EN 15895



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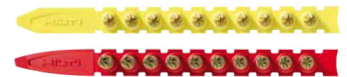
Ordering designation	Package contents	Sales pack quantity	Item number
DX 351 M+E	1x Powder-actuated tool DX 351 M+E, 1x Piston X-P8S-351, 1x Fastener guide X-FG8ME351 assy, 1x Cleaning kit DX 351, 1x Case	1 pc	373182

Please visit Hilti website for the latest item numbers and related products

## DX cartridge 6.8/11 M10

### APPLICATIONS

- For use with DX 2, DX 5, DX 460, DX 351, DX 450, DX 36, DX A40, DX A41









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Ordering designation	Cartridge type	Cartridge power level	Sales pack quantity	Item number
6.8/11 M10 red	.27 calibre short	Heavy	100 pc	416474
6.8/11 M10 yellow	.27 calibre short	Medium-light	100 pc	416473

Please visit Hilti website for the latest item numbers and related products

## Accessories for DX 351

Ordering designation		Sales pack quantity	Item number
Fastener guide X-FG8ME351		1 pc	362174 <sup>1)</sup>
Piston X-P8S-351 packed		1 pc	406929
Protective cap X-SGF		1 pc	304416
Pole Tool X-PT 7ft for DX 351		1 pc	3579452
Receptable X-PT351		1 pc	333312
Cleaning kit DX 351		1 pc	2003832

<sup>1)</sup> For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

## Semi-automatic powder-actuated tool DX 2 **NEW**



### APPLICATIONS

- Attaching drywall framing to concrete
- Fastening wood to concrete and steel
- Attaching kicker plates to concrete

### ADVANTAGES

- Easy to use and maintain
- Compact, sleek design allows access in narrow spaces
- Ergonomically designed grip and tool nose
- Maximum nail length 62 mm, or 72 mm for wood-to-concrete applications



Fleet Management



### Technical data

Power (max.)	245 J
Weight	2.4 kg
Base materials	Concrete, Steel
Automatic piston return	No
Noise (pressure) level at work station: LpA, 1s <sup>1)</sup>	104 dB (A)
Dimensions (LxWxH)	345 x 50 x 157 mm
Max. fastener driving rate	450 / h
Cartridge type	6.8/11 .27 calibre short, 6.8/11 M10
Fastener intake	Single
Fastener length range	14 - 62 mm

<sup>1)</sup> Declared measured values of noise characteristics according to 2006/42/EC Machinery Directive in conjunction with E DIN EN 15895



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Ordering designation	Package contents	Sales pack quantity	Item number
DX 2	1x Powder-actuated tool DX 2, 1x Round brush 5/8, 1x Round brush, 1x Spares pack DX 2 packed, 1x Case	1 pc	2084169

Please visit Hilti website for the latest item numbers and related products

## DX cartridge 6.8/11 M10

### APPLICATIONS

- For use with DX 2, DX 5, DX 460, DX 351, DX 450, DX 36, DX A40, DX A41












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Ordering designation	Cartridge type	Cartridge power level	Sales pack quantity	Item number
6.8/11 M10 red	.27 calibre short	Heavy	100 pc	416474
6.8/11 M10 yellow	.27 calibre short	Medium-light	100 pc	416473

Please visit Hilti website for the latest item numbers and related products







## Accessories for DX 2

Ordering designation		Sales pack quantity	Item number
<b>Piston DX 2 kit</b> 1 x piston 2/DNI, 1 x spring clip DX 2		1 pc	2103082
<b>Spares pack DX 2 packed</b> 2x spring clip, 2x ball, 1x piston lock		1 pc	2094647
<b>Fastener guide X-2-F8 packed</b>		1 pc	2094644 <sup>1)</sup>
<b>Baseplate X-2-S packed</b>		1 pc	2094645 <sup>1)</sup>
<b>Piston guide DX 2 packed</b>		1 pc	2094646 <sup>1)</sup>
<b>Stabilizer plate X-2-STAB packed</b>		1 pc	2094648 <sup>1)</sup>
<b>Pole Tool X-PT 7ft for DX 2</b>		1 pc	3579451
<b>Receptacle X-PT 2</b>		1 pc	2094657
<b>Cleaning kit DX 2</b> 3x metal cleaning brush, 1x black cleaning cloth		1 pc	2097040

<sup>1)</sup> For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

## Other Accessories for DX tools

Ordering designation		Sales pack quantity	Item number
<b>Pipe X-PT 1ft</b>		1 pc	254685
<b>Pipe X-PT 3ft</b>		1 pc	254684
<b>Grip section X-PT assy</b>		1 pc	254687
<b>Tool bag X-PT CT</b>		1 pc	388152
<b>Spray 66ml</b>		1 pc	308976
<b>Safety glasses PP EY-CA NCH clear</b>		1 pc	2065449 <sup>1)</sup>

