



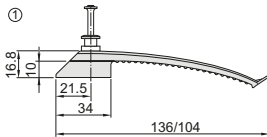
# X-EKB, X-ECH Electrical fastener

## Product data

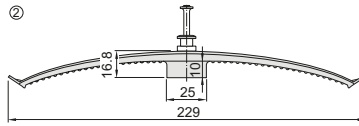
### Dimensions

#### Single fastener

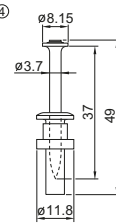
X-EKB 8/4-FR



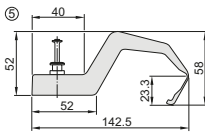
X-EKB 16 (FR)



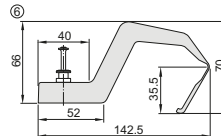
X-U 37 PH



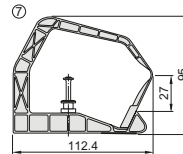
X-ECH-S (FR)



X-ECH-M (FR)

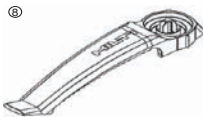


X-ECH-L (FR)

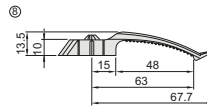


#### Magazine fastener

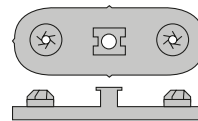
X-EKB 4 / 8 / 16 MX (FR)



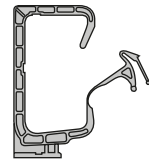
X-EKB 4 MX (FR)



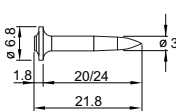
X-ECH-B MX



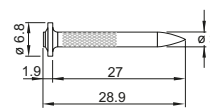
X-ECH-15/30 MX



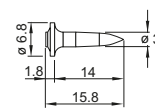
X-GHP 20/24



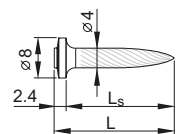
X-GN 27



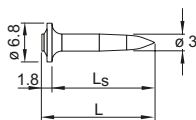
X-EGN 14



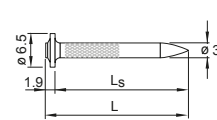
X-U 16/22/27



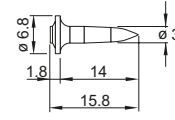
X-P 20/24 G3 MX



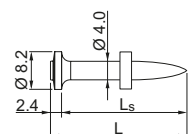
X-C 27 G3 MX



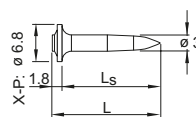
X-S 14 G3 MX



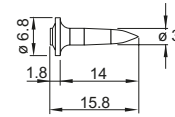
X-P 22



X-P 20/24 B3 MX



X-S 14 B3 MX



### Material specifications

- See fastener program in the next pages.

### Recommended fastening tools

DX 6 MX, DX 5 MX, DX 460 MX, DX 351 MX,  
DX 6 F8, DX 5 F8, DX 460-F8, DX 351 F8, DX 36, DX 2,  
GX 120 ME, GX 3 ME, BX 3 ME

- See fastener program in the next pages.

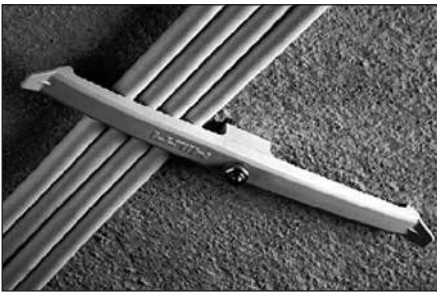
### Approvals and certificates

UL (USA): X-EKB MX, X-ECH / FR\_U37  
CSTB (France): X-EKB\_U 37, X-ECH\_U37

- Not all information presented in this product data sheet might be subject to approval / certificate content. Please refer to approval / certificate for further information.

### Applications

#### Examples



X-EKB for fastening cables



X-ECH for fastening bunched cables

### Performance data

Fastener capacity for X-EKB: Securing electrical cables to concrete ceilings and walls

Designation	Number of wires/cables and wire sizes	
	NYM 3 x 1.5 mm <sup>2</sup> (Ø 8 mm)	NYM 5 x 1.5 mm <sup>2</sup> (Ø 10 mm)
X-EKB 4 __	4	3
X-EKB 8 __	8	5
X-EKB 16 __	16	10

- Max. capacity (number of cables in one X-EKB) at spacing of 50–100 cm.