<sup>1)</sup> For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products



## X-P Nail for fastening steel to concrete

### Application recommendation

#### Fastened material properties and fastener positioning in fastened material

	Fastened material	Steel
	Fastened material thickness $t_f$	0.6–2 mm
	Edge distance $c_{1,min}$ , $c_{2,min}$	20 mm
	Fastener spacing $s_{1,min}$ , $s_{2,min}$	100 mm

#### Base material properties and fastener positioning in base material

	Base material	Concrete
	Base material thickness $h_{min}$	80 mm
	Edge distance $c_{1,min}$ , $c_{2,min}$	70 mm
	Fastener spacing $s_{1,min}$ , $s_{2,min}$	100 mm

#### Fastener shank length recommendation

	For standard fastening:	$L_s = h_{ET} + t_f$

### Performance data

#### Recommended resistance under tension and shear load

Embedment depth $h_{ET}$	Tension load $N_{rec}$		Shear load $V_{rec}$	
	Soft/medium concrete	Tough concrete	Soft/medium concrete	Tough concrete
$\geq 18$ mm	0.20 kN	0.10 kN	0.40 kN	0.20 kN
$\geq 20$ mm	0.30 kN	0.15 kN	0.50 kN	0.30 kN
$\geq 25$ mm	0.40 kN	0.20 kN	0.80 kN	0.40 kN

- Redundancy of fastening points is required.
- Minimum number of fastening points for safety relevant fastenings:  $\geq 5$ .
- For more details in relation to base material properties, please refer to the chapter **Fastener selection guide** in the Direct Fastening Technology Manual (DFTM).

#### Stick rate estimation

	Designation	Soft/medium concrete	Tough concrete
		X-P	84–92 %

- The stick rate indicates the percentage of nails that were driven correctly to carry a load.
- Stick rate can vary from the above values depending on job site conditions.

### System recommendation



- For more details, please refer to the chapter **Accessories and consumables compatibility** in the Direct Fastening Technology Manual (DFTM).

#### System recommendation for fastening collated nails with powder-actuated tools

Designation	Powder-actuated tool							Base material		
	DX 6 MX	DX 5 MX	DX 460 MX	DX 351 MX				Soft concrete	Medium concrete	Tough concrete
X-P 22 MX to X-P 34 MX	■	□	□	□				■	■	■

■ = recommended □ = feasible

#### System recommendation for fastening single nails with powder-actuated tools

Designation	Powder-actuated tool						Base material			
	DX 6 F8	DX 5 F8	DX 460 F8	DX351 F8	DX 2			Soft concrete	Medium concrete	Tough concrete
X-P 22 P8 to X-P 34 P8	■	□	□	□				■	■	■
X-P 22 P8 to X-P 34 P8					■			■	■	□

■ = recommended □ = feasible

### Cartridge recommendation

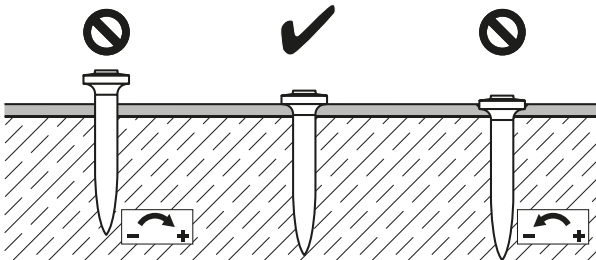
Base material		Cartridge color (tool power level)	
		Tool type: DX 6 MX	Tool type: DX 5 MX, DX 460 MX DX 351 MX <sup>1)</sup>
		DX 6 F8	DX 5 F8, DX 460 F8, DX 351 F8 <sup>1)</sup> , DX 2 <sup>1)</sup>
		Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M
S235 to S355	4 ≤ tll < 6 mm	titanium ■ (1-5)	green ■, yellow ■
	6 ≤ tll ≤ 10 mm	titanium ■ (4-8), black ■ (6-8)	red ■, black ■
Soft/medium concrete		titanium ■ (1-8)	green ■, yellow ■, red ■
Tough concrete		titanium ■ (4-8), black ■ (6-8)	red ■, black ■

<sup>1)</sup> Black cartridges do not apply for this tool.

- Tool power level adjustment by setting tests on site.
- Start tool energy selection with lowest recommended tool power level.
- Correct according requirement from chapter quality assurance.

### Quality assurance

#### Setting depth control and power tool adjustment



- Visible setting failures must be replaced with a new fastener, not in the same hole.
- These are abbreviated instructions which may vary by application.
- Always review/follow the instructions accompanying the product.



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香港土力混凝土工程有限公司  
九龍紅磡高山道六號地下  
電話：852-2365 9123

## TEST REPORT

### HILTI (Hong Kong) Ltd

701-704, 7/F, Tower A, Manulife Financial Center,  
223 Wai Yip Street, Kwun Tong, Kowloon

### Shear Load Test on Fastened Nail

**Nail Type : X-P27 P8**  
**(Sample 1 to Sample 3) (Grade C30)**

**Ref. Standard : Guideline based on ASTM E1190 : 2011**

**Date of Testing: 19-01-2018**

Checked By :

  
Technical Officer

Approved Signatory :

  
MONG SENG MING  
Technical Manager

Issued Date : 22-Jan-2018

Page 1 of 2

Report No.: GCD180144055



### Shear Load Test on Fastened Nail

Customer : Hilti (Hong Kong) Ltd	Report No. : GCD180144055
Address : 701-704, 7/F, Tower A,	Test Date : 19-01-2018
: Manulife Financial Center,	Report Date : 22-01-2018
: 223, Wai Yip Street, Kwun Tong, Kowloon	Page No. : Page 2 of 2
Project : -	Test method. : Guideline based
Test Location : 4A-1, Lin Tong Mei, Sheung Shui	on ASTM E1190: 11
Type of Nail : X-P27 P8	GCE Reg. No. : GCE180161
	Test Unit No. : MI18036

Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>	Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>
1	9.56	F2	16	12.99	F2
2	9.84	F2	17	11.73	F2
3	9.95	F2	18	9.79	F2
4	9.56	F2	19	8.66	F2
5	9.18	F2	20	9.71	F2
6	9.90	F2	21	12.58	F2
7	8.93	F2	22	9.77	F2
8	8.37	F2	23	6.93	F2
9	8.88	F2	24	8.67	F2
10	8.06	F2	25	8.03	F2
11	10.32	F2	26	8.60	F2
12	10.31	F2	27	5.72	F2
13	8.54	F2	28	9.09	F2
14	8.07	F2	29	8.49	F2
15	7.53	F2	30	12.81	F2

Minimum failure load (kN)	5.72
Maximum failure load (kN)	12.99
Average failure load (kN)	9.35
Standard deviation (kN)	1.62

**Notes :**

A) Test Apparatus : Pull off tester S/N : 1-0235

B) Structural member : Grade 30/10D Age at test : 50 days

C) Embedment depth 25mm

D) Fixture thickness 2mm

E) Edge distance 60mm

F) Nail spacing 100mm

G) Nail length 27mm

H) Fastener information

Fastening tool : DX 5 S/N : 21966

Cartridge : 6.8 / 11 M10 Red Performance Setting : 3.0

I) Failure Modes P = No sign of nail failure and/or structural member F1 = Breaking of nail

F2 = Failure in structural member in a shear cone F3 = Pull out of nail

F4 = Sign of any separation, plastic deformation or deleterious effect on nail

F5 = Failure in structural member with crack radiates outward from nail

F6 = Other failure mode(s) :

J) Loading rate Uniform rate with ultimate strength of the nail is reached in no less than 30 .

Tested By :                     K.K. Wong                    

Checked By :                     *[Signature]*                    

Approved Signatory :                     *[Signature]*                    

Position : **MONG SENG MING**  
: Technical Manager



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## TEST REPORT

### HILTI (Hong Kong) Ltd

701-704, 7/F, Tower A, Manulife Financial Center,  
223 Wai Yip Street, Kwun Tong, Kowloon

### Tensile Load Test on Fastened Nail

**Nail Type : X-P27 P8**  
**(Sample 1 to Sample 30)**

**Ref. Standard : Guideline based on ASTM E1190 : 2011**

**Date of Testing: 28-12-2017**

Checked By :

  
\_\_\_\_\_  
Technical Officer

Approved Signatory :

  
\_\_\_\_\_  
MONG SENG MING  
Technical Manager

Issued Date : 30-Dec-2017

Page 1 of 2

Report No.: GCD171200713



## Tensile Load Test on Fastened Nail

Customer : Hilti (Hong Kong) Ltd	Report No. : GCD171200713
Address : 701-704, 7/F, Tower A, : Manulife Financial Center, : 223, Wai Yip Street, Kwun Tong, Kowloon	Test Date : 28-12-2017 Report Date : 30-12-2017 Page No. : Page 2 of 2 Test method. : Guideline based : on ASTM E1190: 11
Project : -	GCE Reg. No. : GCE172565
Test Location : 4A-1, Lin Tong Mei, Sheung Shui	Test Unit No. : MI17268
Type of Nail : X-P27 P8	

Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>	Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>
1	6.35	F2	16	6.54	F2
2	6.99	F2	17	6.89	F2
3	7.41	F2	18	6.13	F2
4	8.95	F2	19	6.56	F2
5	7.14	F2	20	6.81	F2
6	7.94	F2	21	6.95	F2
7	5.89	F2	22	7.14	F2
8	5.93	F2	23	6.13	F2
9	6.57	F2	24	6.56	F2
10	6.13	F2	25	6.02	F2
11	7.28	F2	26	5.87	F2
12	6.85	F2	27	6.93	F2
13	7.15	F2	28	6.37	F2
14	6.49	F2	29	6.29	F2
15	5.87	F2	30	6.46	F2

Minimum failure load (kN)	5.87
Maximum failure load (kN)	8.95
Average failure load (kN)	6.69
Standard deviation (kN)	0.67

<b>Notes :</b>	A) Test Apparatus : Pull off tester	S/N :	1-1834
	B) Structural member : Grade 30/10D	Age at test :	28 days
	C) Embedment depth	25mm	
	D) Fixture thickness	2mm	
	E) Edge distance	60mm	
	F) Nail spacing	100mm	
	G) Nail length	27mm	
	H) Fastener Information		
	Fastening tool :	DX 5	S/N : 21966
	Cartridge :	6.8 / 11 M10 Red	Performance Setting : 3.0
I) Failure Modes	P = No sign of nail failure and/or structural member		F1 = Breaking of nail
	F2 = Failure in structural member in a shear cone		F3 = Pull out of nail
	F4 = Sign of any separation, plastic deformation or deleterious effect on nail		
	F5 = Failure in structural member with crack radiates outward from nail		
	F6 = Other failure mode(s) :		
J) Loading rate	Uniform rate with ultimate strength of the nail is reached in no less than 30s.		

Tested By : K.K. Wong

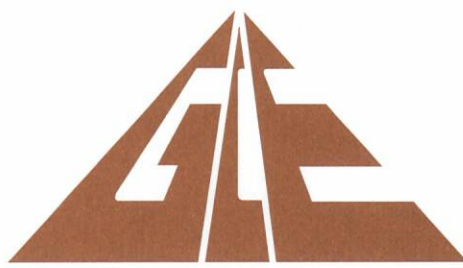
Approved Signatory :

Checked By : \_\_\_\_\_

Position : **MONG SENG MING**  
: Technical Manager

From No. PHY-MTS/RF397r (01-12-2017)





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電話：852-2365 9123

## TEST REPORT

### HILTI (Hong Kong) Ltd

701-704, 7/F, Tower A, Manulife Financial Center,  
223 Wai Yip Street, Kwun Tong, Kowloon

### Shear Load Test on Fastened Nail

**Nail Type : X-P22 P8**  
**(Sample 1 to Sample 30)**

**Ref. Standard : Guideline based on ASTM E1190 : 2011**

**Date of Testing: 18 & 19-01-2018**

Checked By :

  
Technical Officer

Approved Signatory :

  
MONG SENG MING  
Technical Manager

Issued Date : 22-Jan-2018

Page 1 of 2

Report No.: GCD180142817



### Shear Load Test on Fastened Nail

Customer : Hilti (Hong Kong) Ltd	Report No. : GCD180142817
Address : 701-704, 7/F, Tower A,	Test Date : 18 & 19-01-2018
: Manulife Financial Center,	Report Date : 27-12-2017
: 223, Wai Yip Street, Kwun Tong, Kowloon	Page No. : Page 2 of 2
Project : -	Test method. : Guideline based
Test Location : 4A-1, Lin Tong Mei, Sheung Shui	on ASTM E1190: 11
Type of Nail : X-P22 P8	GCE Reg. No. : GCE180161
	Test Unit No. : MI18036

Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>	Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>
1	8.82	F2	16	9.66	F2
2	8.54	F2	17	8.10	F2
3	9.09	F2	18	8.72	F2
4	7.73	F2	19	8.61	F2
5	7.66	F2	20	7.71	F2
6	8.20	F2	21	7.34	F2
7	8.97	F2	22	7.53	F2
8	6.42	F2	23	6.76	F2
9	5.89	F2	24	8.01	F2
10	8.25	F2	25	5.83	F2
11	8.58	F2	26	7.00	F2
12	9.02	F2	27	4.66	F2
13	8.73	F2	28	6.87	F2
14	9.44	F2	29	7.60	F2
15	10.32	F2	30	6.90	F2

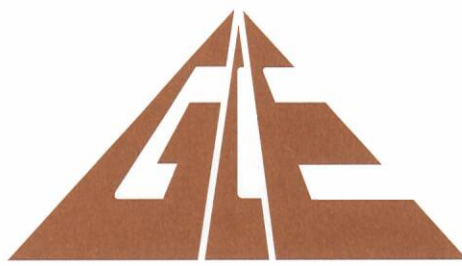
Minimum failure load (kN)	4.66
Maximum failure load (kN)	10.32
Average failure load (kN)	7.90
Standard deviation (kN)	1.24