**Fastener capacity for X-ECH: Securing electrical cable to ceilings and walls**

Designation	No. of nails	Number of cables
X-ECH-S ___ and X-ECH/FR-S ___		max. 15 NYM 5x1.5 <sup>2</sup> (Ø 10 mm)
X-ECH-M ___ and X-ECH/FR-M ___		max. 25 NYM 5x1.5 <sup>2</sup> (Ø 10 mm)
X-ECH-L ___ and X-ECH/FR-L ___		max. 35 NYM 5x1.5 <sup>2</sup> (Ø 10 mm)
X-ECH-15 MX and X-ECH-B	1 or 2	max. 15 NYM 3x1.5 <sup>2</sup> (Ø 10 mm)
X-ECH-30 MX and X-ECH-B	1 or 2	max. 30 NYM 3x1.5 <sup>2</sup> (Ø 10 mm)

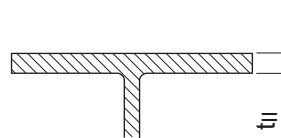
**Conditions**

- Max. capacity at spacing of 60–80 cm.
- For concrete C12/15 to C45/55 ( $f_{cc} = 15$  to  $55$  N/mm<sup>2</sup>)
- All visible placing failures have to be replaced
- Damaged X-ECH have to be replaced

- For more details in relation to base material properties, please refer to the chapter **Fastener selection guide** in the Direct Fastening Manual (DFTM).

**Application recommendation**
**Base material thickness**
**Concrete**

X-U, X-P:	$h_{min} = 80$ mm
X-P G3 MX:	$h_{min} = 60$ mm
X-P B3 MX:	$h_{min} = 60$ mm
X-GHP MX, X-GN MX:	$h_{min} = 60$ mm

**Steel**
 $t_{II} \geq 4$  mm

**Fastened material thickness**

- Fasteners recommended for cable Ø 8 mm and 10 mm.

**Spacing and edge distances**

X-EKB:	approximately 50–100 cm	(Adjust as necessary to control cable sag)
X-ECH:	approximately 60– 80 cm	(Adjust as necessary to limit sagging)

**Corrosion information**

- These zinc-coated fasteners are not suitable for long-term service outdoors or in otherwise corrosive environments.
- For more details, please refer to following technical document: Hilti Corrosion Handbook.

### System recommendation

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

#### Cartridge recommendation for fastening on concrete

Base material	Cartridge color (tool power level)	
	Tool type: DX 6 MX  DX 6 F8	Tool type: DX 5 MX, DX 460 MX, DX 351 MX DX 5 F8, DX 460 F8, DX 351, DX 2
	Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M
Soft/medium concrete	titanium ■ (2-5)	yellow ■, red ■
Tough concrete	titanium ■ (4-8)	yellow ■, red ■

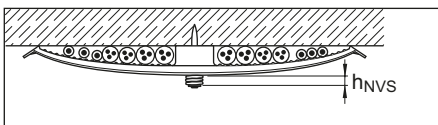
#### Cartridge recommendation for fastening on steel

Base material	Cartridge color (tool power level)	
	Tool type: DX 6 MX  DX 6 F8	Tool type: DX 5 MX, DX 460 MX DX 5 F8, DX 460 F8, DX 351, DX 2
	Cartridge type: 6.8/11 M	Cartridge type: 6.8/11 M
S235, S275, S355	$4 \leq t_{II} \leq 20 \text{ mm}$ titanium ■ (4-8)	red ■

- 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.