**Notes :**

A) Test Apparatus :	Pull off tester	S/N :	1-1834
B) Structural member :	Grade 30/10D	Age at test :	49 days
C) Embedment depth	20mm		
D) Fixture thickness	2mm		
E) Edge distance	60mm		
F) Nail spacing	100mm		
G) Nail length	22mm		
H) Fastener information			
Fastening tool :	DX 5	S/N :	21966
Cartridge :	6.8 / 11 M10 Red	Performance Setting :	3.0
I) Failure Modes	P = No sign of nail failure and/or structural member	F1 = Breaking of nail	
	F2 = Failure in structural member in a shear cone	F3 = Pull out of nail	
	F4 = Sign of any separation, plastic deformation or deleterious effect on nail		
	F5 = Failure in structural member with crack radiates outward from nail		
	F6 = Other failure mode(s) :		
J) Loading rate	Uniform rate with ultimate strength of the nail is reached in no less than 30 .		

Tested By : \_\_\_\_\_ K.K. Wong \_\_\_\_\_  
 Checked By : \_\_\_\_\_ \_\_\_\_\_

Approved Signatory : \_\_\_\_\_ \_\_\_\_\_  
 Position : \_\_\_\_\_ MONG SENG MING \_\_\_\_\_  
 : Technical Manager



GEOTECHNICS & CONCRETE ENGINEERING (H. K.) LTD.  
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香港土力混凝土工程有限公司  
九龍紅磡高山道六號地下  
電話：852-2365 9123

## TEST REPORT

### HILTI (Hong Kong) Ltd

701-704, 7/F, Tower A, Manulife Financial Center,  
223 Wai Yip Street, Kwun Tong, Kowloon


### Tensile Load Test on Fastened Nail

**Nail Type : X-P22 P8**  
**(Sample 1 to Sample 30)**

**Ref. Standard : Guideline based on ASTM E1190 : 2011**

**Date of Testing: 21-12-2017**

Checked By :

  
Technical Officer

Approved Signatory :

  
MONG SENG MING  
Technical Manager

Issued Date : 27-Dec-2017

Page 1 of 2

Report No.: GCD171200721



### Tensile Load Test on Fastened Nail

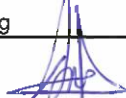
Customer : Hilti (Hong Kong) Ltd  
 Address : 701-704, 7/F, Tower A,  
 : Manulife Financial Center,  
 : 223, Wai Yip Street, Kwun Tong, Kowloon  
 Project : -  
 Test Location : 4A-1, Lin Tong Mei, Sheung Shui  
 Type of Nail : X-P22 P8


Report No. : GCD171200721  
 Test Date : 21-12-2017  
 Report Date : 27-12-2017  
 Page No. : Page 2 of 2  
 Test method. : Guideline based  
 on ASTM E1190: 11  
 GCE Reg. No. : GCE172647  
 Test Unit No. : MI17275

Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>	Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>
1	4.73	F2	16	4.85	F2
2	5.21	F2	17	4.06	F2
3	4.69	F2	18	4.25	F2
4	4.72	F2	19	4.13	F2
5	5.34	F2	20	4.50	F2
6	5.16	F2	21	4.20	F2
7	5.09	F2	22	4.39	F2
8	4.96	F2	23	4.27	F2
9	4.19	F2	24	4.09	F2
10	4.58	F2	25	4.96	F2
11	5.17	F2	26	4.49	F2
12	4.64	F2	27	4.36	F2
13	4.29	F2	28	4.05	F2
14	4.04	F2	29	4.43	F2
15	4.12	F2	30	4.14	F2

Minimum failure load (kN)	4.04
Maximum failure load (kN)	5.34
Average failure load (kN)	4.54
Standard deviation (kN)	0.40

<b>Notes :</b>	A) Test Apparatus : Pull off tester	S/N :	1-1834
	B) Structural member : Grade 30/10D	Age at test :	21 days
	C) Embedment depth	20mm	
	D) Fixture thickness	2mm	
	E) Edge distance	60mm	
	F) Nail spacing	100mm	
	G) Nail Length	22mm	
	H) Fastener information		
	Fastening tool :	DX 5	S/N : 21966
	Cartridge :	6.8 / 11 M10 Red	Performance Setting : 3.0
	I) Failure Modes	P = No sign of nail failure and/or structural member	F1 = Breaking of nail
		F2 = Failure in structural member in a shear cone	F3 = Pull out of nail
		F4 = Sign of any separation, plastic deformation or deleterious effect on nail	
		F5 = Failure in structural member with crack radiates outward from nail	
		F6 = Other failure mode(s) :	
	J) Loading rate	Uniform rate with ultimate strength of the nail is reached in no less than 30 .	

Tested By :                     K.K. Wong                      
 Checked By :                                         

Approved Signatory :                                           
 Position : **MONG SENG MING**  
 : **Technical Manager**



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九龍紅磡高山道六號地下  
電話：852-2365 9123

## TEST REPORT

### HILTI (Hong Kong) Ltd

701-704, 7/F, Tower A, Manulife Financial Center,  
223 Wai Yip Street, Kwun Tong, Kowloon

### Shear Load Test on Fastened Nail

**Nail Type : X-P27 P8**  
**(Sample 1 to Sample 30) (Grade C60)**

**Ref. Standard : Guideline based on ASTM E1190 : 2011**

**Date of Testing: 28-02-2018**

Checked By :

  
\_\_\_\_\_  
Technical Officer

Approved Signatory :

  
\_\_\_\_\_  
MONG SENG MING  
Technical Manager

Issued Date : 02-Mar-2018

Page 1 of 2

Report No.: GCD180242841



## Shear Load Test on Fastened Nail

Customer : Hilti (Hong Kong) Ltd  
 Address : 701-704, 7/F, Tower A,  
 : Manulife Financial Center,  
 : 223, Wai Yip Street, Kwun Tong, Kowloon  
 Project : -  
 Test Location : 4A-1, Lin Tong Mei, Sheung Shui  
 Type of Nail : X-P27 P8

Report No. : GCD180242841  
 Test Date : 28-02-2018  
 Report Date : 02-03-2018  
 Page No. : Page 2 of 2  
 Test method. : Guideline based  
 on ASTM E1190: 11  
 GCE Reg. No. : GCE180161  
 Test Unit No. : MI18036

Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>	Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>
1	9.44	F2	16	8.15	F2
2	8.41	F2	17	8.19	F2
3	8.16	F2	18	8.23	F2
4	8.19	F2	19	8.36	F2
5	8.96	F2	20	8.49	F2
6	8.81	F2	21	9.16	F2
7	8.87	F2	22	10.69	F2
8	8.67	F2	23	9.23	F2
9	8.89	F2	24	8.67	F2
10	8.92	F2	25	8.81	F2
11	8.34	F2	26	8.16	F2
12	8.17	F2	27	8.47	F2
13	8.39	F2	28	8.13	F2
14	8.24	F2	29	8.69	F2
15	8.12	F2	30	8.71	F2

Minimum failure load (kN)	8.12
Maximum failure load (kN)	10.69
Average failure load (kN)	8.62
Standard deviation (kN)	0.54

**Notes :**

A) Test Apparatus : Pull off tester S/N : 1-0235

B) Structural member : Grade 60/10D Age at test : 33 days

C) Embedment depth 25mm

D) Fixture thickness 2mm

E) Edge distance 70mm

F) Nail spacing 100mm

G) Nail length 27mm

H) Fastener information

Fastening tool : DX 5 S/N : 21966

Cartridge : 6.8 / 11 M10 Red Performance Setting : 3.0

I) Failure Modes

P = No sign of nail failure and/or structural member F1 = Breaking of nail

F2 = Failure in structural member in a shear cone F3 = Pull out of nail

F4 = Sign of any separation, plastic deformation or deleterious effect on nail


F5 = Failure in structural member with crack radiates outward from nail

F6 = Other failure mode(s) :

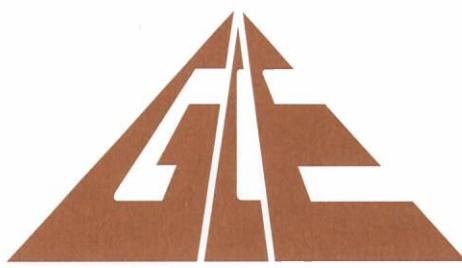
J) Loading rate Uniform rate with ultimate strength of the nail is reached in no less than 30 .

Tested By :                                 K.K. Wong                                

Checked By :                                                                 

Approved Signatory :                                                                 

Position :                                 MONG SENG MING                                  
 :                                 Technical Manager



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## TEST REPORT

### HILTI (Hong Kong) Ltd

701-704, 7/F, Tower A, Manulife Financial Center,  
223 Wai Yip Street, Kwun Tong, Kowloon

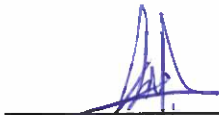
### Tensile Load Test on Fastened Nail

**Nail Type : X-P27 P8**  
**(Sample 1 to Sample 30)**

**Ref. Standard : Guideline based on ASTM E1190 : 2011**

**Date of Testing: 05-02-2018**

Checked By :

  
Technical Officer

Approved Signatory :