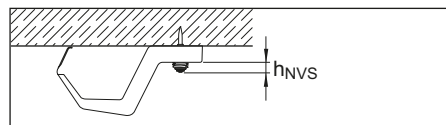
### Quality assurance

X-EKB fastening quality



$$h_{NVS} = 7 \pm 2 \text{ mm}$$

X-ECH fastening quality



$$h_{NVS} = 7 \pm 2 \text{ mm}$$

**Fastener program**
**Fastener with pre-mounted DX-nail: Technical information**

	Designation	Shank Ø d <sub>s</sub>	Shank length L <sub>s</sub>	Tools
①	X-EKB8 U 37	4.0 mm	37 mm	DX 6 F8, DX 5 F8, DX460 F8, DX351 F8, DX36, DX 2
②	X-EKB16 U 37	4.0 mm	37 mm	
⑤	X-ECH-S U 37	4.0 mm	37 mm	
⑥	X-ECH-M U 37	4.0 mm	37 mm	
⑦	X-ECH-L U 37	4.0 mm	37 mm	
①	X-EKB4-FR U 37	4.0 mm	37 mm	
①	X-EKB8-FR U 37	4.0 mm	37 mm	
②	X-EKB16-FR U 37	4.0 mm	37 mm	
⑤	X-ECH/FR-S U 37	4.0 mm	37 mm	
⑥	X-ECH/FR-M U 37	4.0 mm	37 mm	
⑦	X-ECH/FR-L U 37	4.0 mm	37 mm	

- ③, ④ All nail shanks: carbon steel, HRC 58, galvanized 2–20 µm  
 Sleeve/thimble: carbon steel, not hardened, galvanized 5–13 µm
- ⑩–Δ See Product data in previous pages

**Fastener with pre-mounted DX-nail: Order information**

Designation	Item no.	Plastic material
X-EKB 4-FR U37	361581	Polyamide (PA) <sup>2)</sup>
X-EKB 8 U37	386231	Polyamide (PA) <sup>1)</sup>
X-EKB 8-FR U37	386233	Polyamide (PA) <sup>2)</sup>
X-EKB 16 U37	386232	Polyamide (PA) <sup>1)</sup>
X-EKB 16-FR U37	386234	Polyamide (PA) <sup>2)</sup>
X-ECH-S U37	386235	Polyamide (PA) <sup>1)</sup>
X-ECH-M U37	386236	Polyamide (PA) <sup>1)</sup>
X-ECH-L U37	386237	Polyamide (PA) <sup>1)</sup>
X-ECH/FR-S U37	386238	Polyamide (PA) <sup>2)</sup>
X-ECH/FR-M U37	386239	Polyamide (PA) <sup>2)</sup>
X-ECH/FR-L U37	386240	Polyamide (PA) <sup>2)</sup>

<sup>1)</sup> halogen and silicone free, light grey (RAL 7035)

<sup>2)</sup> halogen and silicone free, flame retardant, stone grey (RAL 7030)

**Fastener without pre-mounted nail: Technical information**

Base material	Cable Holder	Fastening Technology	Nail
Concrete	X-EKB 4 MX X-EKB 8 MX X-EKB 16 MX X-EKB 4 FR MX X-EKB 8 FR MX X-EKB 16 FR MX	GX	X-P 20/24 G3 MX
		GX	X-C 27 G3 MX
		GX	X-GHP 20/24 MX
		GX	X-GN 27 MX
		BX	X-P 20/24 B3 MX
		DX	X-U 22/27 MX
		DX	X-P 22/27 MX
		Steel	X-ECH-15 MX* X-ECH-30 MX*
GX	X-EGN 14 MX		
BX	X-S 14 B3 MX		
DX	X-U 16 MX		

\* To be used with GX or BX technology ONLY

**Fastener without pre-mounted nail: Order information**

Designation	Item no.	Plastic material	Description
X-EKB 4 MX	285712	Polyamide (PA) <sup>1)</sup>	Electrical Cable Holder
X-EKB 8 MX	285713	Polyamide (PA) <sup>1)</sup>	
X-EKB 16 MX	285714	Polyamide (PA) <sup>1)</sup>	
X-EKB 4 FR MX	285715	Polybutylenterephthalate (PBT) <sup>2)</sup>	
X-EKB 8 FR MX	285716	Polybutylenterephthalate (PBT) <sup>2)</sup>	
X-EKB 16 FR MX	285717	Polybutylenterephthalate (PBT) <sup>2)</sup>	
X-ECH-15 MX	2018247	Polyamide (PA) <sup>3)</sup>	
X-ECH-30 MX	2018248	Polyamide (PA) <sup>3)</sup>	
X-ECH-15/B MX	2018729 (kit)	Polyamide (PA) <sup>3)</sup>	
X-ECH-30/B MX	2018891 (kit)	Polyamide (PA) <sup>3)</sup>	
X-ECH-B MX	2018391	Polyamide (PA) <sup>3)</sup>	

<sup>1)</sup> halogen free, light grey (RAL 7035)

<sup>2)</sup> silicone free, stone grey (RAL 7030)

<sup>3)</sup> halogen and silicone free, light grey (RAL 7035)