  
MONG SENG MING  
Technical Manager

Issued Date : 07-Feb-2018

Page 1 of 2

Report No.: GCD180242439



## Tensile Load Test on Fastened Nail

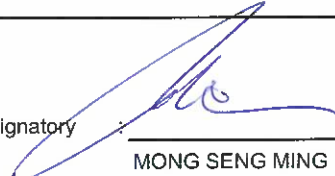
Customer : Hilti (Hong Kong) Ltd	Report No. : GCD180242439
Address : 701-704, 7/F, Tower A,	Test Date : 05-02-2018
: Manulife Financial Center,	Report Date : 07-02-2018
: 223, Wai Yip Street, Kwun Tong, Kowloon	Page No. : Page 2 of 2
Project : -	Test method. : Guideline based
Test Location : 4A-1, Lin Tong Mei, Sheung Shui	on ASTM E1190: 11
Type of Nail : X-P27 P8	GCE Reg. No. : GCE180161
	Test Unit No. : MI18037

Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>	Sample No	Failure Load (kN)	Failure mode <sup>Note 1</sup>
1	6.92	F2	16	6.52	F2
2	6.59	F2	17	6.83	F2
3	6.61	F2	18	7.06	F2
4	6.72	F2	19	7.12	F2
5	7.39	F2	20	6.54	F2
6	7.63	F2	21	6.53	F2
7	6.58	F2	22	7.13	F2
8	8.12	F2	23	7.29	F2
9	9.23	F2	24	7.14	F2
10	6.46	F2	25	6.87	F2
11	6.23	F2	26	6.62	F2
12	6.71	F2	27	6.58	F2
13	6.84	F2	28	6.73	F2
14	6.96	F2	29	6.81	F2
15	6.87	F2	30	6.92	F2

Minimum failure load (kN)	6.23
Maximum failure load (kN)	9.23
Average failure load (kN)	6.95
Standard deviation (kN)	0.57

<b>Notes :</b>	A) Test Apparatus : Pull off tester	S/N :	1-1834
	B) Structural member : Grade 60/10D	Age at test :	10 days
	C) Embedment depth	20mm	
	D) Fixture thickness	2mm	
	E) Edge distance	70mm	
	F) Nail spacing	100mm	
	G) Nail length	22mm	
	H) Fastener information		
	Fastening tool :	DX 5	S/N : 21966
	Cartridge :	6.8 / 11 M10 Red	Performance Setting : 3.0
	I) Failure Modes	P = No sign of nail failure and/or structural member	F1 = Breaking of nail
		F2 = Failure in structural member in a shear cone	F3 = Pull out of nail
		F4 = Sign of any separation, plastic deformation or deleterious effect on nail	
		F5 = Failure in structural member with crack radiates outward from nail	
		F6 = Other failure mode(s) :	
	J) Loading rate	Uniform rate with ultimate strength of the nail is reached in no less than 30 .	

Tested By : \_\_\_\_\_ K.K. Wong \_\_\_\_\_  
 Checked By : \_\_\_\_\_  \_\_\_\_\_

Approved Signatory : \_\_\_\_\_  \_\_\_\_\_  
 Position : \_\_\_\_\_ MONG SENG MING \_\_\_\_\_  
 : Technical Manager



Attn. : To whom it may concern

Date : 27 September 2023  
Ref. : 146/DF/DY/23

Subject : Country of Origin- Hilti X-P P8 Universal Nails

Dear Sir / Madam,

Enclosed please find the information of X-P P8 Universal Nails.

Brand Name : Hilti

Model Name : Hilti X-P P8 Universal Nails

Manufacturer : Hilti Corporation

Address of Manufacturer : FL-9494, Principality of Liechtenstein.

Manufacturer Contact Person : Dennis Yeung

Supplier : Hilti (Hong Kong) Ltd

Address of Supplier : 701-704, 7/F, Tower A, Manulife Financial Centre,  
223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Supplier Contact Person : Dennis Yeung (+852 9723 4621)

Country of Origin : China

Should you have further questions, please do not hesitate to contact our Technical Representatives, Customer Service Hotline at 8228-8118, or email us at [hksales@hilti.com](mailto:hksales@hilti.com).

Yours faithfully,



Dennis Yeung  
Head of Product Leadership Strategy, F&P



## Hilti X-P P8 Universal Nails Job Reference

Year	Project Name	Customer Name	Project type
2020	FAN GARDEN POLICE STAFF QUARTERS	SHUI ON FACADE COMPANY LIMITED	Residential
2020	1-3 SHEK KOK RD, TKO AREA 85	WAH KEE (R&M) LIMITED	Residential
2020	QUEEN'S HILL HOUSING SITE 1 PH 1,6	TAK LEE (ASIA) ENGINEERING LIMITED	Residential
2020	TIN SHUI WAI AREA 112 LOT 33	LUEN ON ALUMINIUM ENGINEERING	Residential
2020	YUEN LONG STATION YLTL 510	LUEN ON ALUMINIUM ENGINEERING	Residential
2020	KAI TAK AREA 1K1 (6567)	POLYFAIR CONSTRUCTION & ENGINEERING	Residential
2020	TAI WAI STATION NW RES	ACME METAL WORKS (INTERNATIONAL)	Residential
2020	TUEN MUN AREA 56 (541) VANKE RES	WAH KEE (R&M) LIMITED	Residential
2020	FO YIN RD, PAK SHEK KOK (228)	HACELY FACADE ENGINEERING LIMITED	Residential
2020	KAI TAK AREA 1K2 (6566)	WAH KEE (R&M) LIMITED	Residential
2021	SIU HONG, AREA 54 DD 132 TMTL 483	LUEN ON ALUMINIUM ENGINEERING	Residential
2021	PO LEUNG KUK YOUTH HOSTEL	SHUN WING ALUMINIUM WORKS CO.,	Hospitality
2021	1-11 AU PUI WAN ST, FO TAN	FAR EAST FACADE (HONG KONG) LIMITED	Residential
2021	YUEN LONG STATION YLTL 510	LUEN ON ALUMINIUM ENGINEERING	Residential
2021	8-10 FUK CHAK ST, LI TAK ST	CHEVALIER (ALUMINIUM ENGINEERING)	Residential
2021	YAU TONG LOT 44	MINMETALS CONDO (HONG KONG)	Residential
2021	REHAB COMPLEX (SIU LAM HOSPITAL)	KO SING ENGINEERING LIMITED	Health
2021	6-8 LAI YING ST, NKIL 6549	FAR EAST FACADE (HONG KONG) LIMITED	Residential
2021	166 CASTLE PEAK RD - TAI LAM, TMTL 523	WAH KEE (R&M) LIMITED	Residential
2021	3 SASSOON RD - FACULTY OF MEDICINE, HKU	WAH KEE (R&M) LIMITED	Education
2022	SIU HONG, AREA 54 DD 132 TMTL 483	LUEN ON ALUMINIUM ENGINEERING	Residential
2022	KAI TAK AREA 1F1 (6568) ELDERLY	LUEN ON ALUMINIUM ENGINEERING	Residential
2022	TPTL 244, YAU KING LANE & POK YIN RD	LUEN ON ALUMINIUM ENGINEERING	Residential
2022	HKBU HOSTEL/ACADEMIC BLDG (HABC)	FAR EAST FACADE (HONG KONG) LIMITED	Residential
2022	KWUN CHUI RD, AREA 56, TMTL 520	LUEN ON ALUMINIUM ENGINEERING	Residential
2022	YUEN LONG STATION YLTL 510	LUEN ON ALUMINIUM ENGINEERING	Residential
2022	SIN FAT RD, KWUN TONG NKIL 6584	FAR EAST FACADE (HONG KONG) LIMITED	Residential
2022	LAI CHO RD HOUSING	SHUN WING ALUMINIUM WORKS CO.,	Residential
2022	TKO LOHAS PARK PH11 (SITE C2)	POLYFAIR CONSTRUCTION & ENGINEERING	Residential
2022	YAU TONG LOT 44	MINMETALS CONDO (HONG KONG)	Residential
2023	HKBU HOSTEL/ACADEMIC BLDG (HABC)	FAR EAST FACADE (HONG KONG) LIMITED	Residential
2023	SIU HONG, AREA 54 DD 132 TMTL 483	LUEN ON ALUMINIUM ENGINEERING	Residential
2023	HO MAN TIN STATION RES (PACKAGE 2)	WAH TUNG FACADE COMPANY LIMITED	Infrastructure
2023	TIN SHUI WAI T.L.23 TIN WING STOP	MIDI ALUMINIUM FABRICATOR LIMITED	Residential



## Hilti X-P P8 Universal Nails Job Reference

Year	Project Name	Customer Name	Project type
2023	TPTL 244, YAU KING LANE & POK YIN RD	LUEN ON ALUMINIUM ENGINEERING	Residential
2023	53-55A KWUN TONG RD	FAR EAST FACADE (HONG KONG) LIMITED	Residential
2023	KAI TAK AREA 4C, SITE 1, NKIL 6553	FAR EAST FACADE (HONG KONG) LIMITED	Residential
2023	TAI WAI STATION NW RES	WAH TUNG FACADE COMPANY LIMITED	Residential
2023	TKO LOHAS PARK PH11 (SITE C2)	POLYFAIR CONSTRUCTION & ENGINEERING	Residential
2023	YIN PING RD, TAI WO PING (6542)	MIDI ALUMINIUM FABRICATOR LIMITED	Residential